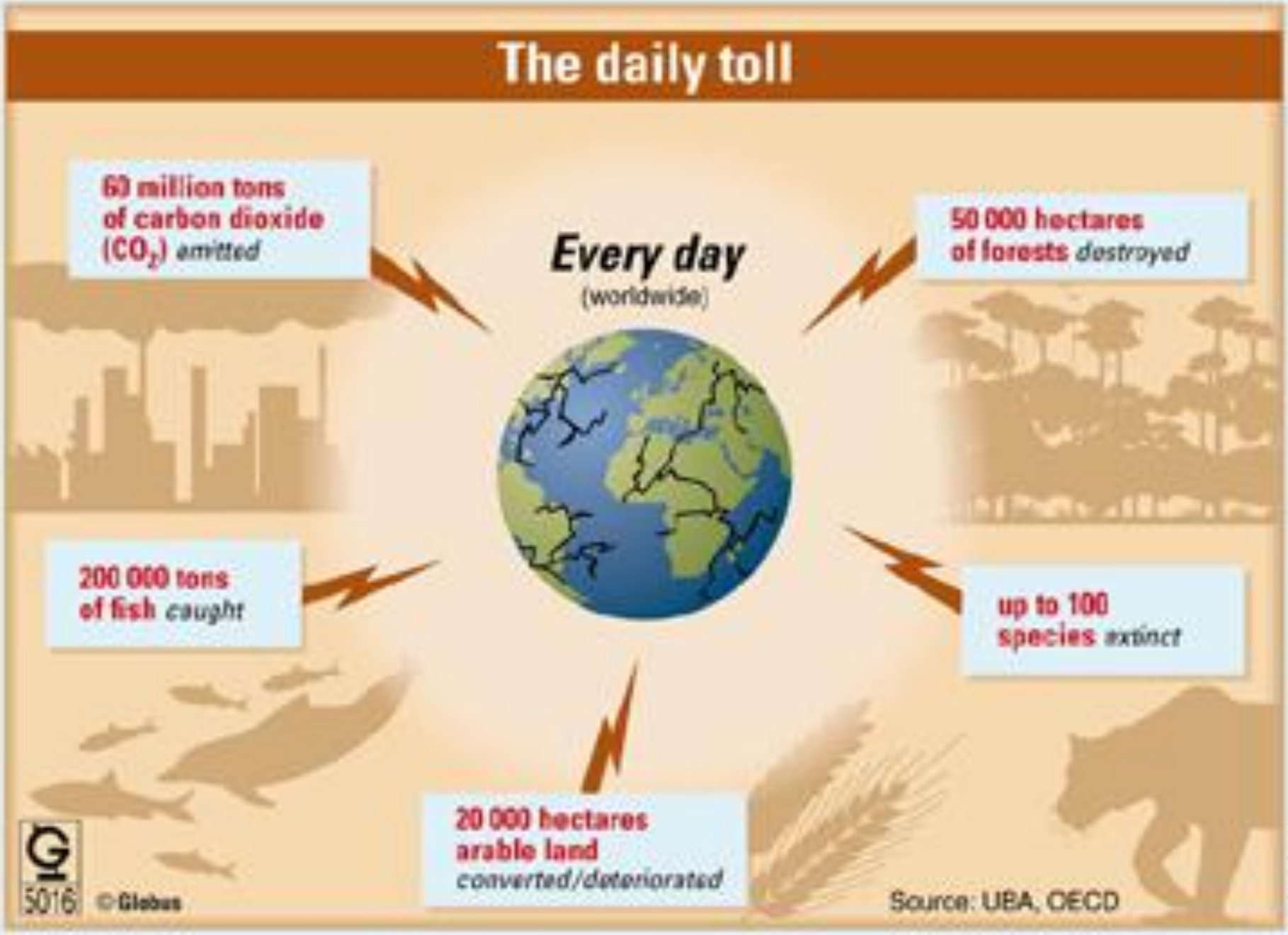
الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
Garden of Knowledge and Virtue

LEADING THE WAY
KHALĪFAH • AMĀNAH • IQRA' • RAḤMATAN LIL-ĀLAMĪN

MAINSTREAMING SDGs: Postgraduates Students as Agent of Change

By

Sejahtera Centre for
Sustainability and Humanity
International Islamic University Malaysia


The daily toll
60 million tons of carbon dioxide (CO_2) emitted
Every day
(worldwide)
50 000 hectares of forests destroyed
200 000 tons of fish caught
up to 100 species extinct
20 000 hectares arable land converted/deteriorated
5016
©Globus
Source: UBA, OECD

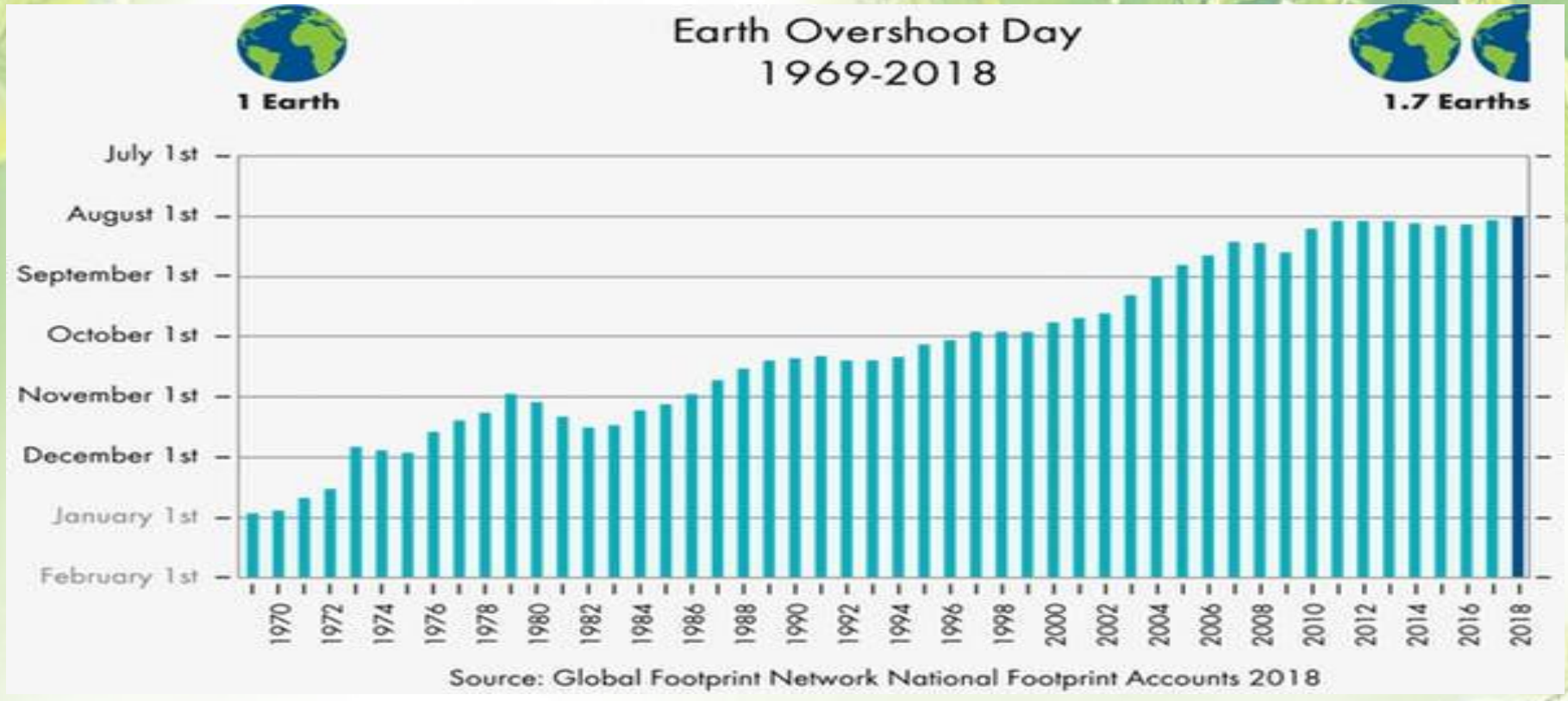

Loss of biological diversity has resulted from human activities such as deforestation and pollution.
40% of our global economy is dependent on biologically derived products.
17 million hectares of tropical forest destroyed each year
70-100 species disappear every day
Water, soil and air have been strained due to high pollution levels.
Unsustainable Exploitation of Resources

Unsustainable Exploitation of Resources

Since 1971, global energy use has increased by 70% and is expected to rise 2% per year in the next 15 years. This will increase greenhouse gases by 50% over current levels.

