



POPULATION GROWTH & ENVIRONMENTAL QUALITY

Adopting dynamic strategies for conservation of environment

in the face of:

- ▶ Growing population
- ▶ Limited resources

- With a geographical area of 1,62,970 sq. Km, Andhra Pradesh, situated in tropical region, ranks 8th largest State in the country.
- As per the forest records, AP ranks 9th in India for having forest cover area of 36909.38 sq. Km which accounts to 23.04% of the total geographical area. The green cover outside the forest area is estimated to be 2.30%.
- The combined Andhra Pradesh had recorded negative growth of (-)273 sq. Km ((-) 27,300 Ha.) in growth of green cover as per India State of Forest Report (ISFR), 2013.
- However, due to the consistent efforts by the State government to make Andhra Pradesh a harbinger of Sustainable Development and to protect and enhance its biodiversity.

DEVELOPMENT AGENDA

- AP government's Human Development approach puts people at the centre of development agenda.
- We believe that human development goes hand in hand with environmental sustainability.
- In all our policies, programs, schemes and activities, we encourage the protection of human rights and the empowerment of women, minorities and the poorest and most vulnerable.

TECHNOLOGICAL CHANGES & ENVIRONMENT RELATIONSHIPS

Hunter-Gatherer Societies

Survival based by gathering edible plants and killing animals.
Little accumulated economic and food surplus.
Small numbers, decentralized and little use of resources.
Strong linkage with nature.

Agricultural societies

Produce larger and more stable food supplies.
Larger settlements and populations.
Dependence on nature.
Co-existence with Nature

Industrial societies

Substitution of human and animal labor by machines.
Urbanization (population outside natural surroundings).
Began to change attitudes toward the environment.
Exploitation of resources exacerbated many environmental problems and created new ones.
Pollution exacerbated by the use of synthetic materials.

