



UNESCO AS A WORLD STAGE



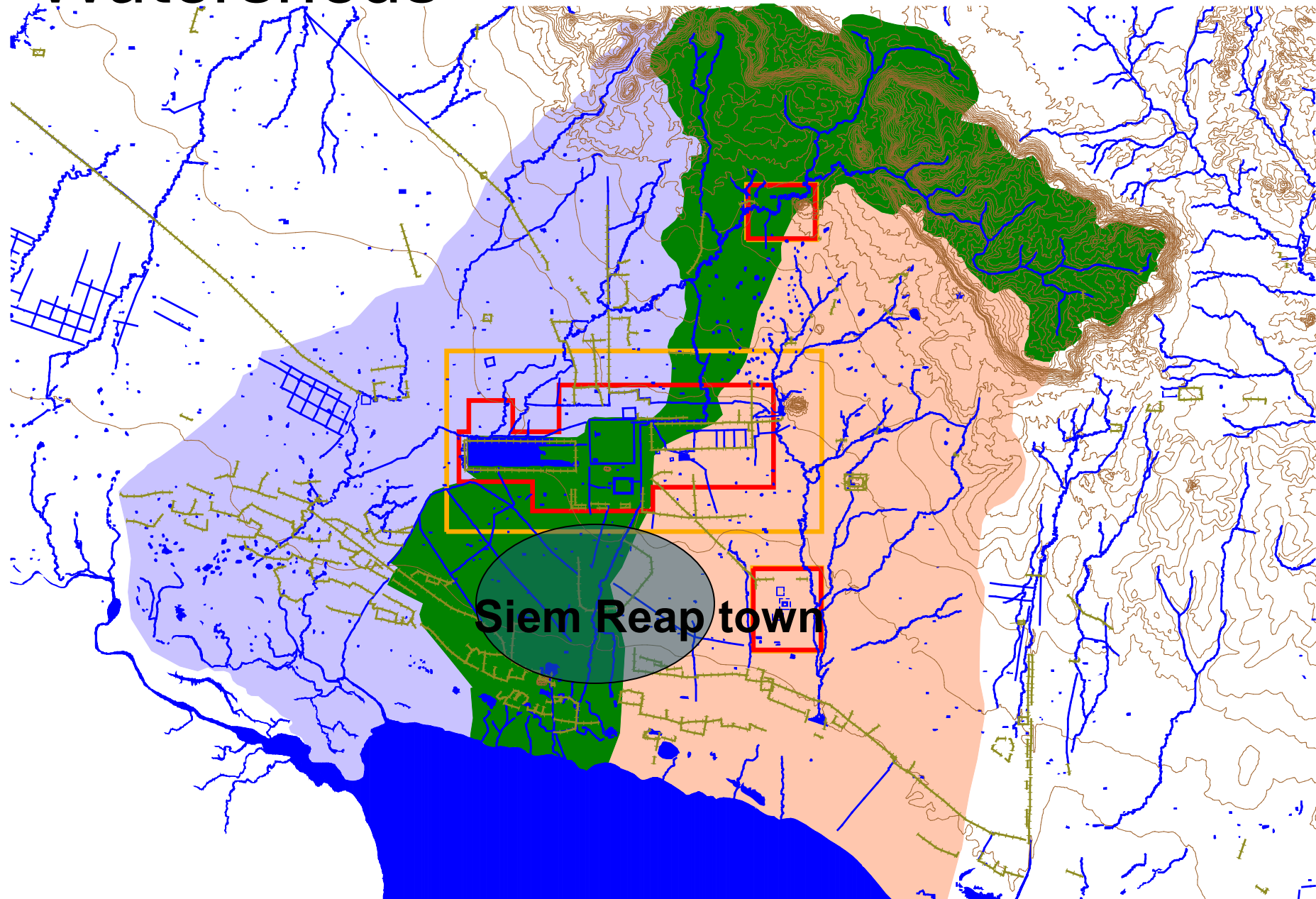
UNESCO SITES AND CLIMATE CHANGE

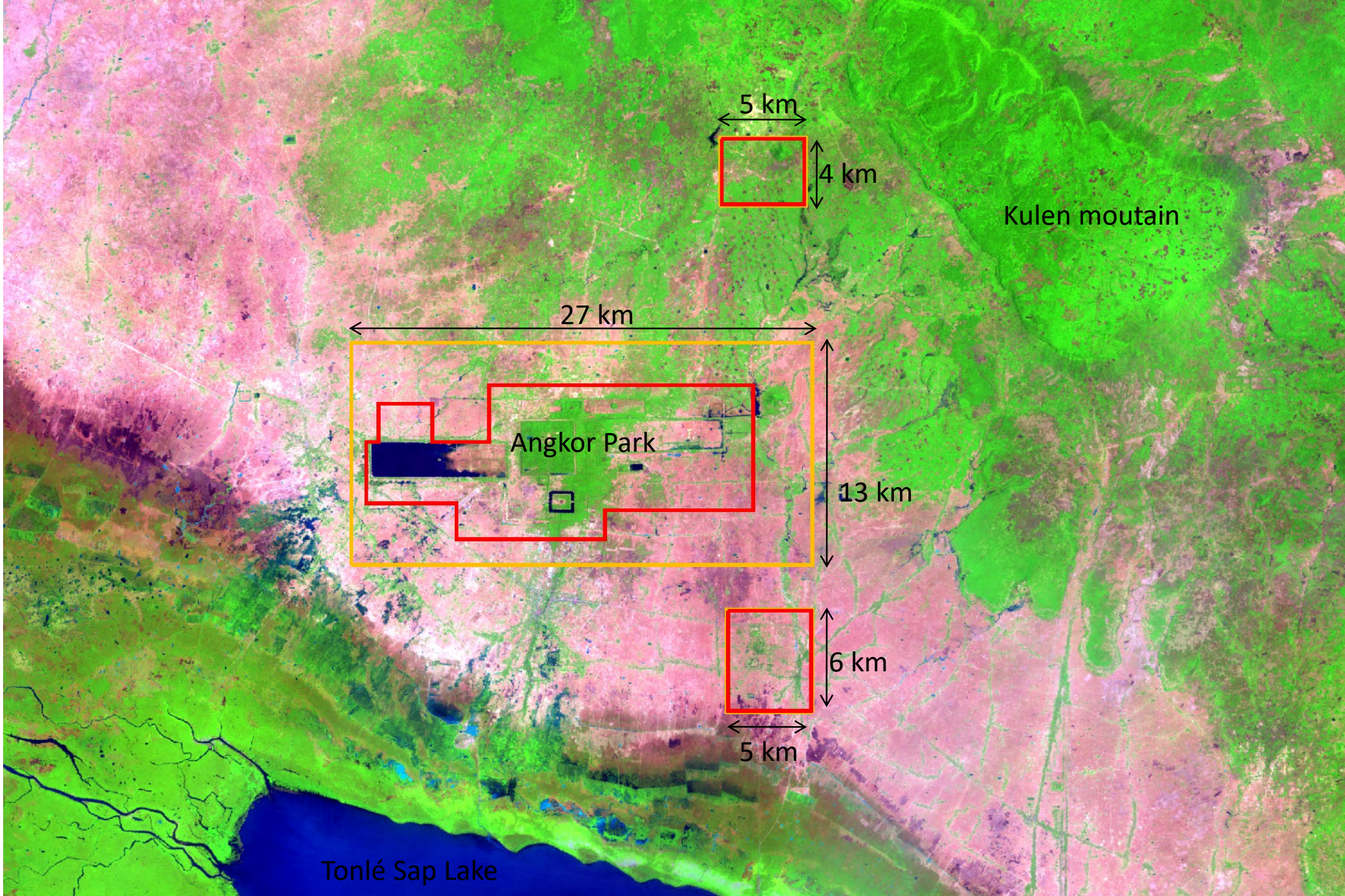
Natarajan Ishwaran

**Symposium at the University of Continuing Education,
Krems, Austria**