Increased atmospheric nitrogen from fossil fuel combustion and farming of root crops, which release nitrogen, has intensified the occurrence in of acid rain

Natural resources (e.g. soils, forests, fish aquatic habitats) continue to decrease in quantity due to fires, pollution and human influence

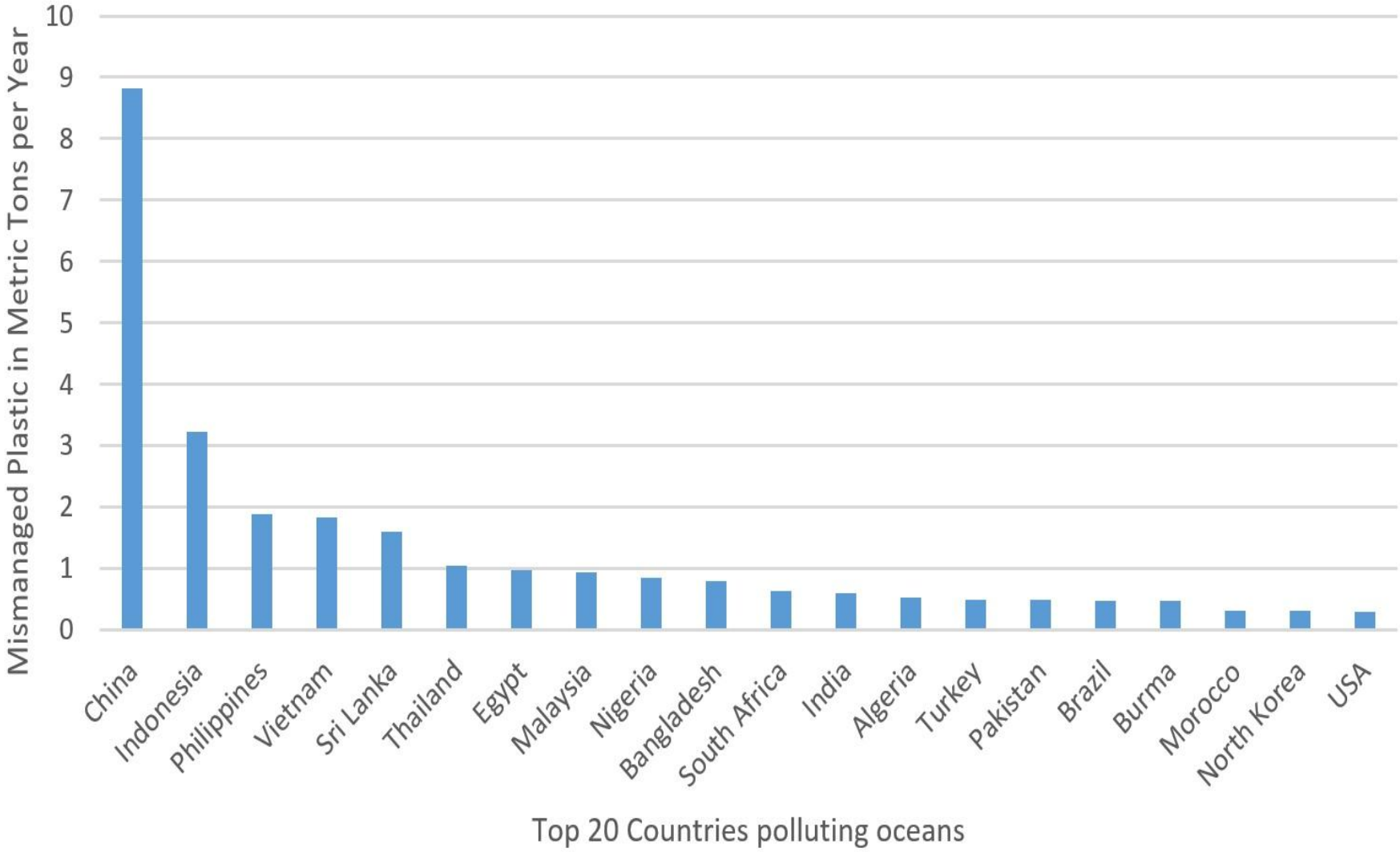


On Aug. 1, humans will have consumed more natural resources in 2018 than the Earth can regenerate this year, according to the California-based Global Footprint Network.

This environmental nonprofit calculates the annual arrival of Earth Overshoot Day – the date when humanity's demands on nature exceed what the network's analysts estimate the Earth can regenerate over the entire year. Aug. 1 is the earliest date since ecological overshoot began in the early 1970s.

The Growing plastic pollution contribution

The total annual output of mismanaged plastic waste disposed in oceans by top 20 countries




E PLURIBUS UNUM
IN SHARE BANKERS WE TRUSTED
ONE

Sustainable Development Definition

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Our Common Future (WCED, 1987 p. 41)

Sustainability is just another way of "The Good Life" as a combination of

i) a high level of human well-being and

ii) the high level of ecosystem well-being that supports it"

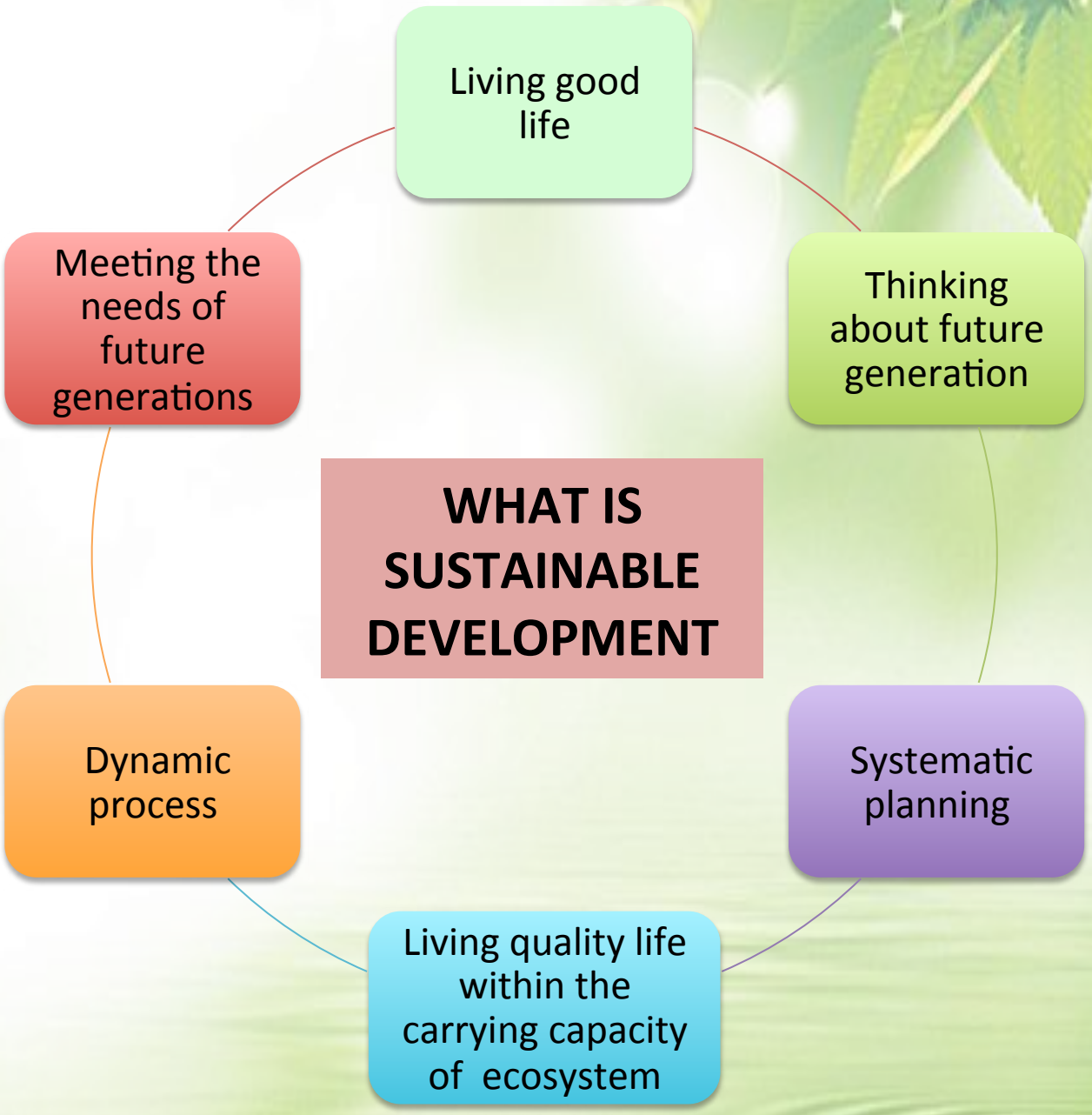
(Allen Presscott)

"To improve the quality of life while living within the carrying capacity of ecosystem".

(International Union for Conservation Union-1991)

"Any development activity can be sustainable if it is a dynamic process which enables all people to realize their potential, and to improve their quality of life, in ways which simultaneously protect and enhance the earth's life support systems".

(Forum for the Future, Annual Report, 2000)


WHAT IS SUSTAINABLE DEVELOPMENT
Living good life
Thinking about future generation
Systematic planning
Living quality life within the carrying capacity of ecosystem
Dynamic process
Meeting the needs of future generations

Sustainable Development

1. Three Spheres of Sustainability


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

The current state of universities

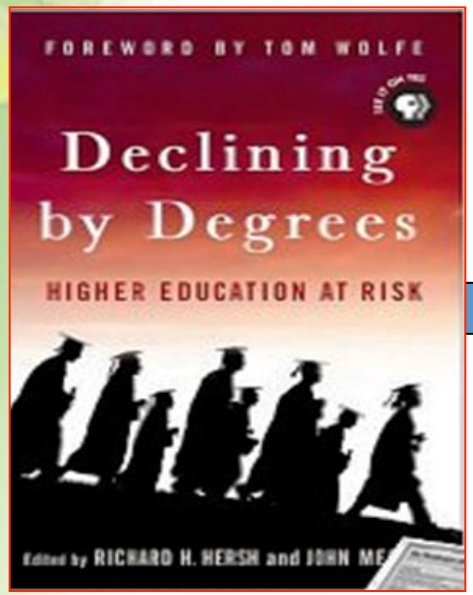
Education is still living in the past because **its present social context is totally different from the situation for which it was designed**.