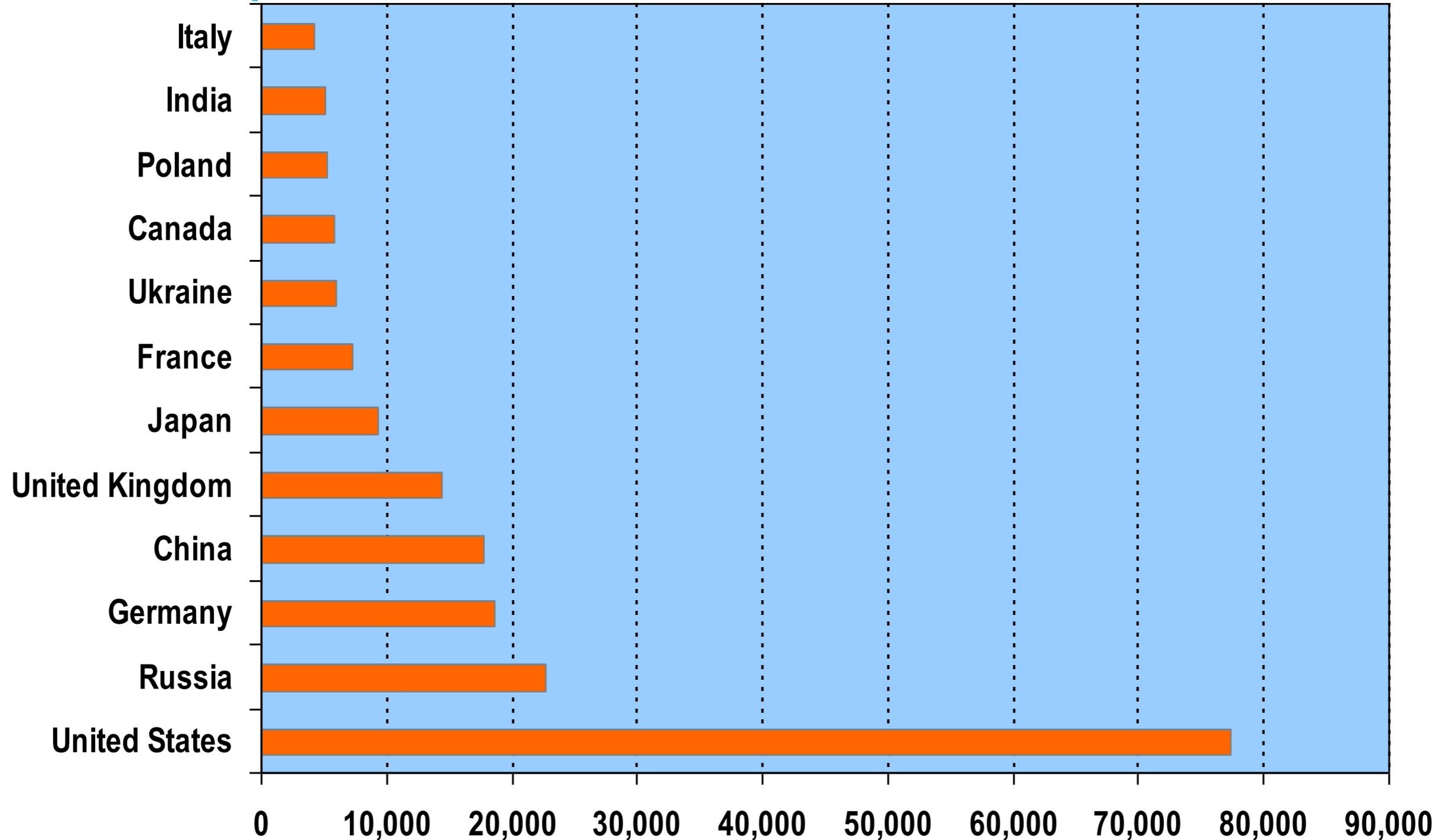
ENVIRONMENTAL GLOBALISM

(1990S)

Biodiversity Convention, Agenda 21, Kyoto Protocols, CoP

- ▶ Kyoto Protocol
 - ▶ The Global Warming Treaty was not working.
 - ▶ 2000 goals would not be achieved.
 - ▶ High profile meeting in Kyoto in 1997.
 - ▶ 160 nations formally adopted the protocol:
 - ▶ Legally committing industrial countries to reduce Carbon Dioxide emissions.
 - ▶ Reduce climate-altering gases by 5.2% below 1990 levels between 2008 and 2012.
- ▶ Developing countries objected:
 - ▶ Meeting the target would cripple their economies leaning on coal.
 - ▶ Developing countries were thus exempted.

TOTAL CARBON EMISSIONS, 1900-1999 (IN MILLIONS OF TONS)