10 September 2024

Watersheds





5 km

4 km

Kulen moutain

27 km

Angkor Park

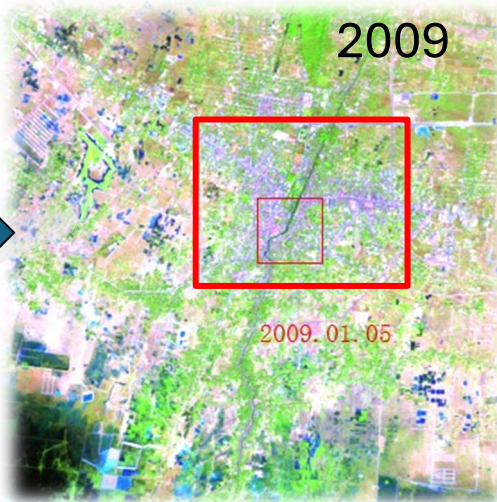
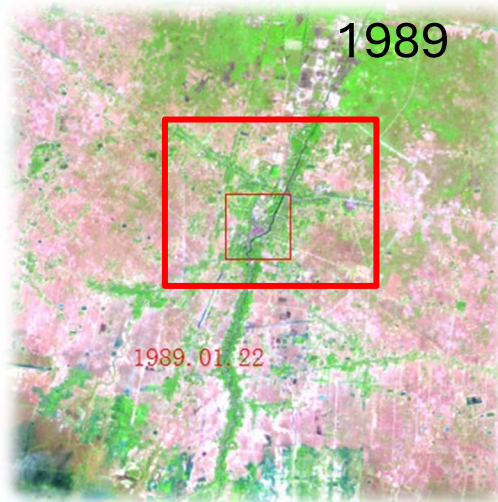
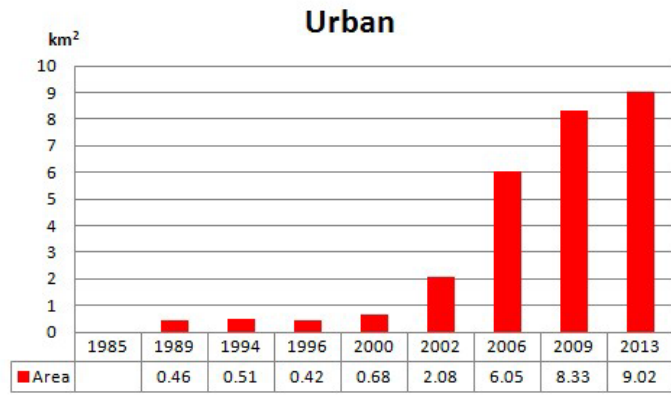
13 km