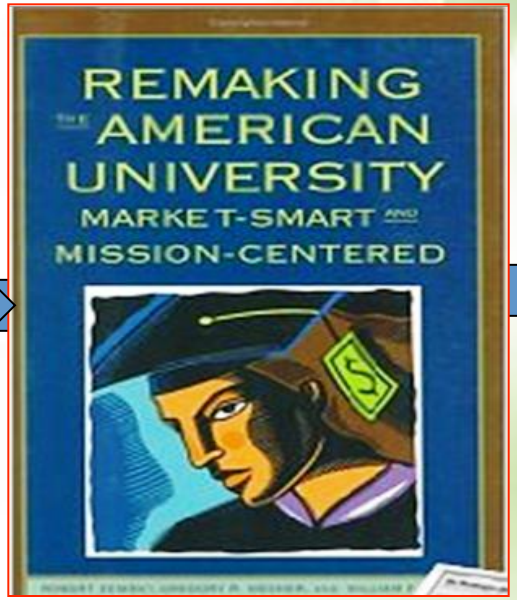
Education must not only be adapted to the needs of **our age**, it must also **make a real effort to look ahead some twenty-five years**.

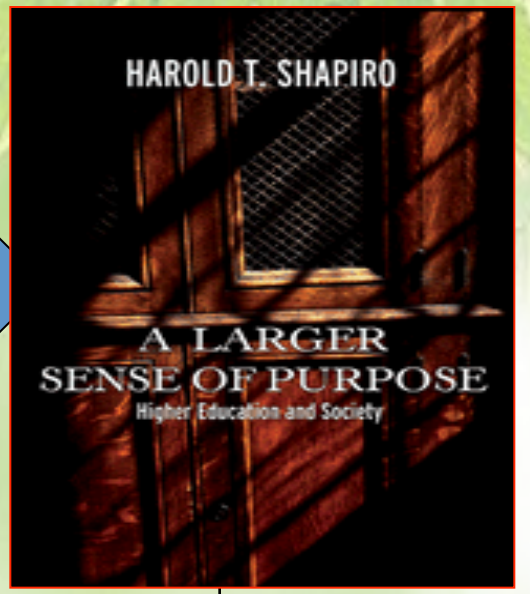
- Ricardo Díez- Hochleitner (Spain)
President of the Club of Rome, UNESCO Sources,
No. 78, April 1996

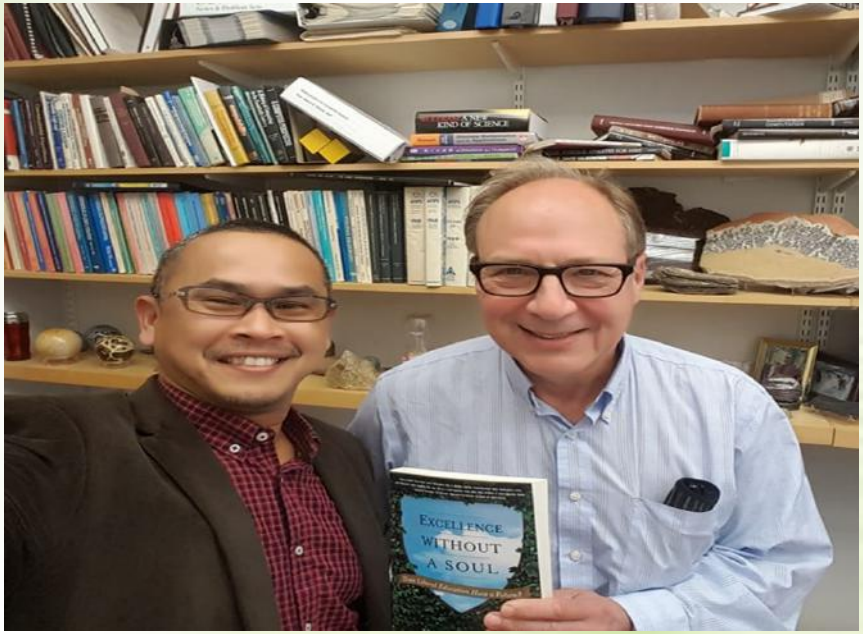
http://www.unesco.org/education/educprog/50y/brochure/promotin/186.htm

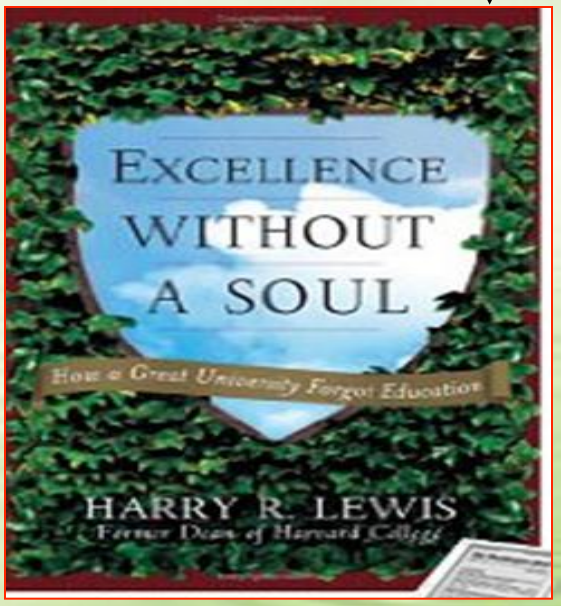
The roles of universities being questioned












New knowledge
To publish in high Impact journal
Collect new evidence
Problem solving
Prove a theory
Personal satisfaction
New products
Utilisation of Findings in The community
WHY DO RESEARCH?

How Do We Define Impact Research

- **Area/focus of research? Bottom Billion….**
- **Process of doing research? Methodology..**
- **Outcome of the research? Product development….**
- **Application of the research? Society Empowerment…..**

2017 Research Priority Roadmap

Wealth & Value Creation across the Quadruple helix - academia, industry, government and community

Malaysia Research University Network (MRUN) will undertake the projects in partnership with the other IPTs (Water & Food Security, Health & Wellbeing, B40, Climate change)
- knowledge assimilation and diversification of source for research funding

Matching grants, joint publications in high impact journals, sharing of advanced facilities and experts

Fostering IPT-led Growth Economy

Focus on niche and frontier and cutting edge research (Robotics, Digital revolution, LED, Future internet technologies, Transportation & Logistics)

Translational Research

Water Security)

MOHE Geo Tourism

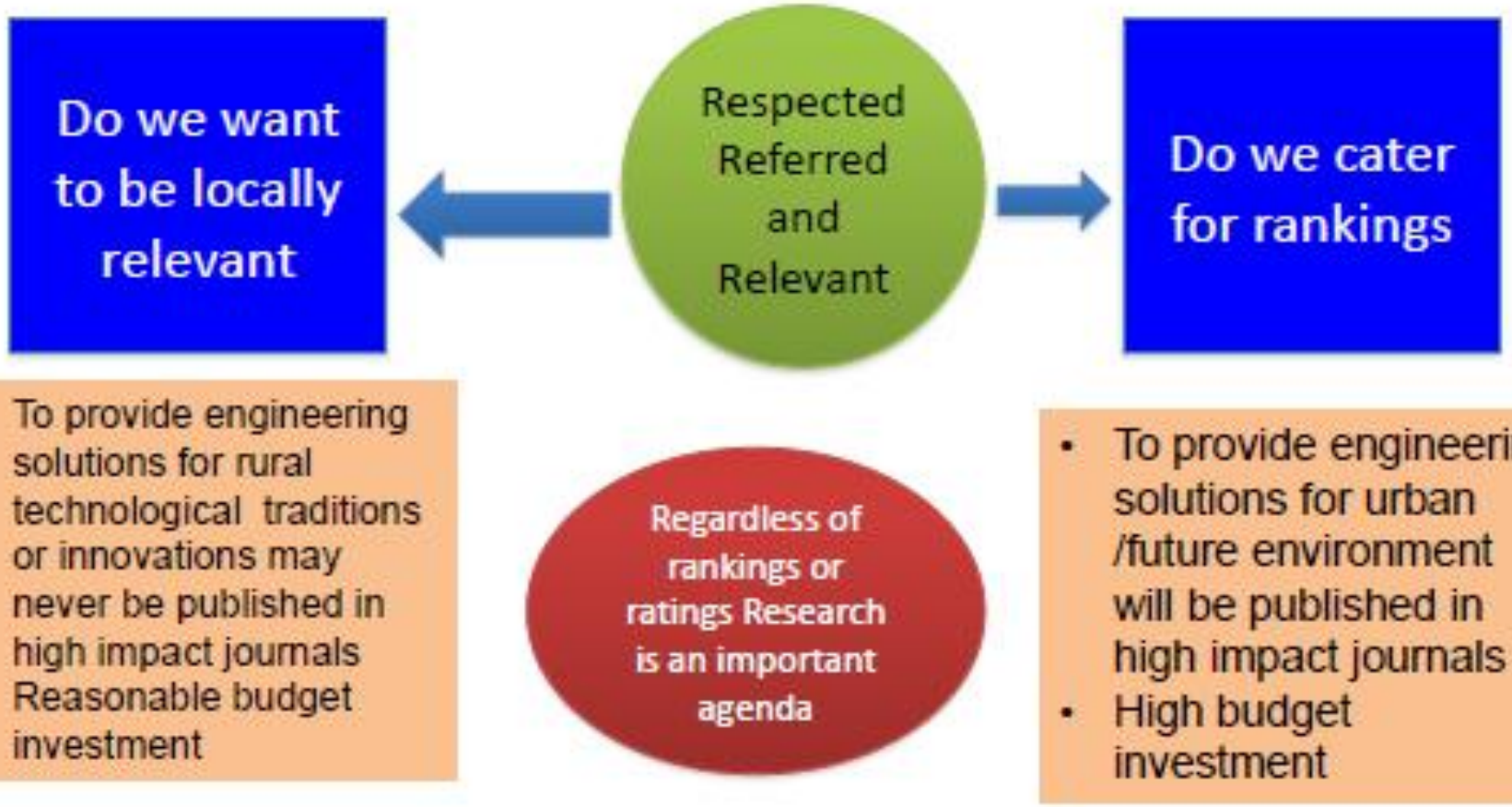
Automation and robotics

MoHE B40 – Affordable Homes

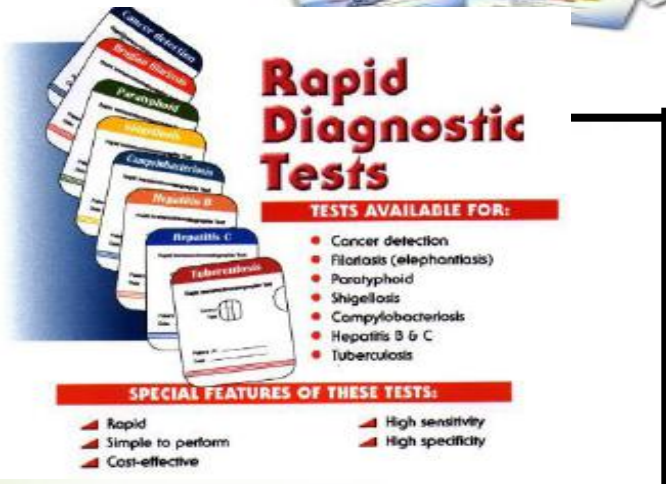
MoHE Food Security

WHERE ARE THE UNIVERSITY HEADING

Are we looking for impact or impact factor?