CURRENT PERSPECTIVE: REALITY CHECK

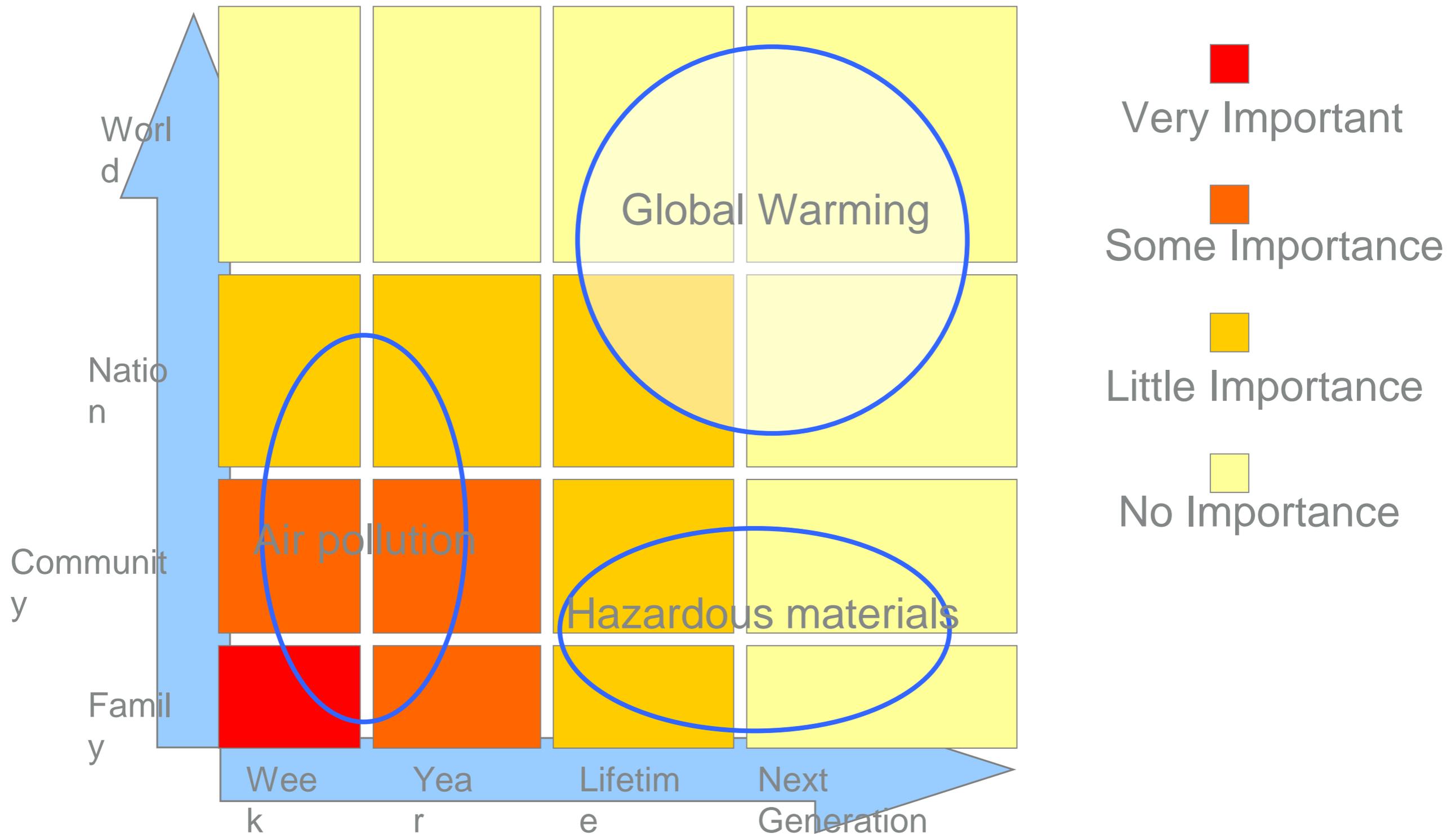
- ▶ Perspective
 - ▶ Low or over valuation of the environment:
 - ▶ Consumers and environmental radicals.
 - ▶ Maximization of wealth and risk taking.
 - ▶ No limits to growth and problems can be overcome by technology.
 - ▶ Short term perspective.
- ▶ Environmental divide
 - ▶ Between developing and developed countries.
 - ▶ Economic growth becomes the dominant paradigm.

CURRENT PERSPECTIVE: REALITY CHECK

Dependency

- ▶ Societies are caught in the requirements they have created:
 - ▶ Economic growth.
 - ▶ Standard of living.
 - ▶ Mobility.
- ▶ American response:
 - ▶ Would not contemplate any action that would hurt America's economy or restrict its access to energy.
 - ▶ “We must be very careful not to take actions that could harm consumers.” President Bush (2001).
 - ▶ Did not ratify the Kyoto Protocol (2001).
- ▶ Shift of emphasis
 - ▶ Adaptation, more than prevention.
 - ▶ Cope with the consequences of GW instead of dealing with the sources.

ENVIRONMENTAL PERCEPTION: WHO CARES?



