

The Impact of Climate Change on the Development Prospects of The LLDCs and SIDS

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Introduction to LLDCs & SIDS

- ❑ UN-OHRRLS advocates for vulnerable countries
- ❑ Climate change impacting many sectors, including agricultural productivity.
- ❑ LLDCs & SIDS threatened by depleting glaciers, erosion, floods, droughts, higher temperatures, monsoons, cyclones...
- ❑ Impacts worsened by high pop density, agriculture-dependency and poverty
- ❑ Large household income spent on food

Part I: Introduction to Landlocked Developing Countries

There are 31 LLDCs on four continents.

Features: Lack territorial access to the sea; suffer geographical remoteness; Smallness in land and population; Dependence on neighbours; Mostly poor - 16 are LDCs; Low share of world trade (1.2%), Trade volume 60% of coastal economies (2010); Transport costs 45% higher than transit neighbors; Level of development is 20% lower due to landlockedness.

Part II: LLDCs, Climate Change and Food Security

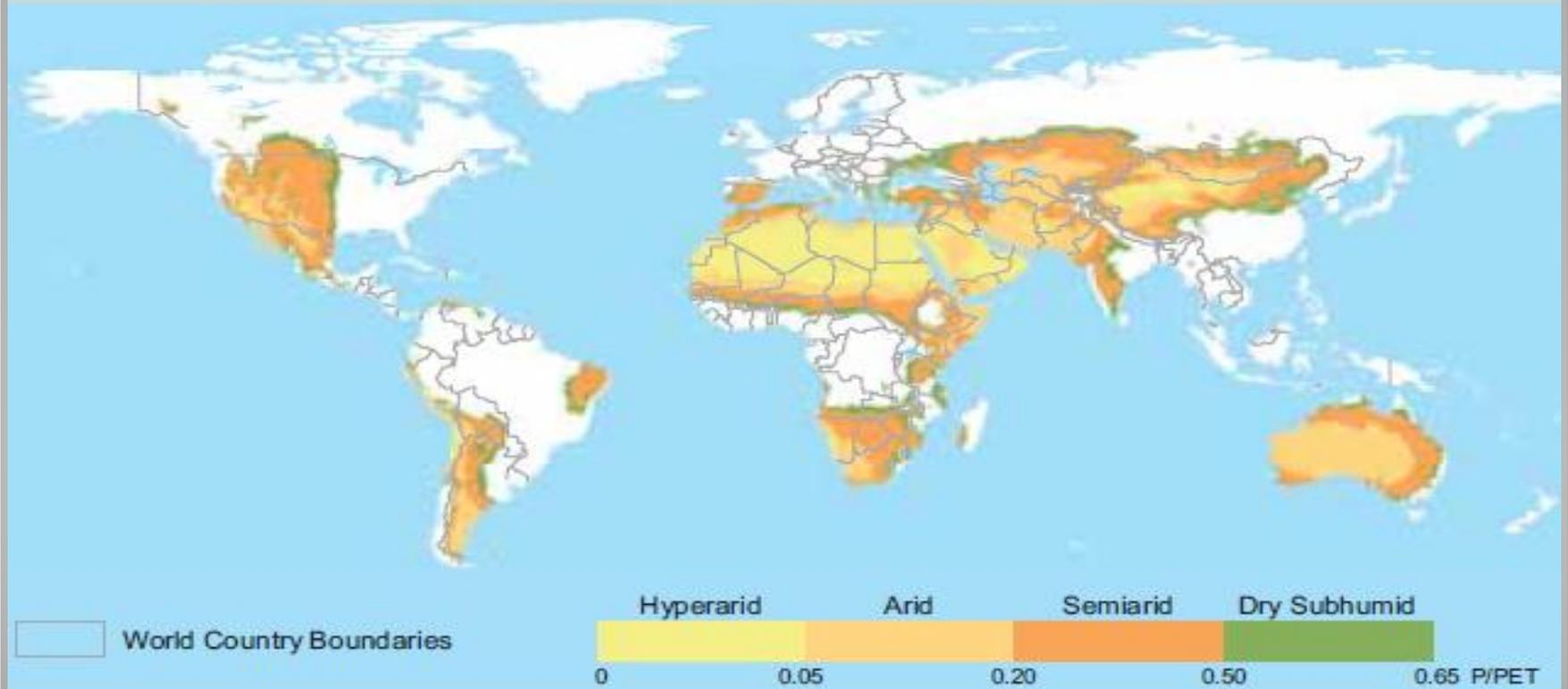
- ❑ LLDCs are vulnerable to climate change, desertification and land degradation, yet lack social, technological and financial resources/abilities to adapt.
- ❑ lack institutional and human capacity to tackle challenges
- ❑ Economies are non-diversified, dependent on a few agricultural and/or minerals.
- ❑ Many LLDCs located in dryland regions.
- ❑ Problem duly recognized in Rio+20 Conference Outcome Document.