Showcase: Bridging the grand challenge with diagnostics for low resource settings



Championing Diagnostics for Diseases of the Poor By INFORMM, USM

- Most serious health problems in "the bottom billion" world involve infections, accounting up to 80% of hospital admission
- Timely and affordable diagnostics is the key to eliminating disease and improving socio-economic status

Political will
Apex agenda
Helping the Bottom billions

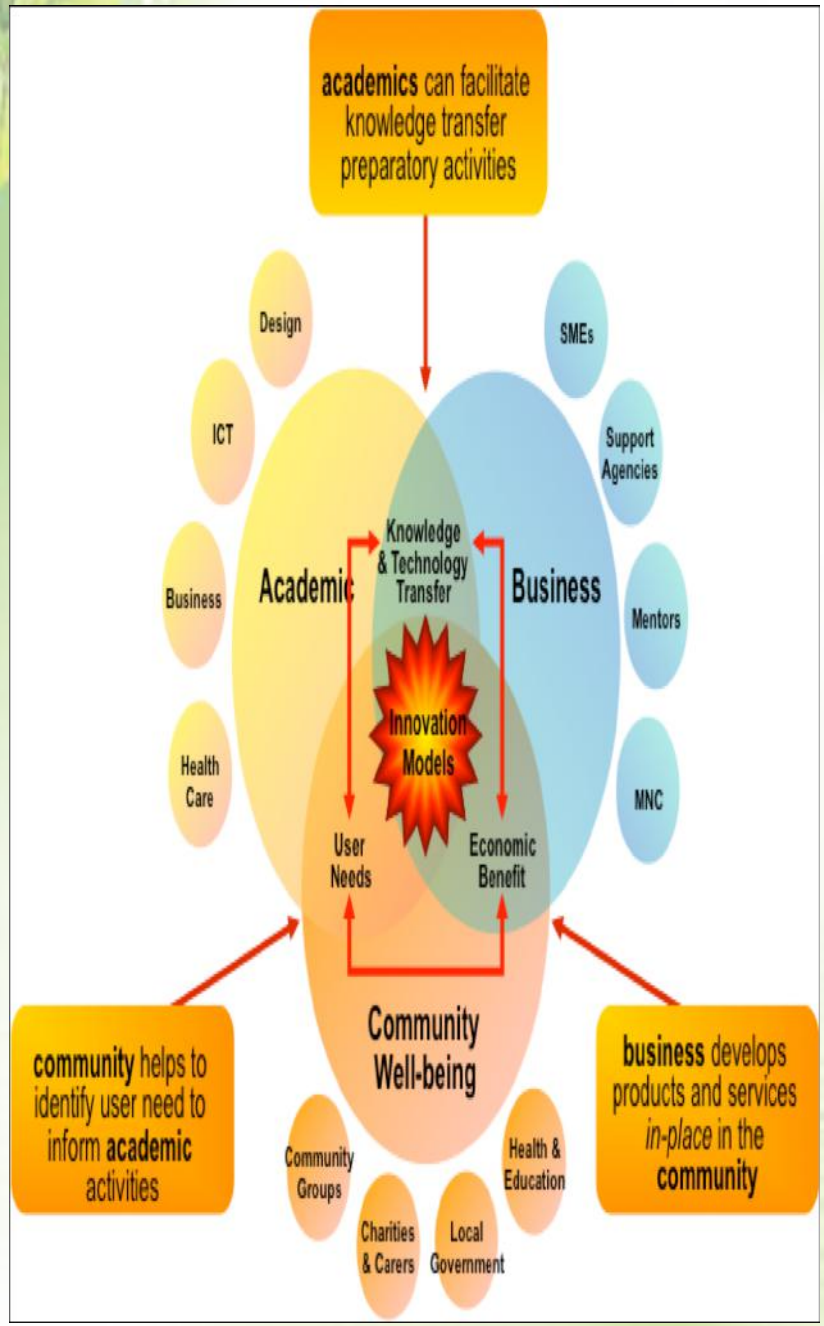
Principle For Research for SDG
4A certified

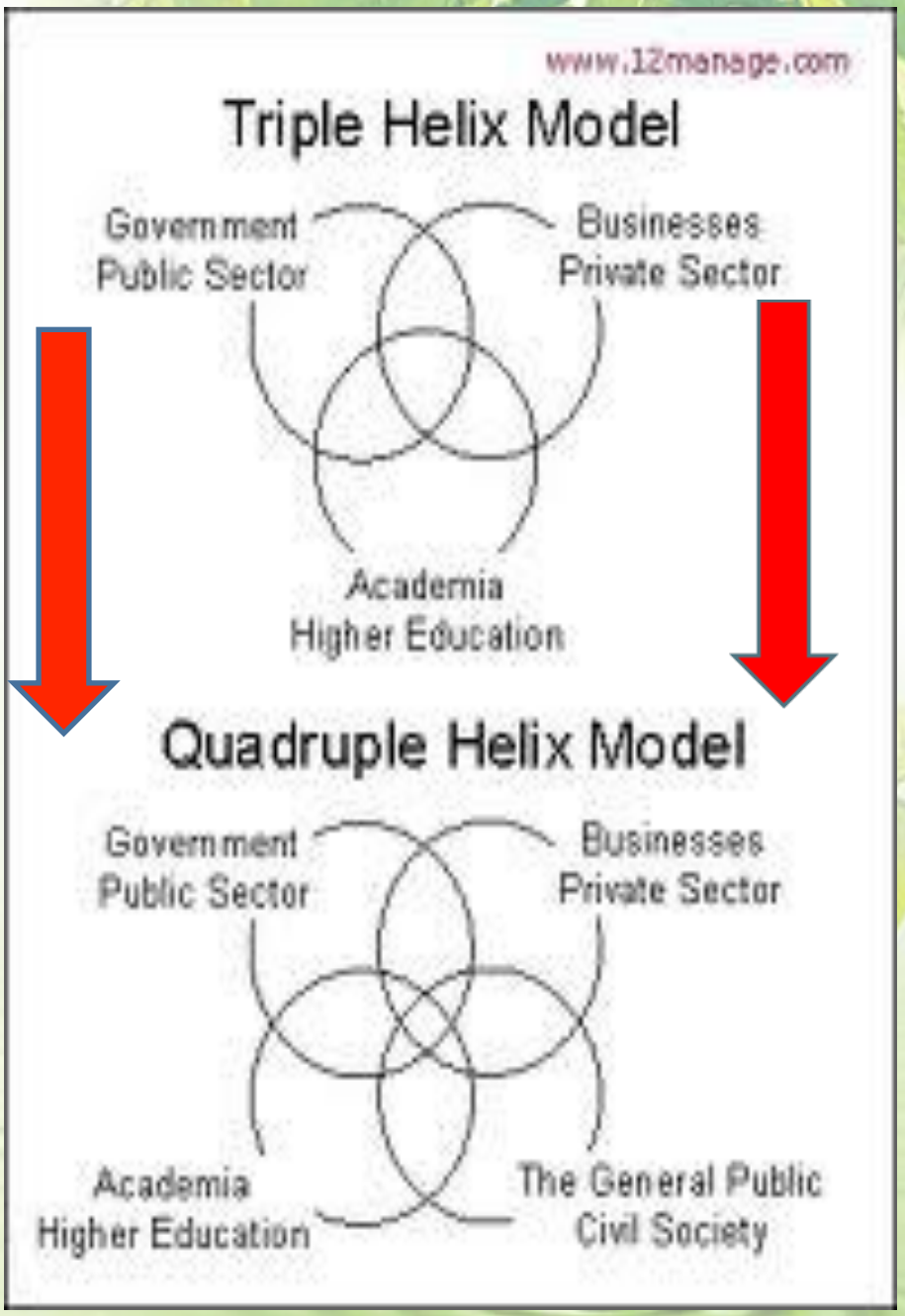
- **Appropriateness** especially with regard to cultural sensitivity and local values whereby content of research as well as the approach utilized do not run contrary to moral values, ethics and the communal norms

- **Affordability** to ensure that the research output offered can be attained by all members from all levels of society – specifically those at the *bottom billion*.

- **Accessibility** to ensure that the research outputs are devised are not exclusive and take into account the needs of the public without excluding certain groups.