DRIVING FORCES

- ▶ Context
 - ▶ Demographic growth.
 - ▶ Growing size of societies and communities.
 - ▶ Urbanization.
 - ▶ Technological development.
 - ▶ Increasing inequalities.
 - ▶ Larger levels of personal consumption.
 - ▶ Higher generation of wastes:
 - ▶ Several are difficult to be absorbed.
- ▶ Growing impacts on the environment

DRIVING FORCES

- ▶ Population change
 - ▶ A world of 6.3 billion “consumers”.
 - ▶ Each addition of consumers generate more pressures on:
 - ▶ Food.
 - ▶ Water.
 - ▶ Energy.
 - ▶ Raw materials.
 - ▶ Space.
 - ▶ Comparable negative impact on the environment.
 - ▶ What will be the impacts of about 9 billion consumers by 2050?

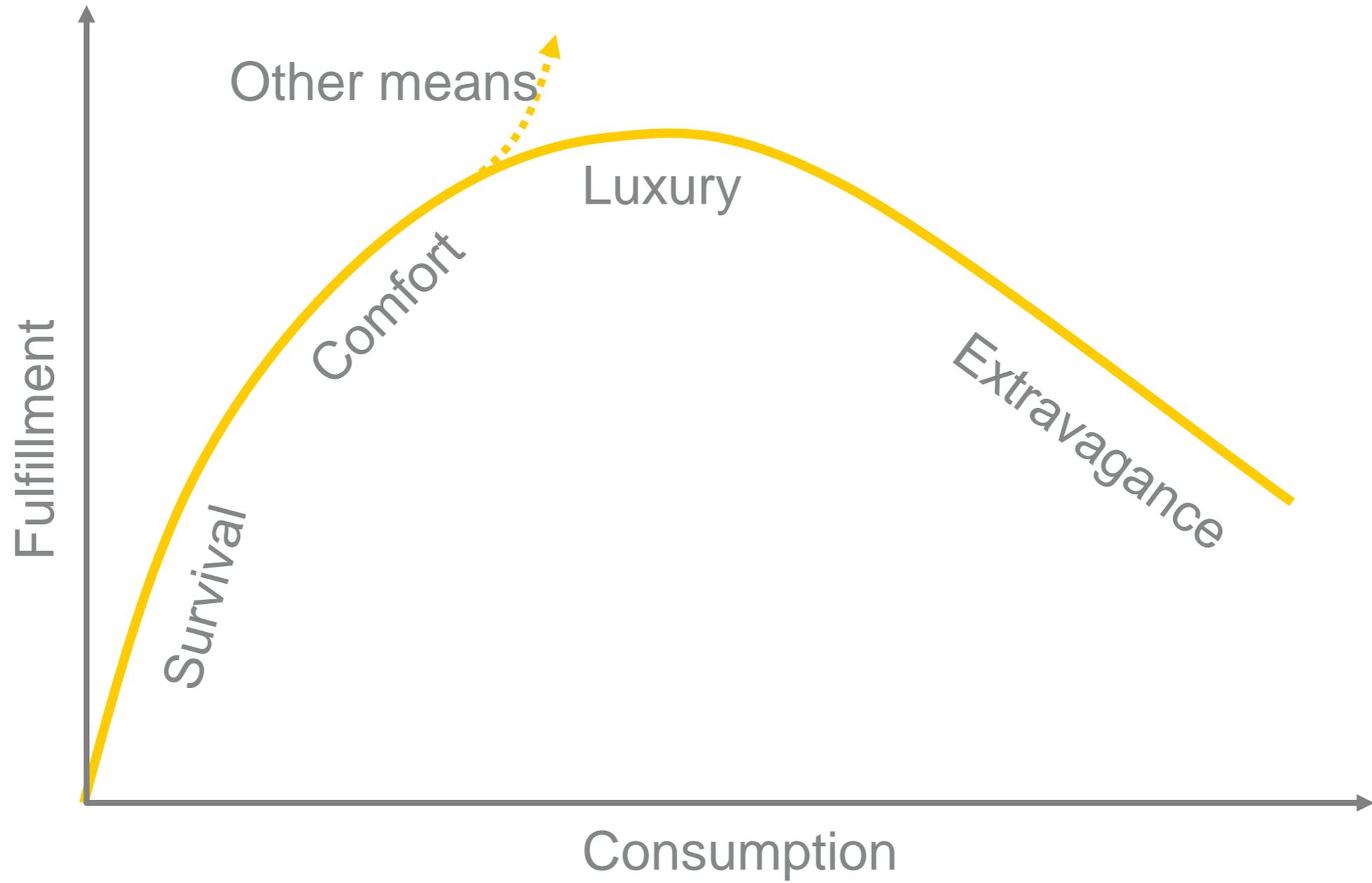
DRIVING FORCES

- ▶ Promotion of economic growth
 - ▶ Market economies are based on economic expansion:
 - ▶ Growth of production (supply).
 - ▶ Growth of consumption (demand).
 - ▶ Issue reinforced by globalization.
 - ▶ Governments try to reinforce economic growth:
 - ▶ Elected for such a purpose.
 - ▶ Reversed if they “mismanage” the economy.
 - ▶ Consequences:
 - ▶ Depletion of nonrenewable resources.
 - ▶ Overuse of renewable resources.
 - ▶ Between 1995 and 1998 the world’s economic output exceeded the output from the beginning of history to 1900.

