

Environmental and Natural Resources Management-Pre- colonial, Colonial and Post –Colonial Africa

BY

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FACTS: OBVIOUS; NOT TOO OBVIOUS

OBVIOUS:

OUR ENVIRONMENT : ATMOSPHERE, LAND AND WATER (FRESH & SALTY)

NATURAL RESOURCE: AIR, LAND,WATER, PLANTS, ANIMALS, MINERALS

NOT TOO OBVIOUS:

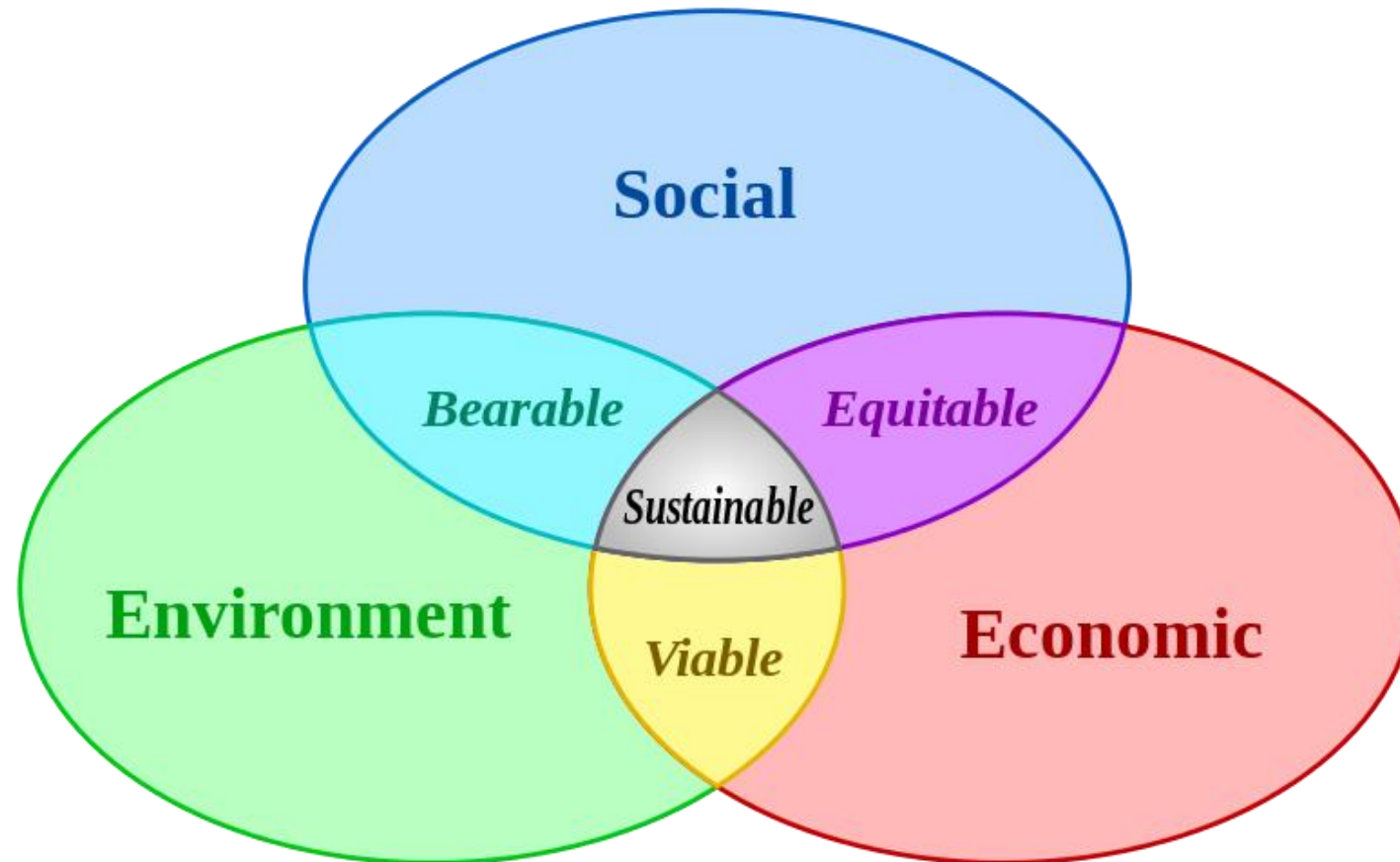
ENVIRONMENT IS A NATURAL RESOURCE

THEREFORE

TO TALK ABOUT ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT IS A **TAUTOLOGY-**

- ▶ **Natural resource management** refers to the management of the environment with a particular focus on how management affects the quality of life for both present and future generations (stewardship).