- **Availability** to make certain that every program offered is always at the disposal of those who need them.


academics can facilitate knowledge transfer preparatory activities
Design
SMEs
ICT
Support Agencies
Business
Mentors
Health Care
MNC
Academic
Knowledge & Technology Transfer
Business
Innovation Models
User Needs
Economic Benefit
Community Well-being
Community Groups
Health & Education
Charities & Carers
Local Government
community helps to identify user need to inform academic activities
business develops products and services in-place in the community


www.12manage.com
Triple Helix Model
Government
Public Sector
Businesses
Private Sector
Academia
Higher Education
Quadruple Helix Model
Government
Public Sector
Businesses
Private Sector
Academia
Higher Education
The General Public
Civil Society

TEACHING AND LEARNING FOR SDG

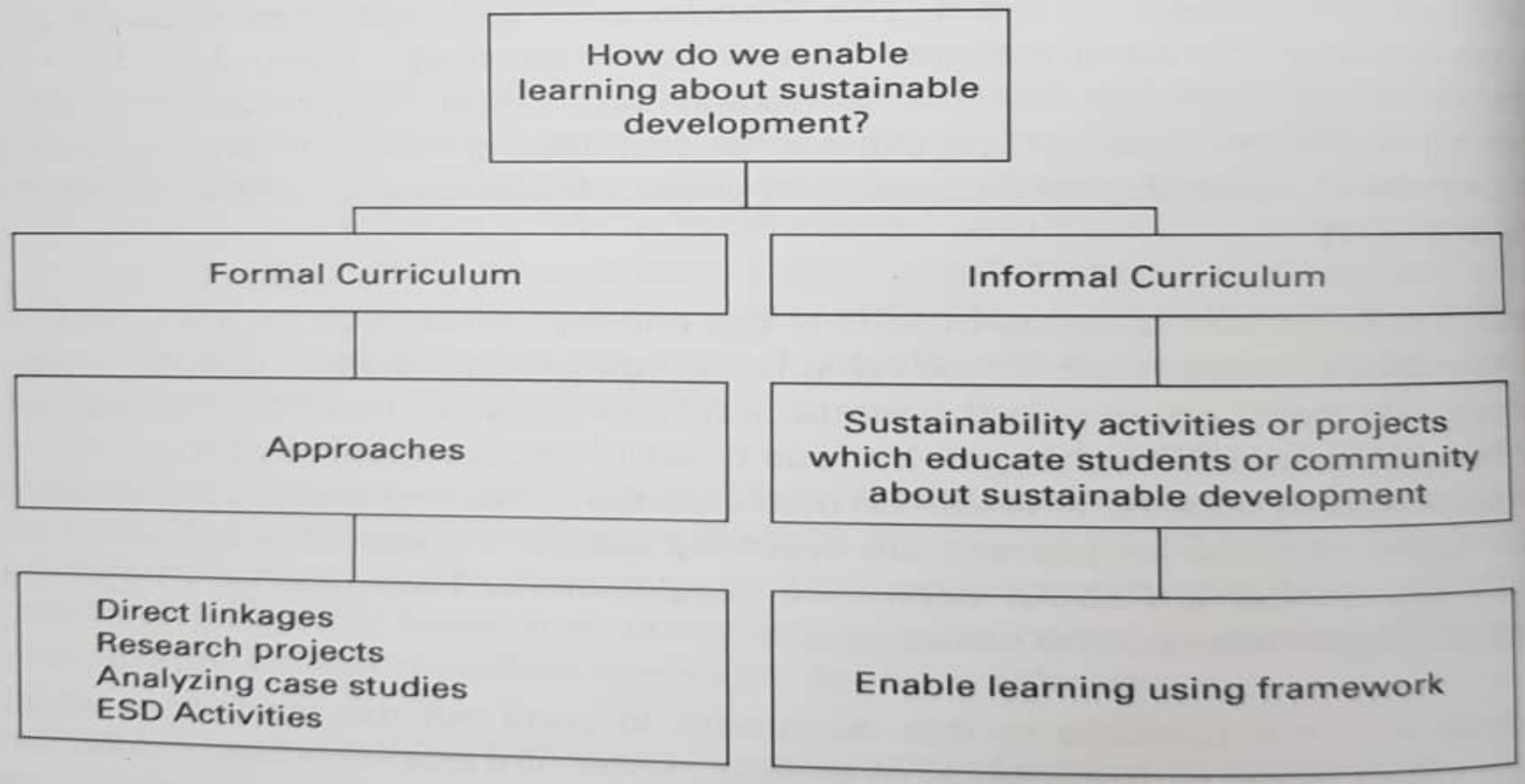
We are the students of today
attending the schools of yesterday
being taught by the teachers of the past-
with methods from the Middle Ages
to solve the problems of the future !

I was born intelligent but education ruined me…Ziglar

“The problems we have cannot be solved at the same level of thinking at which we created them.” Albert Einstein

- How to integrate SD into Education process (ESD)

3.3. How to Enable Learning On Sustainable Development?



Old knowledge

Knowledge for transformation

Mode 1	Mode 2
Academic	Academic & Social
Monodiscipline	Trans/interdiscipline
Technocratic	Participative
Predictive	Exploratory
Certain	Uncertain
Homogeneous	Heterogenous
Individual production	Co-production ..
Less integrative	More integrative
Basic /Applied	Use-inspired Basic

Adapted from Martens, P. 2006. Sustainability: science or fiction?
Sustainability: Science, Practice, & Policy 2(1):1–5

http://ejournal.nbii.org/archives/vol2iss1/communityessay.martens.html

RESEARCH AND DEVELOPMENT FOR SDG

Blue Ocean Strategy:
Turn around the LANDSCAPE

stop playing catching up

Address the needs of the people of the Bottom billion

Concentrate on education and research outcomes that will reduce inequity and enhance sustainability that includes availability, affordability, accessibility and quality of our innovations to those who need it most

When performing research, provide local solutions to answer global problems.

Balance economic needs and social needs- Perform research to enhance humanity

Advise From A Nobel Laureate

"If we work on research topics that the West is not interested in, we will always be 20 years ahead. If we work on topics that the West is interested in, we will always be 20 years behind".

..... Ahmad Zewail

1999 Nobel Prize in Chemistry

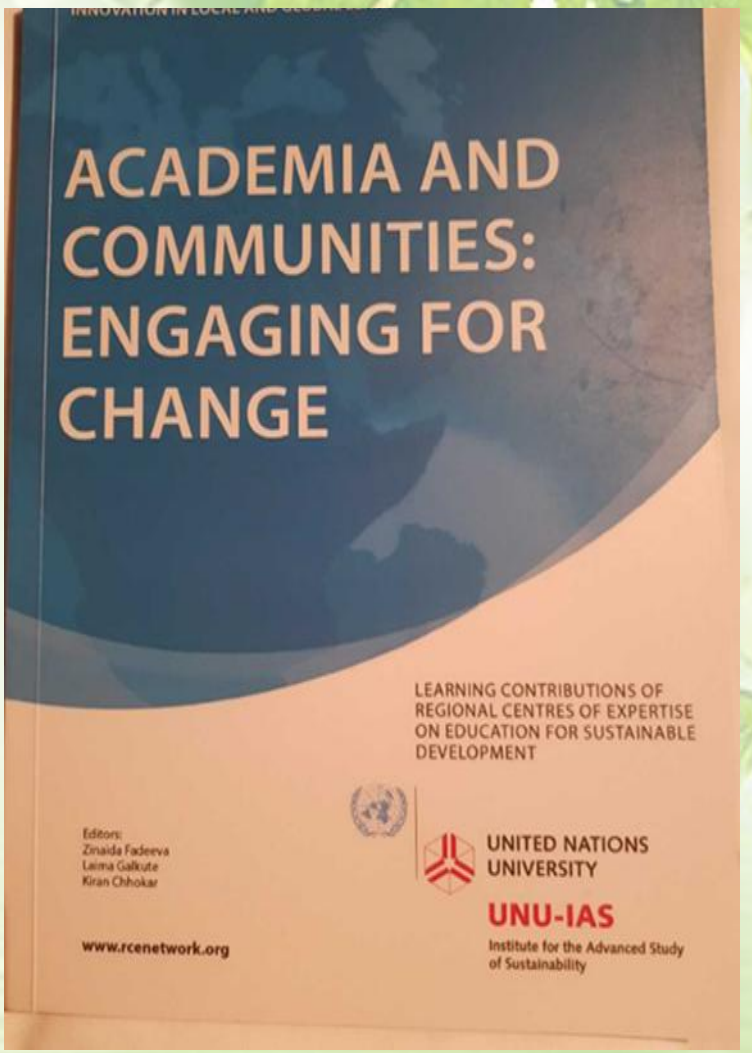
“…. university produce graduates whose expertise may be a mile wide and an inch deep, but they can glean enough insights to pass on useful information to those seeking to formulate public policy as against encouraging hyper specialization whereby they may be producing work read only by a handful of their own peers.”

“….overspecialization breeds self-indulgent scholasticism. too many scholars write for an audience of dozens, and far too few write for thousands, fewer still for millions. in a bygone era, the best intellectuals wrote for educated people generally, not for a handful of specialists. ……”

“The philosophy of Muslim higher education and research is based on the scientific concept that true knowledge is universal (kulliyy). The purpose of higher education in Islam is not merely to produce the complete citizen, but rather, to produce the complete man, or the Universal Man or a Perfect Man. A Muslim scholar is a man who is not a narrow specialist but is universal in his outlook and is authoritative in several branches of related knowledge.

COMMUNITY ENGAGEMENT FOR SDG

- The role of the university is not limited to teaching and research but includes a third mission: to engage with society. To address growing societal and economic challenges, universities everywhere face a growing demand to link their research and teaching knowledge to this third societal mission.