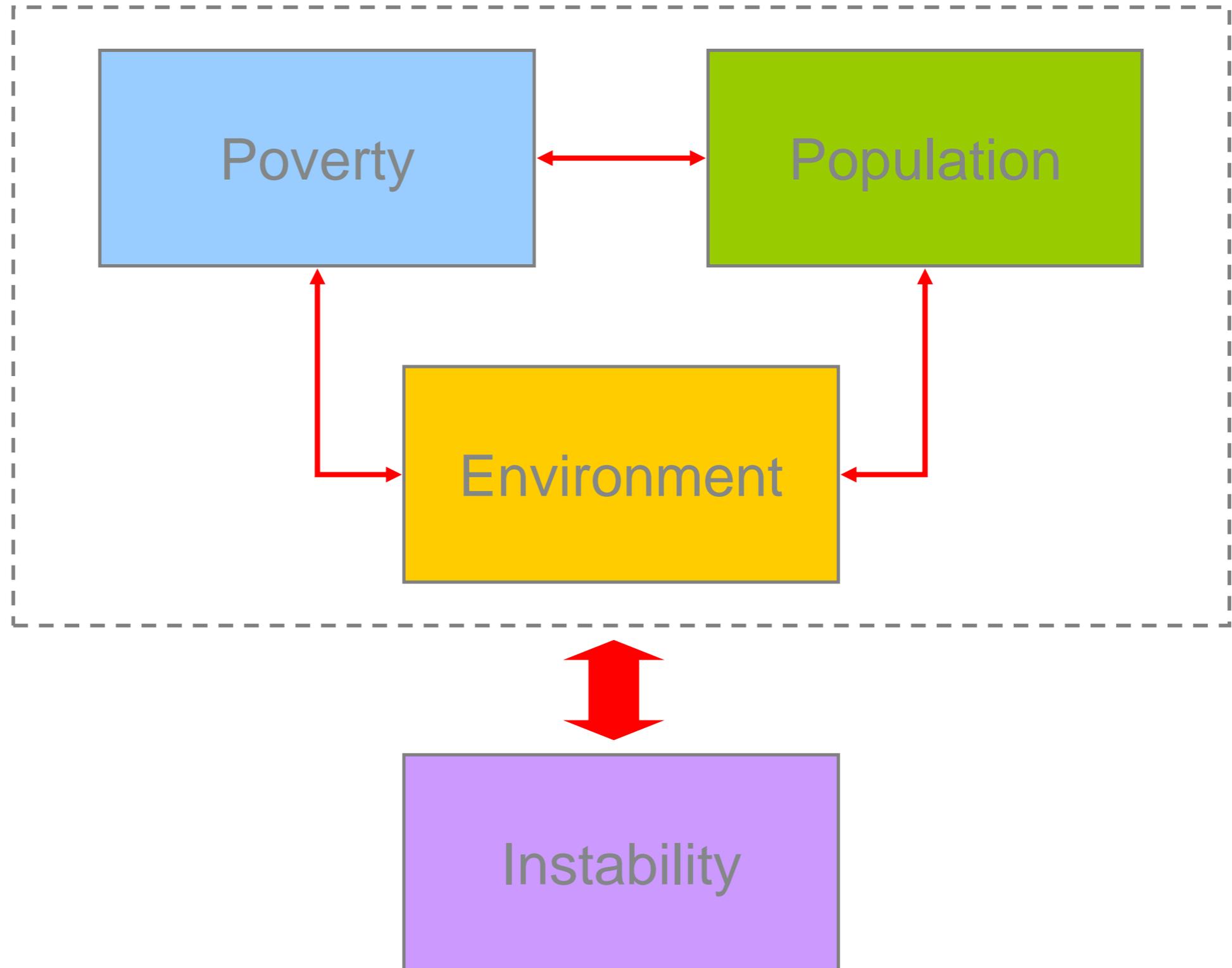
DRIVING FORCES

- ▶ Culture and belief systems
 - ▶ Consumerism incarnates materialistic values in human behavior.
 - ▶ Fulfillment derived from the accumulation of goods.
 - ▶ Expands the demand side of the market economy.
 - ▶ Lebow (commenting American consumerism):
 - ▶ “Our enormously productive economy ... demands that we make consumption our way of life, that we convert the buying and use of good into rituals, that we seek our spiritual satisfaction and ego satisfaction in consumption. ... We need things consumed, burned up, worn out, replaced and discarded at an ever increasing rate.”
 - ▶ The United States has more malls than high schools; Americans spend more time shopping than reading.
 - ▶ Becoming the dominant global social paradigm.