Concept of sustainable development



SAY WHAT?

- ▶ NOTE THAT THERE IS NO SEPARATE BOX FOR NATURAL RESOURCE. IT IS THE SAME AS THE ENVIRONMENT !!!
- ▶ THE CONCEPT OF SUSTAINABLE DEVELOPMENT RECOGNISES THAT PEOPLE AND THEIR LIVELIHOODS RELY ON THE HEALTH AND PRODUCTIVITY OF OUR NATURAL SCAPES, AND THEIR ACTIONS AS RESPONSIBLE STEWARDS PLAY A CRITICAL ROLE IN MAINTAINING THIS HEALTH AND PRODUCTIVITY WHICH CONSTITUTE THE NATURAL SUPPORT BASE FOR ECONOMIC PROSPERITY AND SOCIAL WELL BEING FOR PRESENT AND FUTURE GENERATIONS

BACK TO CLASSIFICATION OF FACTS !

► NOT TOO OBVIOUS:

ECOSYSTEMS HAVE THE NATURAL ABILITY TO REGENERATE AND REGULATE THEMSELVES

OBVIOUS:

ANTHROPOGENIC ACTIVITIES INTERVENE TO ALTER THIS NATURAL DYNAMIC AND IMPEDE THE CAPACITY FOR GENERATION

THEREFORE:

THE OBJECTIVE OF RATIONAL ENVIRONMENTAL (READ, NATURAL RESOURCE) MANAGEMENT SHOULD BE, TO THE GREATEST EXTENT POSSIBLE, TO RESTORE THIS NATURAL DYNAMIC.

SCOPE

- ▶ Environmental (Natural resource) Management deals with managing the way in which people interact (**UTILIZATION, FOR THE MOST PART**) with natural scapes (Atmosphere, Land & Water) **TO ENSURE** sustainability of Economic Activities like agriculture, mining, tourism, fisheries and forestry.



Pre-Colonial Era

- ▶ OUR ANCESTOR UNDERSTOOD THE IMPERATIVE OF LIVING IN HARMONY WITH NATURE AS THE SUPPORT BASE FOR THEIR WELL BEING.
- ▶ THEY UNDERSTOOD THE CONCEPT OF THE REGENERATIVE CAPACITY OF NATURE (Thus they practiced shifting cultivation in Agriculture, closed seasons in fisheries, designated sites for construction materials, enforced planting and Harvesting seasons etc)
- ▶ THEY TOOK ENOUGH FOR THEIR NEEDS AND NOT FOR THEIR GREED BECAUSE THEY WERE MINDFUL THAT NATURALSCAPES WERE PATRIMONIES FOR NOT ONLY THEMSELVES BUT FOR THEIR CHILDREN AND THEIR CHILDREN'S CHILDREN.
- ▶ THEY HAD EFFICIENT PRESERVATION PRACTICES TO RELIEVE PRESSURES ON NATURAL SCAPES
- ▶ THEY RECOGNIZED AND DESIGNATED SENSITIVE ENVIRONMENTS AS PROTECTED AREAS
- ▶ THEY MASTERED THE ELEMENTS; UNDERSTOOD THE SEASONS

BEHOLD OYIBO-THE COLONIAL ERA

- ▶ THE FIRST EUROPEANS TO REACH AFRICA INDICATED THAT IN MOST CASES THE AFRICAN ENVIRONMENT (AND DEVELOPMENT) WAS COMPARABLE TO THAT WHICH THEY KNEW.
- ▶ DUTCH VISIT TO BENIN:
- ▶ “---THE TOWN SEEMS TO BE VERY GREAT. WHEN YOU ENTER INTO IT, YOU GO INTO A GREAT BOULEVARD BROADER THAN THE WARMEST STREET IN AMSTERDAM---. THE KING’S PALACE IS A COLLECTION OF BUILDINGS WHICH OCCUPY AS MUCH SPACE AS THE TOWN OF HARLEM---.THE PEOPLE ARE IN NO WAY INFERIOR TO THE DUTCH AS REGARDS CLEANLINESS, THEY WASH AND SCRUB THEIR HOUSES SO WELL THAT THEY ARE POLISHED AND SHINING LIKE A LOOKING GLASS”

OYIBO HOLDS SWAY!