6 km

5 km

Tonlé Sap Lake

Research Progress: Urban Change analysis

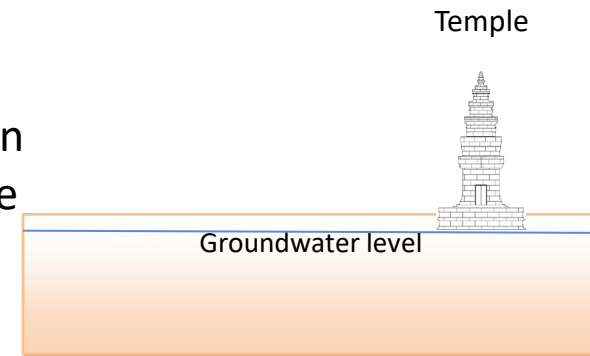


Water and Monuments

Angkor Park need the water, not only for living people inside the protected zones and visitors but also for the Temples!

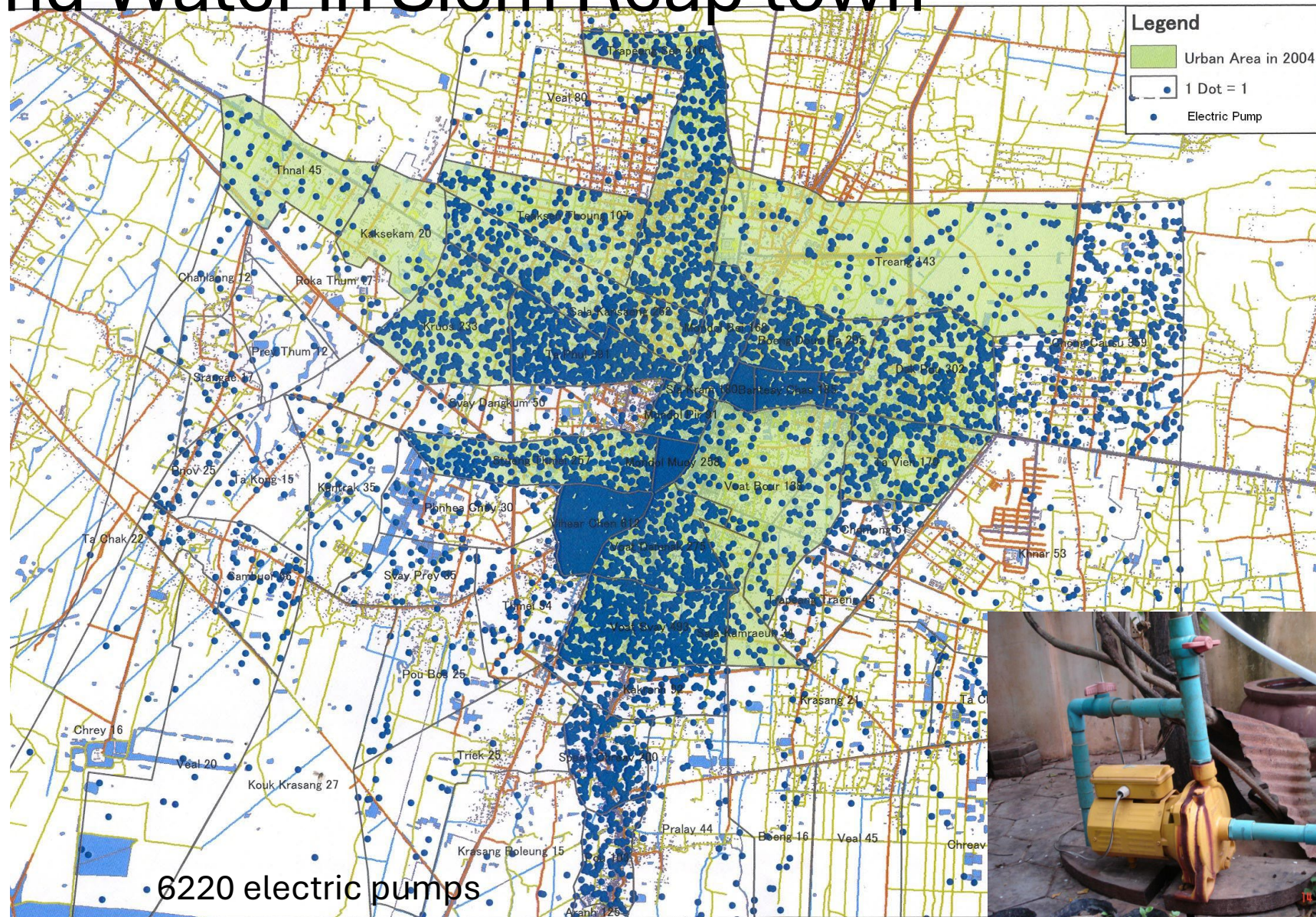


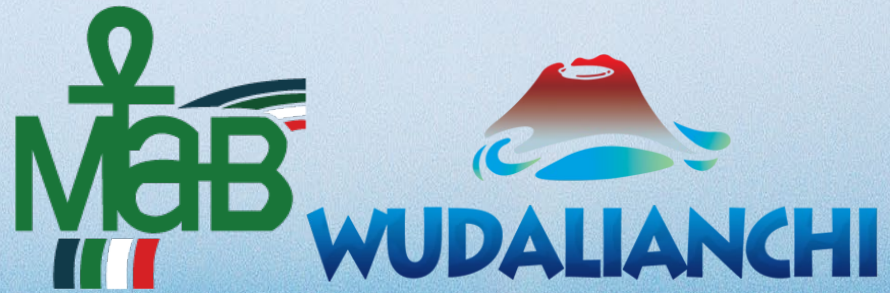
- Irrigation
- Vegetation
- Landscape
-



Water play a role very important in the stability of temple especially the groundwater because all the temples in the Angkor Park are built on the sand layer and the resistance of sand is depend on its degree of saturation (water) and the sand layer has direct connection with the groundwater and the Moats.

Ground Water in Siem Reap town





Wudalianchi Biosphere Reserve Case Study – Eco-migration Project

The 2016 Michel Batisse Award (UNESCO-MAB) for a case study concerning the management of a biosphere reserve goes to Qu Shuguang (China), Director of the Wudalianchi Biosphere Reserve, for his study on the Wudalianchi ecomigration project to protect the environment and improve the population's means of subsistence.

MINERAL WATER PRODUCTION
120 THOUSAND TONS
