7- Environmental Conservation:

- (This is the other leg of sustainable development)
- Many communities compromise the needs of future generations by resource over-exploitation and mismanagement.
- This will result in environmental problems such as soil erosion, water contamination, depletion or overuse of ground water, over-grazing, deforestation, air pollution and water-borne diseases.
- The need and pressure of the community driven by poverty and over-population may erode the resource base of the community.
- Environmental degradation can compromise the need of the community.
- Therefore, evaluation of the community resources must be revisited from time to time to ensure their sustainability.

Deforestation

- is one of the most serious types of environmental degradation that can hinder sustainable development.
- Many parts of the developing countries have been seriously affected by deforestation such as Haiti, Brazil and Indonesia. Large scale mono-cropping and plantation agriculture is mostly to blame, but lumber industries, urbanization, unequal land tenure, subsistence agriculture and wood fuel extraction, population density, and physical geography.

Agroforestry

- On the other hand, it was found that agroforestry is a sustainable land-management approach that has been in practice for centuries (local knowledge).
- It is a technique that blends agriculture and forestry together in order to enhance crop productivity, profitability, and sustainability in a given unit of land.
- Agroforestry is economically sustainable because:
  - 1- the farm is sustained.
  - 2- it increases food security.
  - 3- As well as farmers’ income because of the higher farm productivity.
  - 4- Hence it reduces poverty rates.
  - 5- it increases employment.
  - 6- In addition to higher farm productivity.
  - 7 – On the other hand, agroforestry is an environmentally sustainable system because trees can help give back to the soil what agriculture has taken away –such loss of soil nutrients and soil erosion.
- As a result,
  - A- it reduces the high rain variability and increases rainfall through transpiration of trees.
  - B- increases soil fertility through organic fertilizer (tree leaf - humus).
- Therefore, farmers do not rely on expensive and harmful inorganic inputs such as chemical fertilizer.
- Most important, it can simultaneously protect important natural resources in the area such as other forests from deforestation, arable lands and enhances cloud formation and increases rainfall.
These benefits of agroforestry make it an extremely effective technique for attaining sustainable development.

Factor Challenging and Hinder Sustainability

- There are many challenges that can hinder sustainability in the developing countries. The main challenges include; government policies, population growth and climate change.

1 - Government policies

- Proper policies of development are the most important part of sustainable development.
- Unfortunately, throughout the last few decades’ policies of development failed to achieve economic and social development in the developing countries.
- The development theory which adopt top-down policies failed to enhance the people standard of living and to eradicate poverty.
- Instead poverty rates have increased in the developing nations.
- Failure of development policies because it was based on bias and unequal distribution of wealth which exemplified through urban bias, lack of credit for the poor and lack of land ownership.
- For example, the poor are the first to suffer from programs involving government cuts
- In Thailand, small farmers’ sector produces more than two-thirds of agricultural production and received only 10% of the total government expenditure.
- In Philippines and Sri Lanka small producers were prevented from enjoying the improved prices of their products.
- They have to spend such good prices in other services (i.e. gas, spare parts, transport, storage etc..) and high taxes.
- Ethiopian government in a move to maximize food crop production, it diverted a large part of agricultural inputs and extension services to agro-ecologically advantaged zones (State owned large farms).
- depriving the arid and semi-arid areas of these vital inputs.
- Unfortunately, the production would not be distributed to food-deficit areas, instead it goes to urban centers.
- In Mexico, agrarian reforms involve the distribution of relatively unproductive lands to small-hold farmers.
- Therefore, contrary to these policies, proper policies are those which encourage farmers to make benefit of their production.
- Policies which are economically viable, otherwise farmers will stop producing and most of them either sell their farms or migrate to cities.
- Hence the country will suffer from food insecurity.
- Another form of the top-down policies has involved the local people in the decision-making through what is called “decentralization”.
- In this approach some of the central government power will be delegated to the states
- This is one form of people participation since the community is allowed to take part in the decision-making to ensure success of development projects in their geographical locations.
- Policies of decentralization also failed because of the lack of coordination between the central governments and the states.
• The main reason behind this failure is that central governments did not provide state governments with financial support, experts, training and technical know-how.
• However, since early 1980s, the World Bank imposed the application of Structural Adjustment Program (SAP) policy which continues to present.
• This policy is based on sharp cut in government expenditure (No subsides, no improved infrastructure, no transportation, etc.).
• This policy failed to achieve sustainable development, because governments were not allowed to contribute to any form of development projects.
• Instead, the private sector is encouraged to take care of the development process.
• As a result, the number of the poor and poverty has increased which has led to rural-urban migration that resulted in rapid urbanization mainly in the African continent.
• Poverty has increased to the extent that in 2003 the World Bank published a report in which the administration felt guilty for not financing rural development programs.
• On the other hand, we believe that successful polices of sustainable development are those which are based on empowering people to be self-reliance.
• These are the policies in which people help themselves by themselves since all of the policies that imposed from outside failed to provide the local communities with tools of a better life.
• In this regard, self-help or self-reliance policies that based on local knowledge and experience which is practiced by the local communities for centuries have proven to be a more successful policies of sustainable development in the developing countries.