Part III: Climate Change and the LLDCs

- ❑ 40% of the world is dryland, 72% in developing countries; 14 out of 29 countries where 20% of population lives on degraded land are LLDCs; 60% of LLDCs' population live in dryland.
- ❑ 70% of LLDC population is rural-based. Dependency on earth resources fuelling deforestation.
- ❑ Near deserts : **Sahara**: Chad, Burkina Faso, Ethiopia, Mali, Niger; **Kalahari**: Botswana, Zambia, Lesotho, Zimbabwe; **Gobi & Kyzyl-Kum**: Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Uzbekistan (see map on next slide)

Part III: Climate Change and the LLDCs

Distribution of drylands in the world



Part III: Climate Change and the LLDCs

- ❑ UNCCD states 70% of **Mongolia** threatened by land degradation and desertification: 5% *severely*; 18% *heavily*; 49% *lightly to moderately* impacted. 100-year temperature rose 1.66 degrees. Worldwide by 0.5 and 0.6 degrees.
- ❑ Climate-change, excessive rain and hail storms impact: 7% reduction in cropland, wheat yield fell by 20% in 2013.
- ❑ LLDCs most water-stressed. Freshwater to fall <1300 cubic meters/person. Threshold @ 2000 cubic meters.
- ❑ Irrigation increased soil salinity across Central Asia (see table on next slide)

Soil Salinity in Central Asia

Country	Salinity (% of area affected)	Erosion (% of area affected)	% of irrigated area (affected by salinity)
Kazakhstan	7.9	2.8	33.0
Kyrgyzstan	0.5	28.2	11.5
Tajikistan	4.9	25.9	16.0
Turkmenistan	14.9	1.4	95.9
Uzbekistan	14.1	2.9	50.1
Central Asia	9.0	4.8	47.5

Source: IFPRI 2008

Part IV: LLDC and Food Security

- ❑ One out of 8 individuals go to bed hungry everyday - International Food Policy Research Institute.
- ❑ **Global Hunger Index:** 19 countries face “alarming” or “extremely alarming” food security situations. Among them LLDCs - Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia and Zambia among them.

Part IV: LLDC and Food Security

Climate change threatens food security in many LLDCs because:

1. their economies largely agro-based/mining, and of limited productive capacities.
2. Have geographical handicap, lack human, institutional, capital and financial capacity to respond.
3. they are net importers of major cereal crops
4. have large poor, vulnerable, marginalized, ethnic and indigenous populations.

Food Security in Asia

- ❑ In Central Asia, 28 million people face malnutrition; 5 million lack access to staple food products.
- ❑ **High poverty incidence** - Tajikistan (47.2%), Kyrgyzstan (31.7%), and to lesser extent Uzbekistan.
- ❑ **Ability to meet food needs:** Tajikistan (31%); Kyrgyzstan, Uzbekistan, and Turkmenistan (50%).
- ❑ **Household Income Expenditure** on food: 80% (Uzbekistan and Tajikistan), 58% (Kyrgyzstan), 42% (Kazakhstan). For developed countries (15-30%).

Food Security Asia

- ❑ 2007/2008 Afghanistan National Risk and Vulnerability Assessment – 33% can't get enough food; 400,000 affected by extreme weather annually.
- ❑ Kazakhstan – wheat yield declined from 3,000 kg/ha in 2011, to 800kg/ha in 2012. Wheat yield has declined by 30% since 2001.