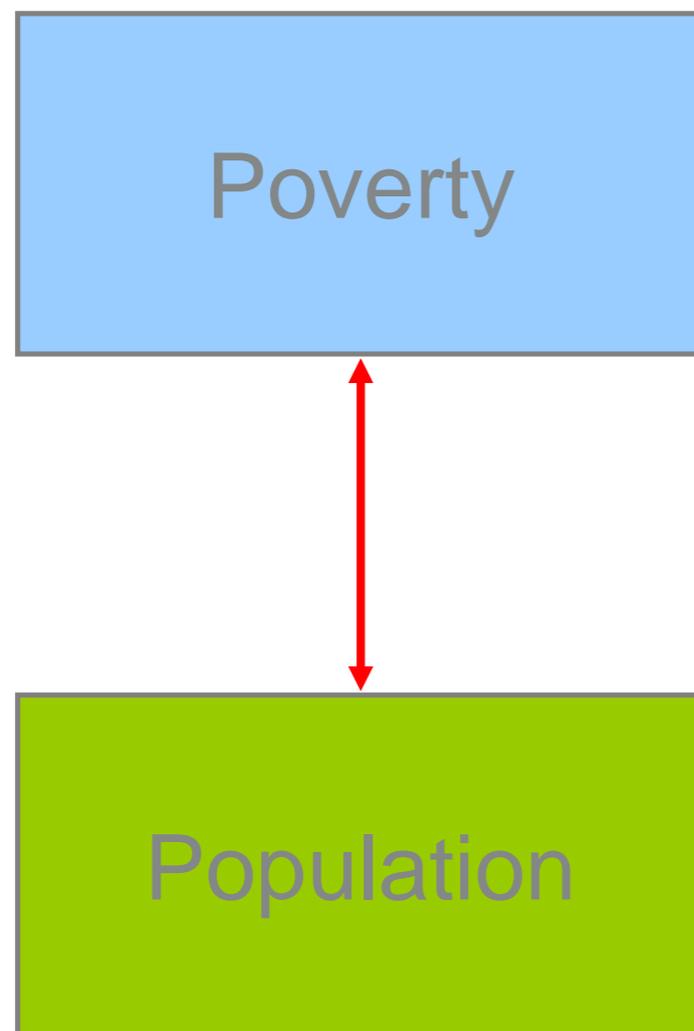
FULFILLMENT CURVE



THE VICIOUS CIRCLE



THE VICIOUS CIRCLE



- ▶ More children to compensate high mortality.
- ▶ More children to help domestic tasks and cultivation.
- ▶ Lack of protection in view of disease or old age.
- ▶ Lack of education plays against family planning.
- ▶ Women status and poverty forbid access to education.
- ▶ Unemployment and low incomes, dilution of gain.
- ▶ Division of property among several children.
- ▶ Overburden of health and social services and utilities.

Conservation of environment, as a global issue, has assumed a central place in the Sustainable Development Goals under agenda 2030 of the UN.

SDG 6: CLEAN WATER AND SANITATION

**SDG 7: AFFORDABLE AND CLEAN
ENERGY**

**SDG 11: SUSTAINABLE CITIES AND
COMMUNITIES**

**SDG 12: RESPONSIBLE CONSUMPTION
AND PRODUCTION**

SDG 13: CLIMATE ACTION

SDG 15: LIFE ON LAND

DEMOGRAPHICS OF INDIA

- India is the 2nd most populated country in the world with nearly a fifth of the world's population.
- According to the 2017 revision of the World Population Prospect, the population stood at 1,324,171,354.
- Its population growth rate is 1.13%.

DEMOGRAPHICS OF ANDHRA PRADESH

- Based on the Census of India (2011), the State has a population of 84,665,533..
- The total recorded population growth in this decade has been 10.98%.
- AP's population forms 6.99% of India.

GROWTH RATE

- State government has developed a historic monitoring strategy encompassing five themes:
 - Gross Value Added (GVA)
 - Sustainable Development Goals
 - Key Performance Indicators (KPI)
- AP has emerged as the best economic performer with an average growth of 10.52% (at constant prices).
- State economy has significantly improved year by year from Rs.4.64 lakh crores in 2013-14 to Rs. 8.04 lakh crores in 2017-18 (AE).
- The net increase is Rs.3.4 lakh crores (73%).

POPULATION CONTROL MEASURES

- Raising awareness