- ▶ LIFE WAS SIMPLE (BASIC)
- ▶ WITH DEVELOPMENT OF TRADE AND EMERGING URBAN AGGLOMERATES, THERE WAS NEED FOR REGULATIONS.

EMPHASIS WAS ON HYGEINE AND SANITATION (Dos and Dont's ; designated Areas for specific activities (zoning!); land use planning;)

TRADE WAS MOSTLY IN NATURAL PRODUCTS(Palm Oil, Cocoa, Groundnuts, cotton, and various seeds)

VERY FEW MANUFACTURING INDUSTRIES

THE GRIP TIGHTENS-COLONIAL ERA (contd)

POLLUTION AND LAND DEGRADATION ENSUED WITH ADVENT OF EXTRACTIVE INDUSTRIES IN THE COLONIES

THE MINING ORDINANCES WERE ISSUED WITH EXPORT IN MIND.

THE LICENCES REQUIRED THE MINING COMPANIES TO CONSIDER THE PROTECTION OF AGRICULTURAL LANDS, FORESTS AND RIVERS, AND, THE MINING LEASE AGREEMENT REQUIRED THE RESTORATION OF LAND TO A STATE SUITABLE FOR AGRICULTURAL OPERATION AFTER MINING HAD STOPPED, PARTICULARLY IF SUCH LAND HAD PREVIOUSLY BEEN OF PASTORAL VALUE (PRO/CSO/1808). THE MINERS HAD TO COMPLY WITH THE PAYMENT OF RENTS AND ROYALTIES TO THE COLONIAL GOVERNMENT , AS WELL AS THE NATIVE COMMUNITY .

ENFORCEMENT WAS PERFUNCTORY : THE PROFIT MOTIVE DOMINATED ENVIRONMENTAL PRACTICE

MASTER DEPARTS- POST COLONIAL ERA

- ▶ AT INDEPENDENCE LITTLE INHERITANCE IN TERMS OF ENVIRONMENTAL LAWS AND PRACTICES AS WE KNOW THEM TODAY
- ▶ IN FAIRNESS, AWARENESS THAT SET IN AFTER STOCKHOLM (1972) WAS LARGELY ABSENT.
- ▶ GALVANIZED BY THE RECOMMENDATIONS OF THIS CONFERENCE AND AIDED SOMETIMES BY SOME CHANCE EVENTS (eg.THE KOKO WASTE DUMPING) AFRICAN COUNTRIES BOARDED THE ENVIRONMENT TRAIN WILLINGLY ON THE PART OF SOME AND KICKING AND SCREAMING ON THE PART OF OTHERS.
- ▶ THE NEWLY FORMED UNITED NATIONS ENVIRONMENT PROGRAM WAS TO PLAY A CATALYTIC ROLE WHILE EMERGING INTERNATIONAL NGOS'S WEIGHED IN WITH ADVOCACY AS NECESSARY

NEW STARS IN THE FIRMAMENT

- ▶ THE PATH TAKEN TO SET UP ENVIRONMENTAL WATCH DOGS(INSTITUTIONS) WAS DIFFERENT ---MINISTRY OR AGENCY, DEPARTMENT, AUTHORITY OR COMMISSION
- ▶ GHANA, THE ENVIRONMENTAL PROTECTION AGENCY (EPA) WAS BORN
- ▶ IN NIGERIA, FIRST A MINISTRY OF WORKS, HOUSING AND ENVIRONMENT in 1979
- ▶ OUT OF THE CONVULSIONS OF THE KOKO TOXIC WASTE EPISODE, THE FEDERAL ENVIRONMENTAL PROTECTION AGENCY (FEPA) WAS BORN IN1988
- ▶ SIMILAR DEVELOPMENTS IN OTHER COUNTRIES

THE EMPIRES TAKE SHAPE

- ▶ UNEP, THE WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, ETC DROVE THE ENVIRONMENTAL AGENDA
- ▶ A MAJOR REORIENTATION AND REFOCUSING OF NATIONAL AND INTERNATIONAL PROGRAMS AND BUDGETS TOWARDS SUSTAINABLE DEVELOPMENT BEGAN TO HOLD SWAY
- ▶ UNDER GUIDANCE, AFRICAN COUNTRIES DOMESTICATED GLOBAL AGREEMENTS, CONVENTIONS, PROTOCOLS, ETC
- ▶ AT NATIONAL LEVELS, POLITICAL AWARENESS FOR INTEGRATING ENVIRONMENT AND DEVELOPMENT INTO A SINGLE CONCEPT AND SCHEME OF THINGS WITHIN ECONOMIC POLICY.