AVERAGE ANNUALGROWTH
27.9%

NUMBER OF
TOURISTS 1.19 MILLION
AVERAGE
ANNUALGROWTH 3.7%

TICKET INCOME 39 MILLION
AVERAGE ANNUALGROWTH 8.7%

TOTAL VALUE OUTPUT OF
MINERAL INDUSTRY 0.3 BILLION
AVERAGE ANNUALGROWTH 21%

NUMBER OF HEALTH TREATMENT TOURISTS
190 THOUSAND 100 thousand from Russia
AVERAGE ANNUALGROWTH 8%

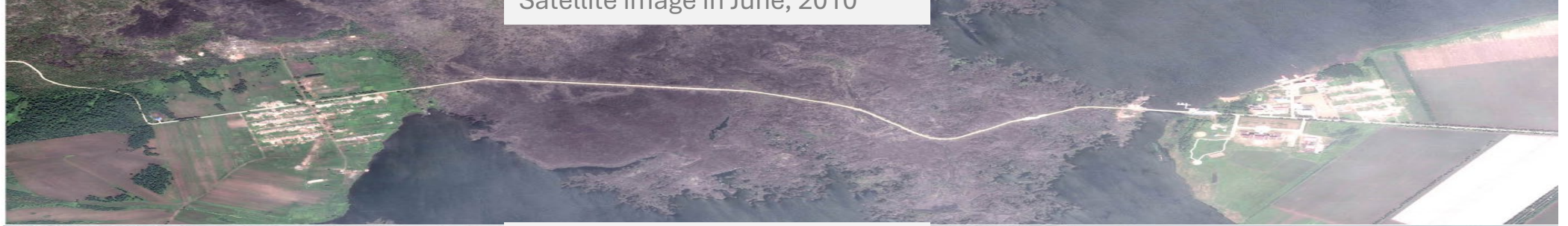
TOTAL TOURISM INCOME
0.45 BILLION
AVERAGE ANNUALGROWTH
23%



New town

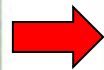
2010年6月19日 (Quickbird卫星)

Satellite image in June, 2010



2013年5月24日 SPOT-6卫星

Satellite image in May, 2013



五大连池沿岸居民搬后

151



Wudaliyanchi Eco-City

- 4 sq. km area
- 350,000 sq.m building for housing “migrants”
- 150,000 sq.m. schools, hospitals, parks etc
- Roads and other transport and communication facilities
- Bank loans and other support to residents for business development; support for them to seek employment in guiding services, hospitality and other tourism allied sectors;
- water purification plant, power supply system, waste water treatment plant and refuse processing plant; and
- central heating system – greatly reduce the need to burn biomass for heating during winter



SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS


SUSTAINABLE DEVELOPMENT GOALS



United Nations
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Cultural Organization



International Centre on Space Technologies for
Natural and Cultural Heritage
under the auspices of UNESCO

The Economist (April 5th, 2014) pages 73-74; Climate Change: In the Balance

- “A new report from the IPCC implies that “climate exceptionalism”, the notion that global warming is a problem like no other, is coming to an end.”
- “This way of looking at the climate is new for both scientists and policymakers. Until now, many of them have thought of the climate as a problem like no other: its severity determined by meteorological factors, such as the interaction between clouds, winds and oceans; not much influenced by lesser problems, like rural development; and best dealt with by trying to stop it (by reducing green-house gas emissions). The new report breaks with this approach. It sees climate as one problem among many, the severity of which is often determined by its interaction with those other problems. And the right policies frequently try to lessen the burden – to adapt to change rather than attempting to stop it. In that respect, then this report marks the end of climate exceptionalism and the beginning of realism.”

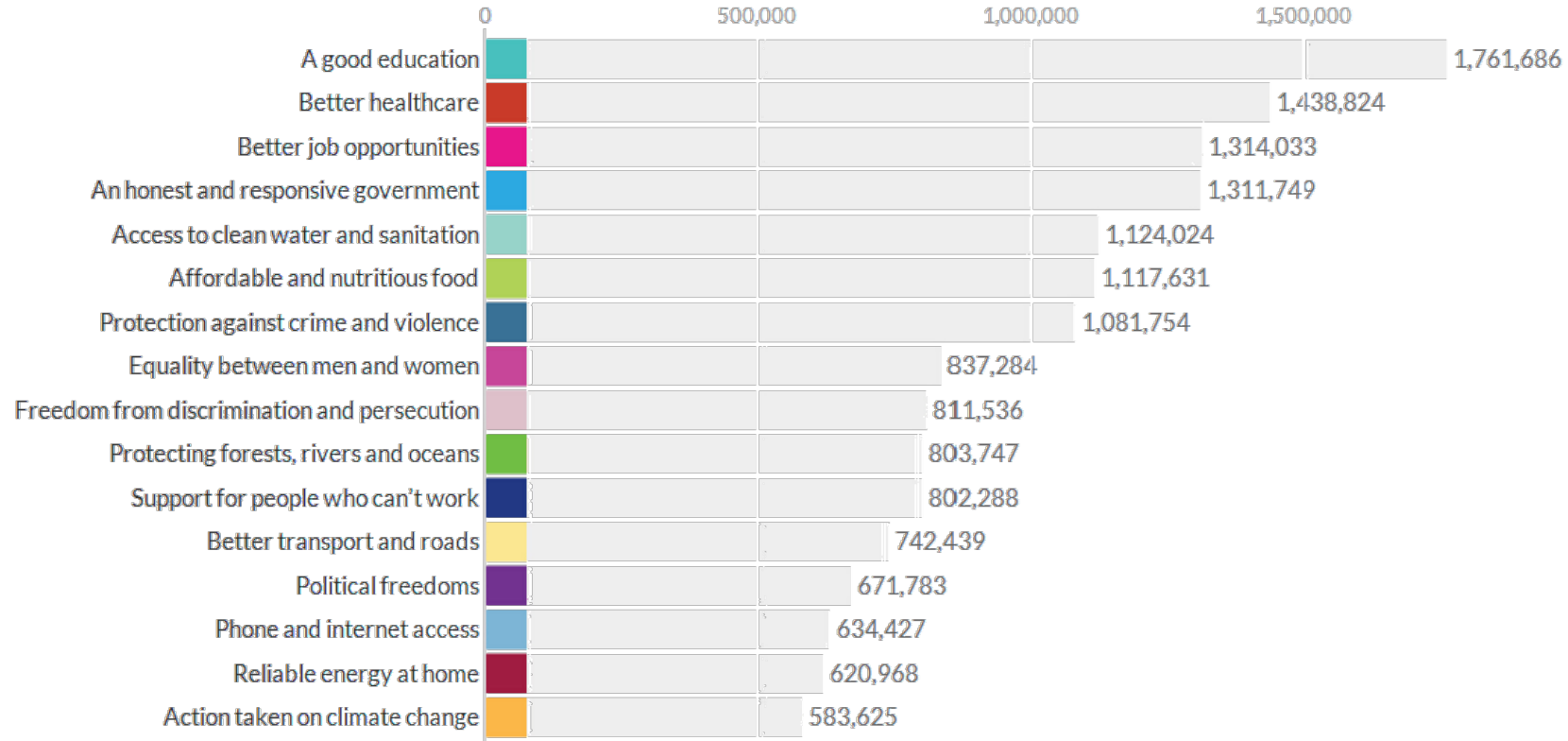


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2,630,039 votes for All Countries & Country Groups / All Genders / All Education Levels / Age Group (All Age Groups)