- Change in social outlook through education
- Social security schemes
- Higher employment generation
- Development of agriculture and industry sectors
- Standard of living
- Family planning
- Incentives

AGRICULTURE

- Agriculture is the biggest user of water worldwide, and irrigation now claims close to 70% of all freshwater for human use.
- Andhra Pradesh is “the bejeweled rice bowl of India”. Agriculture plays an important role in the livelihoods of people as 62% of the population in AP live in rural areas and depend on agriculture and related sectors.
- State's main challenges are water scarcity, degrading natural resources like land, decreasing per capita availability of land and water resources.
- Further, rainfed agriculture in Rayalaseema and North Coastal Districts, natural calamities like deficit rainfall, prolonged dry spells, cyclones and heavy rains have great impact on production and income of the farmer.

- 6 Agro Climatic Zones and 5 different soil types to grow wide range of crops throughout the year.
- Godavari and Krishna rivers running through the State provide ample opportunity for increasing irrigation potential.
- Scientific soil health management, enhancement of water use efficiency for climate change resilient agriculture.
- State government committed to farmer-centric programs.
- Horticulture sector identified as one of the growth engines to achieve double-digit inclusive growth.

ZERO BUDGET NATURAL FARMING

- Reduction of the cost of cultivation and risks associated with farming.
- Increase the yields, produce healthy and nutritious food.
- Comprehensive, long term welfare, prosperity of farmers and safeguard from the adverse climate change effects.
- The coverage of farmers in ZBNF:
 - 2016-17: 40,656 farmers across 704 villages in 116 Mandals
 - 2017-18: 1.63 lakh farmers across 972 villages in 331 Mandals
 - 2018-19: 5.23 lakh farmers across 3015 villages in all mandals.

