Ecological impacts of 'beautification'

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ECOSYSTEM is defined as "the total physical, chemical and biological conditions surrounding the organisms (including those organisms) of any area of the earth (we are yet to be certain on existence of any ecosystem outside the earth!)". That is, all plants and animals constitute man's natural environment just as man is a part of the biotic environment.

Major biomes of the world

Biomes are the major regional groupings of plants and animals discernible at a global scale. Their distribution patterns are strongly correlated with regional climate patterns and identified according to the climax vegetation type. However, a biome is composed not only of the climax vegetation, but also of associated successional communities, persistent subclimax communities, fauna, and soils.

The biome concept embraces the idea of community, of interaction among vegetation, animal populations, and soil. A biome (also called a biotic area) may be defined as a major region of distinctive plant and animal groups well adapted to the physical environment of its distribution area.

The land portion of the world has four types of major biomes. These are the Forest, Desert, Savanna/Gras-sland and the Tundra. Within each category, there may be a number of sub-categories. The forest biome (prevalence of trees) is mainly located in the geographical region in between the two tropics (Cancer and Capricorn) about 23.5° on either side around the Equator. The desert biome (prevalence of cactus plants) is prevalent along the lines of the Tropics because these regions are high-pressure belts that usually hold less water vapour. The Savanna or Grassland biomes (prevalence of grasses mostly of the family Graminae) are spread in large areas in between 30° and 66° latitudes in both the North and South hemispheres. The cold Tundra biome (prevalence of Moss and the like kinds of lower plants) is only at over 66° North latitude since such area in the southern hemisphere is oceanic.

Efficiency of the forest biome

Ecological succession can start with water bodies or marshy land (called Hydrosere), with saline marshy land (Psammosere), with desert sand (Xerosere) etc. But the ultimate goal of any ecological succession is establishment of a forest. Forest ecosystem is the climax of any succession. This climax stage has the most effective capacity to intake carbon-di-oxide, release oxygen (i.e. oxygen fixation) and produce more vapour (through transpiration) that can add to the cloud causing more rains. Actually the forest ecosystem is hundred times more efficient than a grassland and may be thousand times more than a Tundra. The calculation is precisely done under the 'Ecological Impacts...'

A virtual tropical forest

Bangladesh is situated at 20-26° North latitude and the Tropic of Cancer passes over the middle of the country. The country as a whole is a tropical forest of the monsoon type. Though Bangladesh grows some grasses (including the rice plants), the country is not a Savanna. Large savannas or grasslands are in Eurasia, North America and Oceania. That is why these parts (including the Eurasian Steppes, Prairies of Canada and Australia) of the globe produce more cereals and feed the human race. It has been calculated that Canada alone produces 21 times cereals that her people need. So this country can export the rest 20 times to other countries.

Cutting of trees from Airport Road

Dhaka is located almost in the middle of Bangladesh. The Air Port Road is obviously a part of the Capital Dhaka. There were both natural and planted trees on both sides of the road just few days back. But as ill luck would have it for the trees, most of them were cut and moved from the site. At first, I thought that the trees were being cut to widen the road that could be a integral part of developing the Capital. But lately it is seen that sides of the roads have been made almost clear of trees, soil was accumulated and slopes were prepared. Lastly some beautiful herbaceous plants are being planted, perhaps, to beautify the roadside! A question arises 'Were the trees ugly?' Surely there is none to label the trees ugly!

Ecological impacts

Now we can calculate the ecological cost of cutting trees and planting herbs. Suppose the planted 'beautiful' herbs now are at best six inches high and may grow up to one foot later on. Take the example of a cedar tree that we have cut to grow these herbs. Suppose a cedar tree is 40 feet tall and covers an area of 25 square feet. If the leafy branches are grown from 10 feet height, we can have the leafy cover from the 11th to the 40th feet. So there is 30 feet leafy cover the leafy area in place of only one foot of herbs. Therefore for the height alone, the tree is just 30 times efficient ecologically in absorbing CO2 and releasing O2 and water vapour. A single tree covering an area of 25 square feet is, thus, 750 (30 × 25) times efficient. So we have lost 749 times efficiency by losing a tree and having a herbaceous plant cover there. Now assume that 400 trees were cut from both sides of the road from the Zia International Airport (ZIA) to the Staff Road. So we have lost 2,99,600 (749 × 400) times ecological efficiency from this beautification project.

As regards the animal community, the newly grown herbs can rear only some insects and rats, while the trees were harbouring birds, squirrel and even some monkeys. So imagine the cost of beautifying through herbs!

Part of topography

I think the city fathers are doing this on both sides of the 8-10 kilometer long airport road (from the ZIA to the Staff Road) following the beauteous flowery slopes by the sides of the roads in Malaysia. We are to remember that Malaysia is just north to the equator and also constitutes a larger tropical forest. But that country is not as plain as Bangladesh is. Malaysia has more mountains, hill and hillocks than those types of highlands in Bangladesh. The roadside slopes in Malaysia are natural and not prepared by accumulating soil from a distance. The roads are the artificial ones prepared by cutting some parts of the hills or hillocks. The Malaysians do not cut hills and hillocks for building houses. They often build one part of the building having three stories while the other part may be up to five stories! So this is simply unwise trying to create artificial beauty. Our evergreen trees were no less beautiful than the herbs being planted now.

What can be done now

I cannot propose the city fathers to re-establish the natural type of forest abolishing the slopes and beautiful herbs. Neither can I forget the hundred time efficient trees and the forestry beauty of the roadsides. So what can be a compromise formula? The herbaceous slopes can have at least one row of trees on its back (distant from the motorable road) as a very strong backbone. That backbone will not curtail the herbaceous beauty, and contribute by producing more oxygen (and also rainfall), added beauty and future timber. This plan can compensate at least partly for the unwisely cut trees. The time of planting saplings are nearing. The planners are to plan for that just now!

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