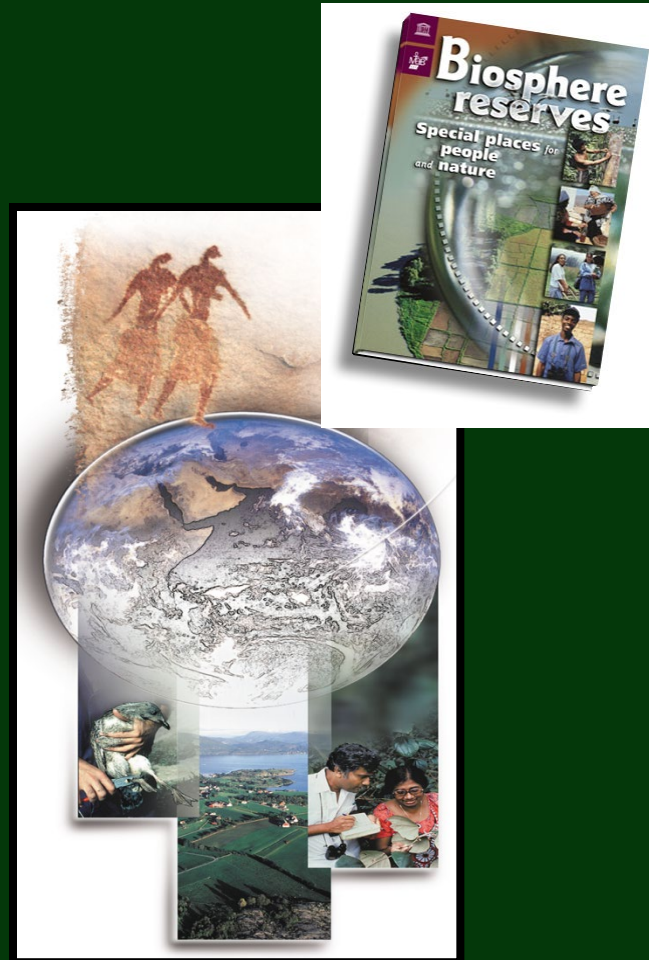
United Nations Educational,
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NATURAL SCIENCES SECTOR

Biosphere Reserves

"Our biggest challenge in this new century is to take an idea that seems abstract - sustainable development - and turn it into a reality for all the world's people."

The Late KOFI ANNAN,
Secretary General of the
United Nations





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Synthesis of National Reports (UNDP/UNDESA)

- compiled in 2012 in preparation for the Rio + 20 Summit
- This synthesis report concludes that many countries have made substantial progress over the last twenty years in establishing and strengthening the institutional frameworks necessary to ensure sustainable development. The progress made on the conceptual and institutional levels in the two decades that followed the Earth Summit represents a significant achievement.
- Today's challenge is chiefly implementation. The evidence from the reports is overwhelming that a gap exists between stated commitments to sustainable development and the reality of implementing sustainable development policies and programmes in all countries and regions reviewed. This is largely due to integration, inclusion, and coherence challenges. Translating the idea of sustainable development into practice by integrating economic, social and environmental aims and approaches to further environmentally sustainable and socially equitable economic growth remains difficult for most countries.



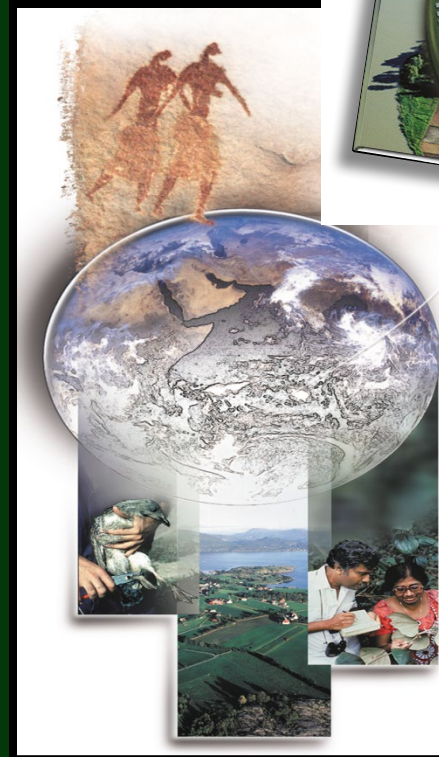
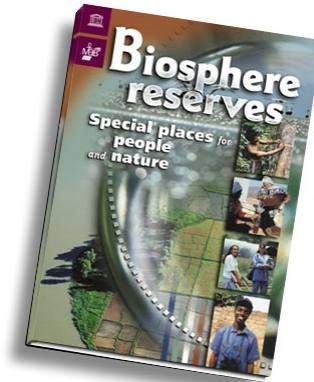
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NATURAL SCIENCES SECTOR