BUT TO WHAT EFFECT?

- ▶ EARLIER APPROACHES TO ENVIRONMENTAL MANAGEMENT WERE PREDICATED ON ENVIRONMENTAL IMPACT ASSESSMENTS OF INDIVIDUAL PROJECTS AND ON INVESTMENTS IN PROGRAMS SUCH AS POLLUTION ABATEMENT, AFFORESTATION OR WATER MANAGEMENT.
- ▶ ALL EVIDENCE IS THAT AS USEFUL AS THESE APPROACHES WERE, THEY PROVED GROSSLY INADEQUATE. MONEY WAS SCARSE !
- ▶ THE DISMAL STATE OF THE ENVIRONMENT IN MOST, IF NOT ALL, AFRICAN COUNTRIES, IS AMPLE PROOF, IF ONE WAS EVER NEEDED
- ▶ THE PROJECT BY PROJECT APPROACH TENDS TO ADDRESS THE SYMPTOMS RATHER THAN THE ROOT CAUSES, OF ENVIRONMENTAL PROBLEMS

“ WHOLISTIC” NOT “HOLISTIC” APPROACH

- ▶ A MORE EFFICACIOUS STRATEGY SHOULD LOOK BEYOND PROJECTS TO BROADER ISSUES AND EXPLICITLY INTEGRATE INTER-SECTORAL AND INTERGENERATIONAL CONCERNS
- ▶ STARTING IN THE 1990'S AND PARTICULARLY AFTER UNCED IN RIO IN 1992, UNEP STARTED PROMOTING THE CONCEPT OF NATIONAL ENVIRONMENTAL ACTION PLANS WHICH SOUGHT TO PROVIDE A MOSAIC OF INTER-RELATIONSHIPS BEYOND ENVIRONMENT PER SE BUT WHICH, WHEN NEGLECTED, WOULD UNDERMINE THE DRIVE TOWARDS ENVIRONMENTAL SANITY AND, BY IMPLICATION, SUSTAINABLE DEVELOPMENT.
- ▶ NEW PARADIGMS WERE BORN---INTEGRATED COASTAL AREAS MANAGEMENT, INTEGRATED FISHERIES MANGEMENT, AND MY FAVOURITE, THE LARGE MARINE ECOSYTEM

THE LARGE MARINE ECOSYSTEM APPROACH

- ▶ THE LME APPROACH WAS A NEW PARADIGM PROPAGATED BY KEN SHERMAN OF THE US-NOAA IN THE EARLY 1990S THAT BROKE WITH THE SECTORAL APPROACH TO OCEAN MANAGEMENT AND TOOK AN INTEGRATED (ECOSYSTEM) VIEW OF THE OCEAN SCAPE AS ENCOMPASSING COASTAL WATERS FROM RIVER BASINS AND ESTUARIES TO THE SEAWARD BOUNDARY OF CONTINENTAL SHELVES AND THE OUTER MARGINS OF COASTAL CURRENTS (SHERMAN, 1994)
- ▶ 95 PERCENT OF ALL NATURAL RESOURCES OCCUR IN THIS ZONE .
- ▶ THE FIVE MODULE INDICATOR APPROACH USING SUITES OF INDICATORS OF LME PRODUCTIVITY, FISH AND FISHERIES DYNAMICS, POLLUTION AND ECOSYSTEM HEALTH AND GOVERNANCE HAVE PROVEN INVALUABLE TO THE SUSTAINABLE DEVELOPMENT OF OCEAN SCAPE

5 LME Modules As Suites of Ecosystem Indicators



Paradigm shift (after Lubchenco, 1994)

	► TO
Individual species	Ecosystems
Small spatial scale	Multiple scales
Short-term perspective	Long-term perspective
Humans: independent of ecosystems	Humans: integral part of ecosystems
Management divorced from research	Adaptive management
Managing commodities	Sustaining production potential for goods and services