ZBNF was selected as one of the 10 Best Projects out of 120 global entries

GREEN COVER

- The State govt is working towards achieving 50% green cover by 2019.
- This goal envisions a Green Andhra Pradesh with abundant forest cover for a thriving biodiversity and a huge carbon sink.
- The objective is to create a sustainable living space for the citizens while contributing to a safer and sustainable planet.
- Intensive soil moisture conservation works have been taken up in forest areas in AP.

SOIL AND MOISTURE CONSERVATION EFFORTS

- Soil moisture conservation is vital for reforestation of degraded forest, improving ground water table and arresting soil degradation.
- The Forest department has taken up massive soil and moisture conservation works.
- As a result, the water bodies within forest areas have expanded.
- The groundwater table has increased significantly in the forest fringe areas, helping the farmers and wildlife.

RESPONSIBLE TOURISM

- **Eco-tourism:** A big boost to ecotourism has been given to promote awareness about nature and wildlife conservation.
- **City Forests:** They act as green lungs of the cities by augmenting Ecological Rejuvenation, pollution-mitigation, cleaner air, noise reduction, water-harvesting and climate resilience.
- **Climate change mitigation:** Due to the afforestation and eco-restoration efforts, the climate change impact is being reduced substantially.

AIR POLLUTION AND ITS ABATEMENT

- Air pollution is one of the most pressing environmental concerns.
- AP Pollution Control Boards (APPCB) is mandated to plan a comprehensive program for prevention, control and abatement of air pollution.
- A network of 43 ambient air quality monitoring stations is put in place throughout AP to assess the air quality.
- Based on the results and trends, AP govt takes preventive measures to control air pollution from different sources.

WATER POLLUTION AND ITS ABATEMENT

- Apart from drinking purpose, water is consumed in large quantities for irrigation, agriculture, industries, hydroelectric generation etc.
- APPCB monitors the water quality of rivers, lakes, canals, drains, ground water and coastal waters throughout the State.
- Water quality monitoring under National Water Quality Monitoring Programme and National River Conservation Programme is done at 51 stations on monthly or half yearly basis.

NATURAL RESOURCE MANAGEMENT

- Along with effective natural resource management, the govt is equally focussed on human resource building.
- Mitigating droughts:
 - Geographically, AP is uniquely placed which makes it prone to both drought and cyclones.
 - Despite this, the agriculture and allied sector has seen an average growth rate of 11% compared to the national average growth of 2.4%.
 - This could be achieved through convergence approach and effective management of natural resources for sustainability.

RENEWABLE ENERGY PROJECTS

- AP govt is promoting renewable energy power projects through AP Solar Power Policy 2015 and AP Wind Power Policy 2015 with fiscal incentives for large scale promotion of projects.
- It is the first in the country to announce a policy for promotion of Solar and Wind hybrid power projects.
- 4000 MW capacity solar parks have been developed in Anantapur, Kurnool and Kadapa districts.
- 60 MW Wind Solar Hybrid Project with storage would be the first of its kind project in the entire world. It will be functional by mid-2019.

INDICATORS FOR ENVIRONMENTAL SUSTAINABILITY

- **Planetary boundaries:** With its focus on the stability of Earth system processes, the PB approach is concerned with impacts on the natural environment and does not intend to reflect impacts to human health.
- **Life Cycle Assessment:** LCA quantifies all relevant emissions and resources consumed, the related environmental and health impacts and resource depletion issues that are associated with any goods or services.
- **Sustainable Development Goals:** SDGs promote regulators making decisions towards a livable and sustainable place for humans with a perspective of human-centered society.

**“YOU HAVE NOT INHERITED THIS WORLD FROM YOUR PARENTS
BUT HAVE BORROWED IT FROM YOUR CHILDREN”**

THANK YOU 