Biosphere Reserves

UN DECADE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (2005-2014)

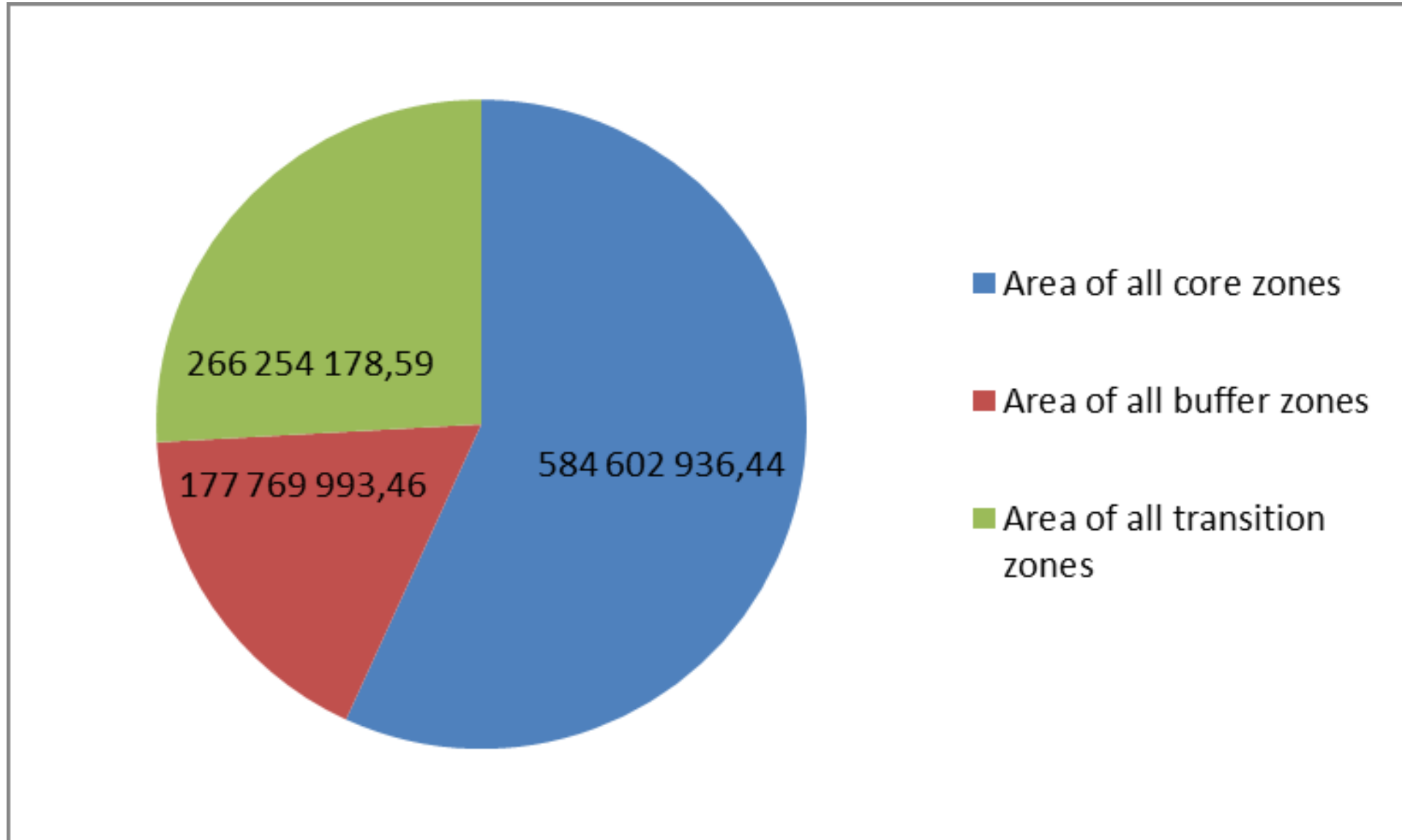
- **“We don’t think ourselves into a new way of acting we act ourselves into a new way of thinking” (Larry Bossidy and Ram Charan in Execution: the discipline of getting things done. page 89)**



Internationally Designated Areas (IDAs)

- **MAB (1971) - Biosphere Reserves (BR) – 759 in 136 countries**
- **World Heritage Convention (1972) - World Heritage sites (WHs) – 1228 sites in 168 countries**
- **UNESCO Global Geoparks launched in 1998; 213 in 48 countries**
- **Ramsar Convention (1971) – first listings in 1974; Secretariat in IUCN; but legal instrument deposited in UNESCO; 2400 sites in 172 countries**
- **Global R&T Centre for Internationally Designated Areas (GCIDA), Jeju Island, Korea – 2019**
- **All IDAs include resident communities in or adjacent to the sites**

WNBR covers approximately a total area of 1,027,627,000ha and is linked to the lives of an estimated 198 million people (2016)



Biosphere reserves as learning laboratories for sustainable development

learning refers to the process of actively changing patterns of behavior and the values, attitudes, future orientation, motivations etc of people who have become a dominant factor in influencing biosphere futures



- UNDES (interdisciplinary research; combining knowledge systems)
- Climate Change Task Force (mitigation and adaptation, scenarios building and modelling);
- Science for Society and for Policy: Bridging institutions and stakeholders, including decision-makers.