Available online at www.sciencedirect.com

SciVerse ScienceDirect

ELSEVIER

Current Opinion in Environmental Sustainability

Program on ecosystem change and society: an international research strategy for integrated social–ecological systems

Stephen R Carpenter[1], Carl Folke[2,3], Albert Norström[2], Olof Olsson[2], Lisen Schultz[2], Bina Agarwal[4], Patricia Balvanera[5], Bruce Campbell[6], Juan Carlos Castilla[7], Wolfgang Cramer[8,9], Ruth DeFries[10], Pablo Eyzaguirre[11], Terry P Hughes[12], Stephen Polasky[13], Zainal Sanusi[14], Robert Scholes[15] and Marja Spierenburg[16]

The Program on Ecosystem Change and Society (PECS), a new initiative within the ICSU global change programs, aims to integrate research on the stewardship of social–ecological systems, the services they generate, and the relationships among natural capital, human wellbeing, livelihoods, inequality and poverty. The vision of PECS is a world where human actions have transformed to achieve sustainable stewardship of social–ecological systems. The goal of PECS is to generate the scientific and policy-relevant knowledge of social–ecological dynamics needed to enable such a shift, including mitigation of poverty. PECS is a coordinating body for diverse independently funded research projects, not a funder of research. PECS research employs a range of transdisciplinary approaches and methods, with comparative, place-based research that is international in scope at the core.

Addresses
[1] Center for Limnology, University of Wisconsin, Madison, WI, USA
[2] Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden
[3] Beijer Institute, Royal Swedish Academy of Science, Stockholm, Sweden
[4] Institute of Economic Growth, Delhi University, India
[5] Centro de Investigaciones en Ecosistemas, Universidad Nacional Autonoma de Mexico, Mexico
[6] CGIAR Research Program on Climate Change, Agriculture and Food Security, International Centre for Tropical Agriculture, c/o Department of Agriculture and Ecology, University of Copenhagen, Fredriksberg, Denmark
[7] Departamento de Ecología and Center for Advanced Studies in Biodiversity and Ecology, Facultad de Ciencias Biológicas, P. Universidad Católica de Chile, Santiago, Chile
[8] Earth System Analysis, Potsdam Institute for Climate Impact Research, Telegraphenberg A62, D-14473 Potsdam, Germany
[9] Institut Méditerranéen de Biodiversité et Ecologie (IMBE), Bâtiment Villemin, Europole de l'Arbois - BP 80, F-13545 Aix-en-Provence cedex 04, France
[10] Ecology, Evolution and Environmental Biology, Columbia University, New York, NY, USA
[11] Bioversity International, CGIAR, Rome, Italy
[12] Australian Research Council Centre of Excellence for Coral Reef Studies, James Cook University, Townsville, QLD 4811, Australia
[13] Department of Applied Economics & Department of Ecology, Evolution and Behavior, University of Minnesota, St. Paul, MN 55108, USA
[14] Centre for Global Sustainability Studies, Universiti Sains, Pulau Pinang, Malaysia
[15] Council for Scientific and Industrial Research, PO Box 395, Pretoria 0001, South Africa
[16] Department of Organisation Studies, VU University, Amsterdam, The Netherlands

IIUM aims to become a leading international centre of educational excellence which seeks to restore the dynamic and progressive role of the Muslim Ummah in all branches of knowledge and intellectual discourse.

The summary of
the Mission
should read as follows:

Integration;
Islamization;
Internationalization; and
Comprehensive Excellence

01 BUILDING BLOCKS FOR VISIONING

FIVE WISDOM OF **FALSAFAH PENDIDIKAN KEBANGSAAN**

- Pendidikan **berterusan, menyeluruh dan bersepadu**
- Melahirkan **insan yang seimbang** dan **harmonis**
- Berdasarkan **kepercayaan dan kepatuhan kepada Tuhan**
- Warganegara yang mencapai **kesejahteraan diri**
- **Keharmonian** dan **kemakmuran keluarga, masyarakat** dan **negara**

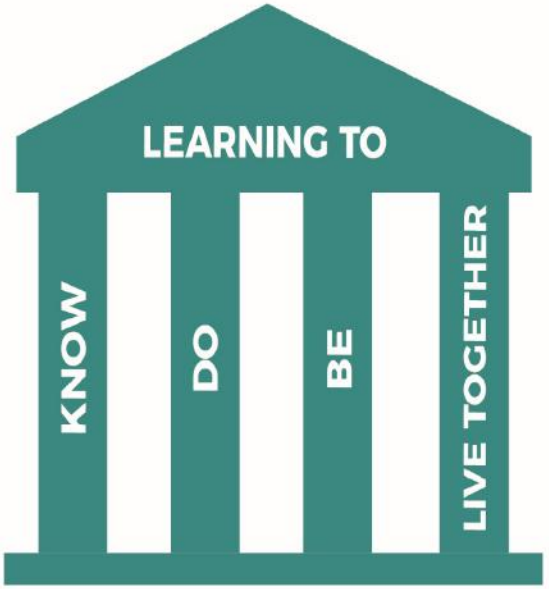
FIVE NECESSITIES OF **HUMAN EXISTENCE**

MAQASID SHARIAH

FAITH | **LIFE** | **INTELLECT** | **LINEAGE** | **WEALTH**

FOUR PILLARS OF EDUCATION

For 21st Century



UNESCO

01 BUILDING BLOCKS FOR VISIONING

IIICE

(Internationalisation + Integration + Islamisation) = COMPREHENSIVE EXCELLENCE

---

17 SUSTAINABLE DEVELOPMENT GOALS

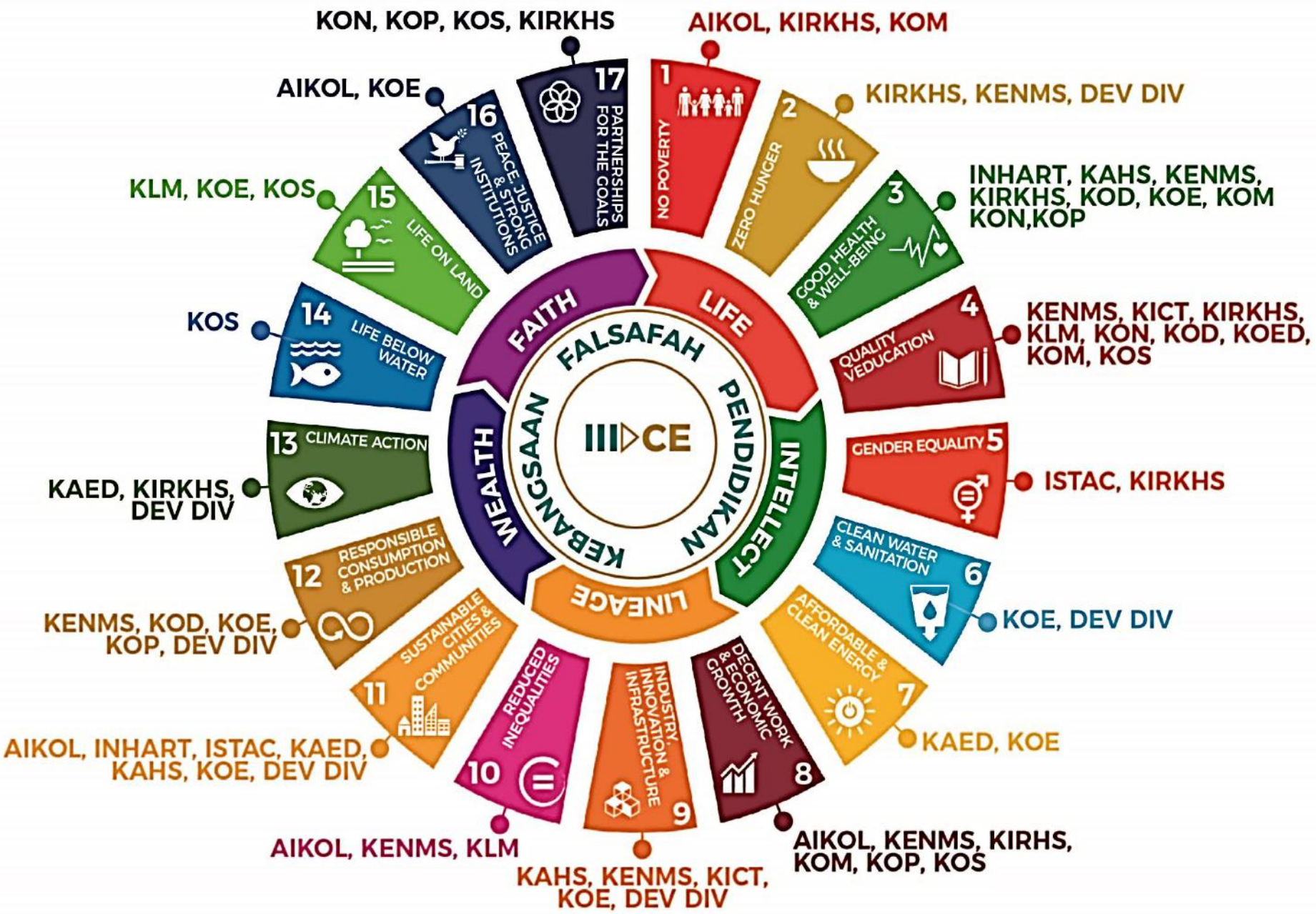
FIVE 'Ps'

PARTNERSHIP
PEACE
PEOPLE
PLANET
PROSPERITY

02 STRATEGIC AREAS & OUTCOMES

Strategic Focus Areas

WHERE DO IIUM STANDS NOW?