GALLOPING POPULATIONS

- ▶ IN 1960, AFRICA AND ASIA WERE GROWING AT ABOUT 2,5 % AND LATIN AMERICA AT 2.9 % HAVE ENGENDERED FALLING POPULATION RATES
- ▶ BY 1988 SOUTH ASIA AND LATIN AMERICA HAD DROPPED TO 2.1 AND 2,5% RESPECTIVELY WHILE AFRICA HAD BALLOONED TO 3.2%
- ▶ TODAY IT IS STILL INORDINATELY HIGH AT 2.5- 4.7%
- ▶ AFRICA'S POPULATION GROWTH IS THE HIGHEST ANYWHERE AND BALKS ANY KNOWN TRENDS. FOR EXAMPLE, WHEREAS IN ASIA AND LATIN AMERICA BETTER HEALTH CARE AND EDUCATION HAVE ENGENDERED FALLING POPULATION GROWTH RATES, IN AFRICA, THE REVERSE IS THE CASE IN AFRICA.

POPULATION AS AN ILLUSTRATION

- ▶ THE LINK BETWEEN GALLOPING POPULATION GROWTH AND ENVIRONMENTAL DEGRADATION IS OBVIOUS AND PARTICULARLY ALARMING
- ▶ MEANS MORE MOUTHS TO FEED, MORE CONFLICTS OVER RESOURCE USE, MORE ENERGY TO BE CONSUMED, MORE BODIES TO BE CLOTHED, MORE WASTES TO BE GENERATED, MORE HEALTH SERVICES TO BE DEPLOYED, ETC
- ▶ BY EXTENSION, TOO LITTLE TO BE SAVED OR INVESTED TO IMPROVE ECONOMY AND LIVING STANDARDS

GDP- REBASED OR DEBASED?

- ▶ AFRICA HAS SOME OF THE HIGHEST GDP GROWTH RATES THAT MAKE SOME OF THE COUNTRIES THE BEST DESTINATIONS FOR FDI
- ▶ BUT IF MOST OF THAT GROWTH IS EATEN UP BY SURGING POPULATION GROWTH, PER CAPITA INCOMES WILL BARELY RISE AND SIGNIFICANT IMPROVEMENTS IN LIVING STANDARDS CANNOT BE ACHIEVED OVER THE LONG TERM THEREBY GIVING A LIE TO THE MUCH VAUNTED SUSTAINABLE DEVELOPMENT.

ZIP UP GUYS!

- ▶ NO REGION HAS EVER DEVELOPED WITH SO HIGH A POPULATION GROWTH
- ▶ THE WILLINGNESS TO EFFECTIVELY TACKLE THE POPULATION EXPLOSION IN AFRICA (CONTINENT WITH YOUNGEST POPULATION!) WILL DETERMINE WHETHER THE DEGRADATION OF NATURAL ECOSYSTEMS WILL CONTINUE TO THREATEN SUSTAINABLE ECONOMIC GROWTH ON THE CONTINENT

GOVERNANCE TO THE RESCUE !

- ▶ AS MUCH AS SOCIO-ECONOMIC CONSIDERATIONS ARE IMPORTANT, GOVERNANCE IS PARAMOUNT,
- ▶ GOVERNANCE ---DEFINED AS THE SYSTEMS OF PEOPLE AND INSTITUTIONS, FORMAL AND INFORMAL RULES,AND RULE MAKING AT ALL LEVELS OF HUMAN SOCIETY--- IS CONSIDERED BY POLICY MAKERS, AND SCHOLARS AS A CRITICAL ISSUE THAT WOULD UNDERPIN THE DRIVE TO ACHIEVE THE GOAL OF A TRULY SUSTAINABLE GLOBAL SOCIETY

A PEEK INTO THE CRYSTAL BALL!

- ▶ FUTURE EARTH IN OUTLINING IN A RECENT ARTICLE IN “NATURE” POSITS THAT THE LONG TERM SUSTAINABILITY FOR A GLOBAL SOCIETY WILL DEPEND ON A COMMITTED SURVEILLANCE OF THE EARTH’S LIFE SUPPORT SYSTEM
- ▶ ENVIRONMENTAL MANAGEMENT AND ECONOMIC DEVELOPMENT ARE INTIMATELY AND INTRICATELY LINKED
- ▶ THE ENVIRONMENT CONSISTS OF INTRICATE ECOLOGICAL SYSTEMS. TREES AND GRASS FOR EXAMPLE ARE , NOT ONLY PROVIDE FUEL AND FODDER, BUT ALSO BUILD SOIL FERTILITY, PREVENT EROSION, PROVIDE WATER CATCHMENT, AMELIORATE CLIMATE CHANGES, AND PROVIDE WILDLIFE HABITATS. THESE SYSTEMS ARE THE UNDERPINNINGS FOR HUMAN WELFARE AND SURVIVAL