A FARM OF THE FUTURE

Ecosystem services previously taken for free could generate perhaps half the income of a farm, if markets for various kinds of environmental credits take off as hoped. Farmlands in the future may have a diverse portfolio of ecosystem services to offer to a wide range of customers.

BIODIVERSITY CREDITS

Conservation organizations are leasing development rights from the owners of undisturbed forests and other habitats that host threatened endemic species and fast-vanishing ecosystems.



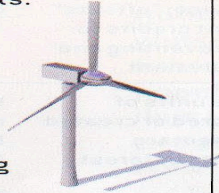
CO₂ OFFSET CREDITS

When landowners plant new forests and promise never to cut or burn the trees, they can receive carbon dioxide offset credits that industries will buy to help them comply with restrictions on greenhouse gas emissions.



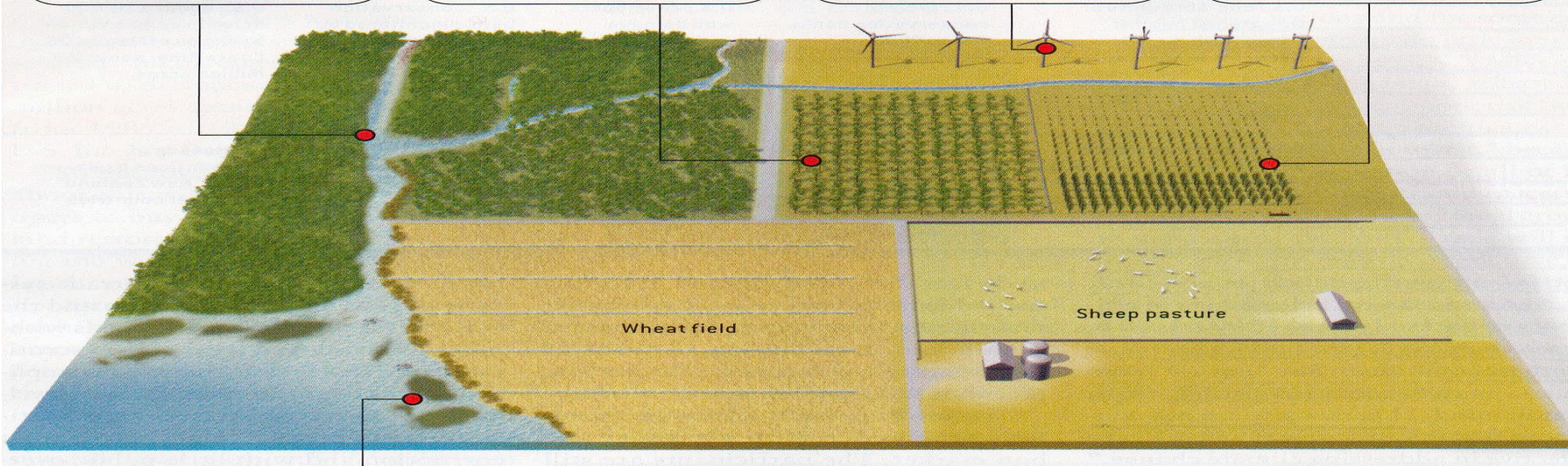
RENEWABLE ELECTRICITY

Wind farms generate nonpolluting electricity that commands premium prices in deregulated power markets. The turbines can also garner tax credits that subsidize their capital and operating costs.



CERTIFIED SUSTAINABLE TIMBER

Sustainably harvested timber is now one of numerous "eco-labeled" products that are certified as ecologically sound and sold at a premium in specialty markets.




WATER CREDITS

Careful management of water and wetlands is economically valuable for many reasons. Urban water authorities purchase water filtration credits to protect the quality of their watersheds; wetland owners can also receive compensation from government agencies for flood-control services, from conservation organizations for the preservation of migratory waterfowl breeding areas, and from agricultural cooperatives for the prevention of soil salinity increases caused by overdrawn groundwater aquifers.



COMMODITY	PERCENT OF FARM'S INCOME	CUSTOMER
Biodiversity credits	5	Conservation trust
CO ₂ offset credits	10	Steelmaker
Renewable electricity	15	Power market
Certified sustainable timber	20	Specialty market
Water credits	20	Urban water market
Wheat	15	World market
Wool	15	World market



People never learn anything
by being told, they have to find
out for themselves.”

— Paulo Coelho

Thank You for Listening