Food Security in Asia

- ❑ In **Nepal**, agriculture sector employs > 65% population, accounts for 33% of GDP. Faces frequent climate change-related events: flash floods, landslides, intense rains, droughts, hailstorms, heat waves, soil erosion...
- ❑ **Bhutan**, domestic production of cereals able to meet 60% demand. In **Lao PDR**, over 10% of households are food insecure; 50% at risk from late/erratic rain, floods or pests. In **Nepal**, 50% of population is undernourished; 50% of children under 5 chronically malnourished.

Food Security in South Asia

- ❑ In **Bhutan**, domestic production of cereals able to meet 60% demand.
- ❑ In **Lao PDR**, over 10% of households are food insecure; 50% at risk from late/erratic rain, floods or pests.
- ❑ In **Nepal**, 50% of population is undernourished; 50% of children under 5 chronically malnourished.

Part V: Climate Change, Food Security and the SIDS

- ❑ SIDS are 38 UN Member States and 19 Non UN Members (See a map of Pacific SIDS on next slide).
- ❑ Characteristics: small economies; inability to gain from economies of scale; high infrastructure, transportation costs; lack sufficient coping mechanism.
- ❑ Contribute <1% greenhouse gas emissions.
- ❑ Threatened by sea-level rise, salinization of freshwater aquifers, ocean acidification, coastal erosion, cyclones

SIDS in the Pacific Region



Part V: Climate Change, Food Security and the SIDS

- ❑ At just 3% of earth surface, SIDS are most diverse ecosystems: home to 20 % of all plant, bird, and reptile species.
- ❑ 95% of bird, 90% of reptile, 69% of mammal, and 68% plant extinctions occur here (Secretariat of the Convention on Biological Diversity)

Climate Change Impacts on the SIDS - Examples

- ❑ **Grenada:** Cyclone Ivan of 2004 – destruction worth US\$ 900 million, more than twice GDP.
- ❑ **South Pacific:** Cyclone Evan of 2012 – destroyed one-third of Samoa's GDP.

Climate Impact on the SIDS

- ❑ *Turn Down the Heat* warns warming of 4°C could occur in 2060s, associated with sea-level rise of 0.5 to 1 meter by 2100, cause further warming of 6°C.
- ❑ *Third Emissions Gap* to stay below 2°C limit called for by SIDS, emissions should peak by 2020 and drop sharply.
- ❑ Almost 30% of SIDS population lives < 5 m above sea level. Marshall Islands and Tuvalu are entirely within 5 m above sea level.

Climate Impact on the SIDS

- ❑ **Maldives** - highest point is 2.4 m ASL; (80% <1 m), 42% of population, 47% houses within 100 metres from sea.
- ❑ 70.5% of global tuna consumed is from the Pacific (FAO)
- ❑ **Palau** - sea rise/ saltwater affecting food cultivation, rabbit, fish & crabs stock.
- ❑ **Papua New Guinea** - drought causing major food shortages.
- ❑ **Marshall Islands** and **Tuvalu** - fresh water supply challenges due to reduction in rainfall.

Climate Change-Adaptation funds

- ❑ *Green Climate Fund*, operational in 2014, supports shift to low-emissions and climate resilient development in SIDS.
- ❑ *Global Partnership for Oceans*, launched in 2012. To raise US\$1.5 billion for oceans, US\$300 million in catalytic finance.

Part VI: Pathways to Food Security in the LLDCs and SIDS

- ❑ Promotion of **Climate-Smart Agriculture**
- ❑ Prepare, integrate and implement **National Adaptation Plans (NAPAs)** for climate change, and **National Action Plans (NAPs)**.
- ❑ Pursue **diversified, resilient and competitive economies** with value-addition.
- ❑ Pool resources for **climate disaster risk insurance** for vulnerable countries.
- ❑ Develop and equip **institutions, human capacity**.

Part VI: Pathways to Food Security in the LLDCs and SIDS

- ❑ 10-year review of the Almaty Programme of Action/Second UN Conference on the LLDCs, **3-5 Nov 2014 in Vienna.**
- ❑ **2014: International Year of the SIDS;** Third International Conference on SIDS, takes place in September 2014, in Apia, Samoa.
- ❑ **Post-2015 Development Agenda** discussions.
- ❑ **“The Impact of Climate Change, Desertification and Land Degradation on the Development Prospects of the LLDCs”.**
– advance copy

Thank You