KON, KOP, KOS, KIRKHS
AIKOL, KIRKHS, KOM
AIKOL, KOE
KIRKHS, KENMS, DEV DIV
KLM, KOE, KOS
INHART, KAHS, KENMS, KIRKHS, KOD, KOE, KOM KON,KOP
KOS
KENMS, KICT, KIRKHS, KLM, KON, KOD, KOED, KOM, KOS
KAED, KIRKHS, DEV DIV
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KENMS, KOD, KOE, KOP, DEV DIV
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AIKOL, INHART, ISTAC, KAED, KAHS, KOE, DEV DIV
KAED, KOE
AIKOL, KENMS, KLM
AIKOL, KENMS, KIRHS, KOM, KOP, KOS
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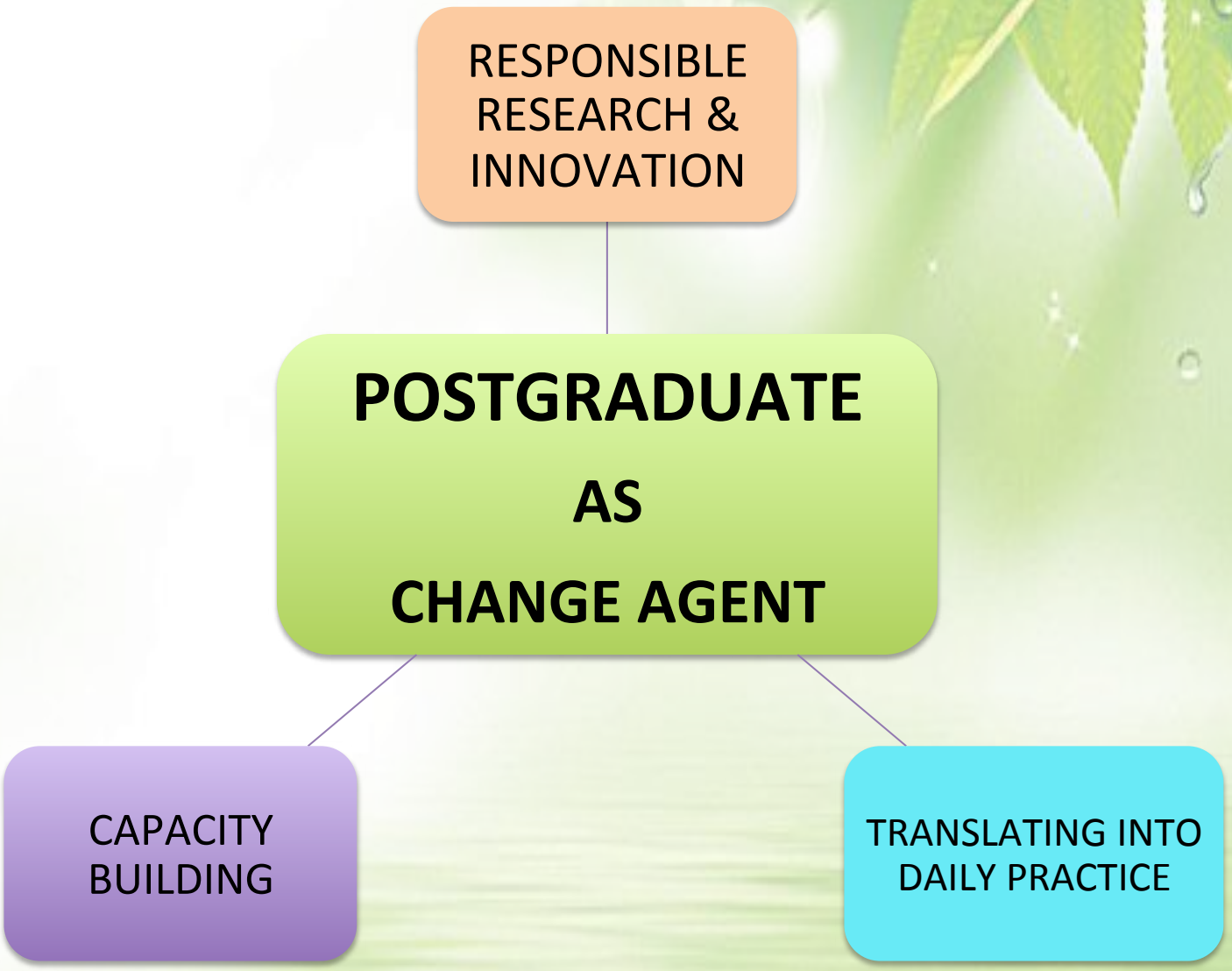
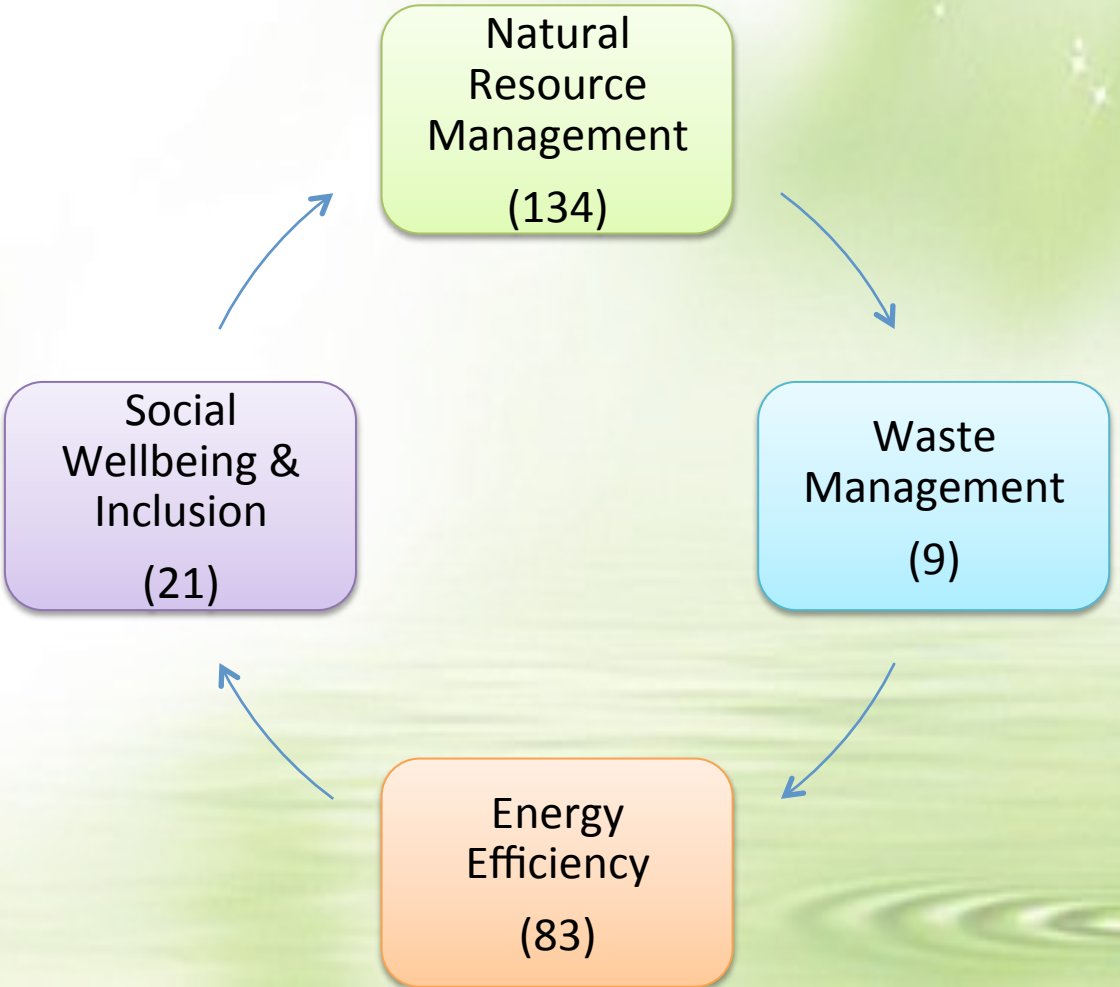
FALSAFAH
LIFE
PENDIDIKAN
INTELLECT
LINEAGE
KEBANGSAAN
WEALTH
FAITH
IIIDCE

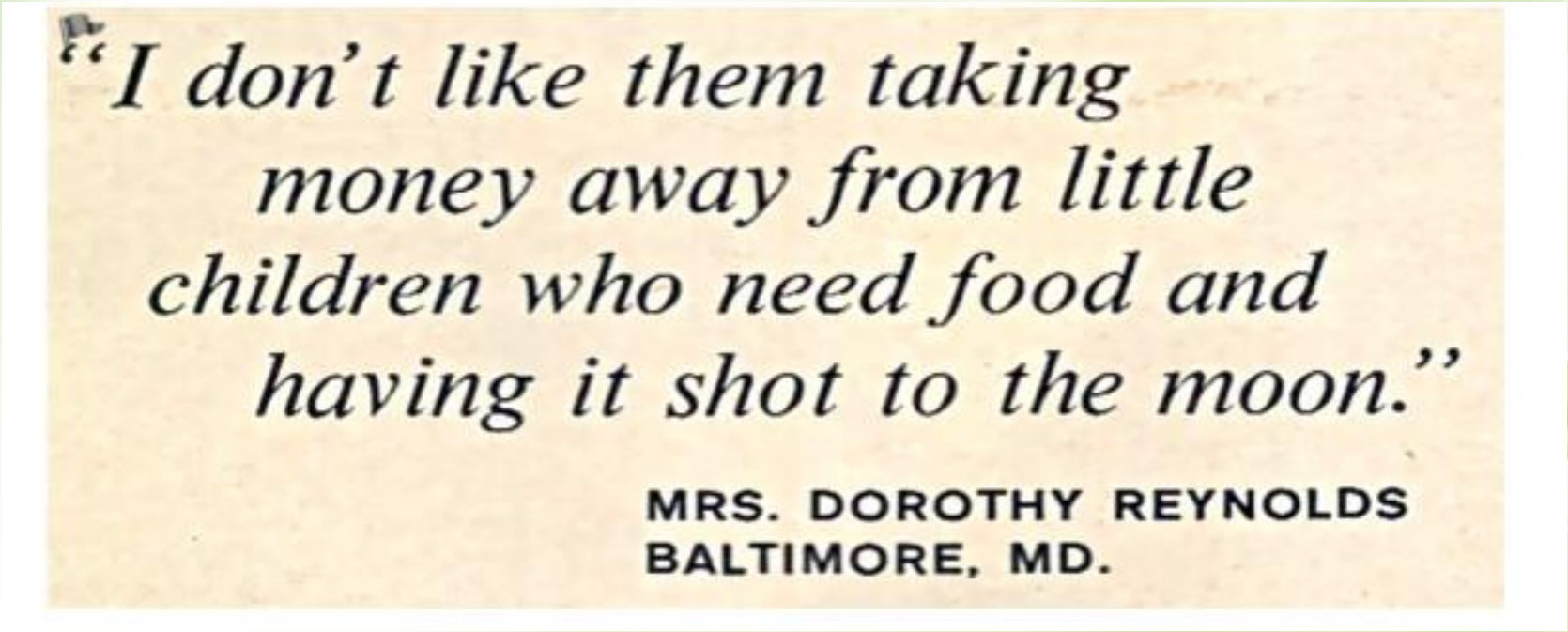
POSTGRADUATES
HOW DO WE CONTRIBUTE?