**Self-help as a bottom-up approach**

• Self-help is a form of a bottom-up development which contrasted the top-down approach.
• It is a social institution that deeply rooted in the culture and the values of the traditional societies in the developing countries.
• Self-help is a collective effort to help individuals and has been used as a strategy for village and rural development.
• It is a labor-intensive kind of development.
• This, however, stems from the believe that communities in the developing nations live as a communal society that represent an extended family which respond to the socio-economic needs of its own individuals as well as that benefit the community.
• Self-help responds to the need of individual during the time of natural disasters such as droughts and floods.
• Hence, the community helps disaster victims with food, shelter, milk goat or help in building rooms (huts).
• The other form of self-help is that which serves the development of the community through provision of social services such as building schools, provision of water supply and health services.
• This was the original methods of self-help before the intervention of government and non-governmental organization (NGOs).
• Such work is often guided by local traditional leadership or local committees formed of farmers, chiefs and religious men.
• Self-help was practiced in most part of the Sub-Saharan Africa and it has different names such as Harambee in Kenya, Nafeer in Sudan.
• The efficiency and the high credibility of the leadership, whether an individual or a
group of few people, stem from the fact that they are well respected in their societies and
the implementation of the small affordable projects that they establish in the villages.
• Self-help can be viewed as an important and integral part of strategies for rural
development.

**Self-help and participatory approach**

• Self-help has gained more popularity as a means of local development following the oil
crisis of the 1970s, when the external support from the developed countries to the
developing nations decreased.
• As a result, for example many African countries rely on the local human and socio-
economic resources to enhance development including the local tradition of self-help.
• In this way contribution and involvement of people in the large projects will reduce the
cost of implementation.
• From a socio-economic view, self-help is a form of a labour-intensive project that ensures
mobilization of all people of the village.
• It is in a sense that it is an early attempt of “participatory approach”, where development
projects are implemented through a combined effort of both governments and residents.
• In other words, people are helping themselves by themselves which reflects an equal
distribution of wealth and resources.
• A good example of this kind of projects from Africa is anti-thirsty program which
implement by Sudanese government with help of local people in 1973 which benefited
thousands of Sudanese in a wide extensive area, that suffered from the lack or shortage of
safe water supply in western Sudan.
• People contributed significantly to the project whether in a form of financial support, or
in kind (materials or providing food) and most people contributed through offering their
own laborer.
• The outcome of this project was impressive. A large number of the local communities
(villages) in Western Sudan have been provided with water supply.
• The government provided pumps and diesel engines.
• Another example was the “Harambee" self-help program that succeeded in constructing
high schools in Kenya.
• Self-help means self-reliance since these projects were implemented with little and often
no government financial support.
• In general, self-help and participatory approach showed success in the fields of:
  • resource management,
  • drinking water supply and sanitation,
  • forest management and
  • building schools and health centers

2- Population Growth
• The relation between population growth, sustainable development and available natural
resources has generated much discussion between scholars.
• One group believes that the fast growing rate of population cannot keep pace with the
available natural resources and sustainability.
That means the growing number of population will consume most of the earth’s natural resources in a short period of time.

The other group does not agree with this theory. They believe that with the help of technology, people can survive on earth and conserve the environment.

They gave an example of the “Green Revolution” and agroforestry - as we know - which increased productivity and conserve the environment as well.

Therefore, we need to know the factor(s) that hinder sustainable development when population continues to increase in the developing countries.

Since people in the developing nations are resource users, they are always in need of land, water and energy to survive.

Increase of population is taking place through natural increase or migration.

However, the most single factor of population growth is the increase of birth rates which are affected by religious and cultural believes.

In the developing countries high natural or annual increase such 3% consume the meager economic growth (3% to 5%) as well as resources.

Therefore, saving or investment cannot be attained which will result in low income.

This is what causes underdevelopment and crippling of the developing countries.

More specifically, population growth will force people to look for land to settle and cultivate

In most cases they move to use available marginal lands (places of low amounts of rainfall) and they cut trees which result in environmental degradation (deforestation and desertification).

This will change productive lands to unproductive lands.

However, sustainability goes hand in hand with the reduction of birth rates so the authorities can set appropriate plans to keep pace between growth of population and sustainable development.

Plans which concern about striking a balance between population growth, natural resources and environmental conservation such as agroforestry and afforestation.

**3- Climate Change**

Since we do not have much time left, I will give a summary of this topic in the class

**Final exam, Q 4**

Write an essay showing how government policies can challenge and hinder sustainability. Give examples.

Thank you

Have a great, successful, healthy and Productive life