ENVIRONMENTAL PRIORITIES

▶ FUTURE EARTH IDENTIFIED SEVEN (7) ENVIRONMENTAL PRIORITIES OR “MUST HAVES” FOR INCLUSION IN SDGS:

- ▶ CLIMATE
- ▶ BIODIVERSITY
- ▶ ECOSYSTEM SERVICES
- ▶ FRESH WATER PROVISION
- ▶ NITROGEN AND PHOSPHORUS CYCLES
- ▶ POLLUTION
- ▶ USE OF NOVEL MATERIALS

MISSION STATEMENT!

- ▶ PROVIDING ACCURATE INTEGRATED ASSESSMENT OF BOTH THE STATE OF ENVIRONMENT AND THE CONSEQUENCES OF POLICIES ON THE ENVIRONMENT IS A *SINE QUA NON* FOR SOUND AND EFFECTIVE DECISION MAKING TOWARDS SUSTAINABLE DEVELOPMENT.

VAT TO DO!

- ▶ SUSTAINABLE DEVELOPMENT IS ABOUT THE PRESENT AS WELL AS THE FUTURE
- ▶ THE ENTIRE DISCUSSION OF A TRANSITION TO SUSTAINABLE DEVELOPMENT ASSUMES THAT MANKIND CAN, TO A LARGE EXTENT, INFLUENCE HIS OWN DESTINY THROUGH THE CHOICES HE MAKES.
- ▶ EVEN WHEN THOSE CHOICES ARE RATIONAL, UNCERTAINTY AND SURPRISE ARE STILL INHERENT IN COMPLEX SYSTEMS LIKE THE GLOBAL SOCIO-ECOLOGICAL SYSTEM
- ▶ VAT TO DO?
- ▶ DOES ONE THROW UP HIS HANDS AND SAY, OH LA LA !!!

SCENARIO ANALYSIS

- ▶ ONE WAY TO PROCEED IS VIA SCENARIO ANALYSIS.
- ▶ SCENARIOS BRING THE FUTURE TO BEAR IN TODAY'S DECISIONS BY HELPING IDENTIFY DRIVERS OF CHANGE, THE IMPLICATIONS OF CURRENT TRAJECTORIES AND OPTIONS FOR ACTION
- ▶ GALLOPIN ET AL (1997) DESCRIBE 3 SCENARIOS OF THE FUTURE--CONVENTIONAL WORLDS, BABARIZATION & GREAT TRANSITIONS---

THREE POSSIBLE WORLDS !

- ▶ THE CONVENTIONAL WORLDS SCENARIOS ASSUME THAT CURRENT TRENDS PLAY OUT WITHOUT MAJOR DISCONTINUITY AND SURPRISE IN THE EVOLUTION OF INSTITUTIONS, ENVIRONMENTAL SYSTEMS AND HUMAN VALUES
- ▶ IN BABARIZATION SCENARIOS, FUNDAMENTAL CHANGE OCCURS, BRINGING GREAT HUMAN MISERY EVEN AUTHORITARIANISM AND COLLAPSE OF CIVILIZATION
- ▶ THE GREAT TRANSITIONS SCENARIOS ALSO REPRESENT FUNDAMENTAL SOCIAL TRANSFORMATION BUT TO A NEW ARGUABLY HIGHER STAGE OF HUMAN CIVILIZATION---eg. 100% IMPLEMENTATION OF THE GREEN ECONOMY.

WISHES AS HORSES---YES !

- ▶ RASKIN ET AL(1998) SUBMIT THAT THE ABIDING VALUE OF SCENARIOS IS THAT THEY SERVE INEVITABLY AS SELF FULFILLING “ATTRACTORS”, DESIRABLE VISIONS OF THE FUTURE THAT HELP STIMULATE THE ACTIONS SO THAT THEY ARE REALIZED
- ▶ IN THIS SENSE, THE FUTURE BECKONS TO THE PRESENT THROUGH OUR CAPACITY TO ENVISION GOALS AND OUR ABILITY TO ACT TO ACHIEVE THEM TOWARDS SUSTAINABILITY.
- ▶ THIS IS A VIEW THAT I AM PROUD TO BE ASSOCIATED WITH.
- ▶ DOMO ARIGATO !