RESPONSIBLE RESEARCH & INNOVATION
POSTGRADUATE AS CHANGE AGENT
CAPACITY BUILDING
TRANSLATING INTO DAILY PRACTICE

Potential research Application for SDG (RMC)



RESPONSIBLE RESEARCH & INNOVATION



Each of us are problem solvers

Each of us care about having a better life for our family

Find problem that you are passionate about and solve those problems

A billion people solving problem each

Is a billion less problem in this planet

DAILY PRACTICE OF SUSTAINABILITY

MARHABAN YA RAMADHAN

Fasting & Food Waste

Being mindful of the way we manage our meals

Despite being the month when Muslims abstain from eating & drinking from sunrise to sunset, it is ironically where excessive food consumption occurs

- 1/5 of the food purchased/ prepared during Ramadhan goes to the bin
- In certains countries up to 4 billion USD worth of food is wasted per year
- Most end up in landfills, rivers & oceans while only a small portion gets eaten by animals
- In contrast, ~124 million people suffer from famine, impacting children severely

2 ZERO HUNGER


DON'T WASTE FOOD
I CAN'T EAT EVERYTHING
I WILL EAT ANYTHING
@thoaks.

وَءَاتِ ذَا ٱلْقُرْبَىٰ حَقَّهُۥ وَٱلْمِسْكِينَ وَٱبْنَ ٱلسَّبِيلِ وَلَا تُبَذِّرْ تَبْذِيرًا

And give the relative his right, and [also] the poor and the traveler, and do not spend wastefully.

-Surah Al-Isra', Ayah 26

A Quick Guide On How To Reduce Food Waste

Measure Then Manage
Analyse portions & see what gets thrown out most. Aim to reduce the serving of this item.

Be Smart in Serving
Humans are visually driven! Shallow bowls & smaller plates can make portions look bigger than they are, giving a sense of adequacy.

Focus on Prep Control
When preparing food, be mindful of the number of people dining & what can be reheated. Food that doesn't last long should be served in smaller amounts.

Make It a Group Effort
Between family & friends, form a pact to eat within healthy portions, taking only what you need.

كُلُواْ وَٱشۡرَبُواْ مِن رِّزۡقِ ٱللَّهِ وَلَا تَعۡثَوۡاْ فِي ٱلۡأَرۡضِ مُفۡسِدِينَ

…"Eat and drink from the provision of Allah, and do not commit abuse on the earth, spreading corruption.”

-Surah Al-Baqarah, Ayah 60

LOOKS FAMILIAR?

WATER

So what WE can do to prevent Water Waste???

- Be aware on how much water you used
- Close the tap after you wet your toothbrush
- Take shower shorter and wisely
- Stop using the toilet as an ashtray or waste basket
- Check faucet and pipes for leaks.

ENERGY

SAVE ENERGY SAVE EARTH INFOGRAPHICS

Turn off the taps when washing your hands, brushing your teeth

OTHER

TRANSPORTATION

Walk up the stairs

Turn off printers, monitors,PC or other equipment when not in use

OFFICE EQUIPMENT

HEATER AND AIR CONDITIONER

Closed the doors and windows when using heater or air conditioner

Set your thermostat at 18°C-20°C in winter and no less than 25°C in summer

LIGHTING

Turn off lights when leaving the room

Turn off lights when not in use

PROTECTING OUR PLANET STARTS WITH YOU

BIKE MORE DRIVE LESS

reduce REUSE recycle

Cut down on what you throw away. Follow the three "R's" to conserve natural resources and landfill space.

choose sustainable seafood

Learn how to make smart seafood choices at www.FishWatch.gov.

PLANT A TREE

Trees provide food and oxygen. They help save energy, clean the air, and help combat climate change.

EDUCATE

When you further your own education, you can help others understand the importance and value of our natural resources.

CONSERVE WATER

The less water you use, the less runoff and wastewater that eventually end up in the ocean.

-SHOP- WISELY

Buy less plastic and bring a reusable shopping bag.

Don't send chemicals into our waterways.

Choose nontoxic chemicals in the home and office.

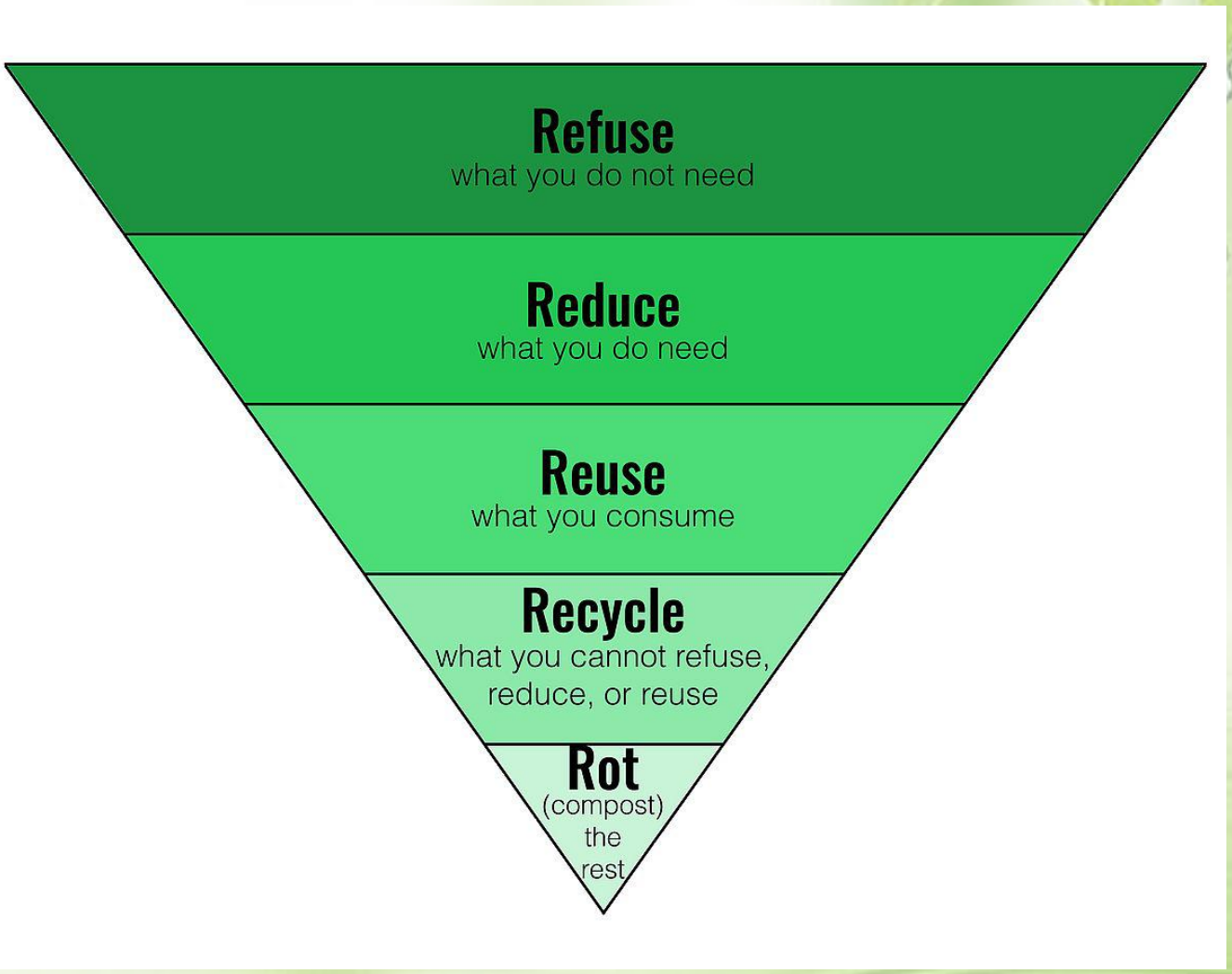
Volunteer!

Volunteer for cleanups in your community. You can get involved in protecting your watershed too!

Long-lasting light bulbs - ARE A - BRIGHT IDEA

Energy efficient light bulbs reduce greenhouse gas emissions. Also flip the light switch off when you leave the room!

TOWARDS ZERO WASTE



LOOKING FORWARD FOR YOUR AMAZING IDEA AND CONTRIBUTION!