

PROMOTION OF THE USE OF VETIVER GRASS THROUGH THE ENVIRONMENTAL COMPLIANCE CERTIFICATE

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Introduction

Environmental impact assessment is an anticipatory environmental management tool for the orderly and systematic evaluation of a proposal and its effect on the environment. It is generally accepted as involving various stages in cyclic process.

The environmental impact statement system is the entire process of organization, administration and procedures institutionalized for the purpose of assessing the effects of any project on the physical, biological and socio-economic environment and designing appropriate mitigating and enhancement measures.

The environmental impact statement (EIS) studies the environmental impact of a project including the discussion on the direct and indirect consequences on human welfare and ecological and environmental integrity. EIS may vary from project to project but shall contain in every case all relevant information and details about the proposed project or undertaking, including the environmental impact of the project and the appropriate mitigating and enhancing measures.

Legal Basis

Presidential Decree No. 1151, known as the Philippine Environmental Policy, is the policy on the environmental impact statement in the Philippines. It explicitly requires “all agencies and instrumentalities of the national government-owned and controlled corporations, as well as private corporations, firms and entities to prepare an Environmental Impact System (EIS) for every action, project or undertaking which significantly affects the quality of the environment”.

The Department of the Environment and Natural Resources (DENR) Administrative Order 96-37 provides the governing policy and implementing guidelines of EIS. It is anchored on the DENR policy “to attain and maintain a rational and orderly balance between socio-economic growth and environmental protection”. The principal strategy to attain such balance is through sustainable use, development, management, renewal and conservation of the country’s natural resources, including the protection and enhancement of the quality of the environment, not only for the present generation but for the future generations as well.

Scope of the EIS System

The EIS system covers projects and undertakings categorized as environmentally critical projects and projects located in environmentally critical areas.

Environmentally Critical Projects

a. Heavy industries

- Non-ferrous metal industries
- Iron and steel mills
- Petroleum and petrochemical industries
- Smelting plants

b. Resource extractive

- Main mining and quarrying industries
- Forestry projects
- Logging, grazing, forest occupancy, extraction of mangroves
- Fishery projects
- Dikes for fishpond development

c. Infrastructure

- Main dams
- Main power plants (fossil-fuelled, geothermal, etc)
- Main reclamation projects
- Main roads and bridges

d. Golf courses

Projects in Environmentally Critical Areas

Includes the following areas:

- a. National parks, watershed reserves, wildlife preserves and sanctuaries
- b. Tourist spots with aesthetic potential
- c. Habitat for any endangered or threatened species
- d. Of unique historical, archaeological or scientific value
- e. Occupied by cultural communities or indigenous people
- f. Frequently affected by natural calamities (typhoons, floods, geologic hazard, etc)
- g. With critical slopes
- h. Recharged areas of aquifers
- i. Water bodies for domestic purposes, within a protected area, support wildlife and fishery activities
- j. Mangrove with pristine and dense young growth, adjoining mouth of main river systems, near traditional productive fry or fishing grounds, natural buffer against shore erosion, strong winds and storm floods
- k. Coral reefs with 50-% and above live coralline cover, spawning and nursery grounds for fish, natural breakwater of coastline

Projects cannot be implemented unless an Environmental Compliance Certificate (ECC) is issued by DENR. The ECC is the final output document of the EIS system. It limits the production capacity or the area covered by a project. It is a list of all the mitigating measures to be undertaken by the project proponent to lessen the environmental impact on the community where the project is located, in anticipation of probable environmental disaster, and to further enhance the environmental condition of the affected community.

Mitigation of the environmental impact of development is one of the implicit aims of the EIA process. It would be difficult, without mitigation, to achieve the aim “to encourage environmentally sensitive, high-quality planning, design, management and operations” (Planning and Housing 1991). Mitigation measures must be included and the proponent is expected to make amendments to the proposal to meet public concerns. Implementation of such measures is the most important output of the EIA process.

A survey of 100 signed ECCs includes the following projects or industries:

- a. Cement plant
- b. Power plant
- c. Reclamation project
- d. Integrated ecotourism and multi-use development complex
- e. Carbon black facility
- f. Steel mill
- g. Road construction
- h. Fishing port

- i. Golf course
- j. Chromite mining
- k. Landfill
- l. Rail transit
- m. Sulphuric acid plant
- n. Logging
- o. Paper recycling
- p. Limestone and shale quarry
- q. Flood control drainage improvement facility
- r. Irrigation project
- s. Paper mill

The survey reveals that the most common mitigating measures contained in the ECC regardless of the type of project or where it is located are on minimizing soil erosion, reducing runoff water, water conservation and stabilizing slopes.

Considering the unique qualities of vetiver grass such as its deep-root system; survival in almost all types of soil (wide range of pH); not too costly maintenance (basically, just trimming and watering for the first few months of growth); survival in almost all types of climate even in the occurrence of fire (as long as the roots are intact); survival in flooded areas: vetiver grass can be an integral part of an ECC to be used:

1. To minimize depletion of ground water and prevent sea intrusion in coastal aquifer
2. As silt trap to abate soil erosion
3. For topsoil recovery
4. To prevent water bodies from contamination
5. As useful medium for an effective drainage system
6. For slope stabilization of gullies, creeks and rivers as well as siltation ponds
7. Part of the vegetation planted for buffer zones to enhance the condition of eco-zones and habitats
8. Part of the initially planted vegetation for reclaimed areas
9. As turbidity-reduction measures before reclamation and dredging to prevent excessive sediment loading to marine and aquatic habitats
10. As an appropriate soil erosion control measure to prevent or minimize soil creep and landslide before starting any earth-moving and stripping activities
11. As one of the strategies in the Storm Water Management Plan of a golf course to prevent fertilizer, pesticide runoff and sediments from polluting water bodies
12. To stabilize settling ponds for waste water in biomass power plants
13. To stabilize cut, stripped and cleared areas in road construction projects
14. Additional support to the impounding dikes/interceptors and riprap structures to prevent or minimize further siltation of rivers during site development, excavation and cut and fill activities in leisure estates and country clubs projects
15. To stabilize tailings impounding structures in chromite mining projects
16. Additional support to drainage canals to channel surface runoff water away from landfills
17. To stabilize ash ponds and as perimeter fencing to prevent seepage and overflow of power plants
18. To protect riverbanks from erosion and siltation in an irrigation project
19. As protective measure for overburden waste stockpiles to prevent erosion and siltation in aggregate material mining project

The mitigating measures enumerated in the ECC are usually in general terms, not stating the specific method to be used or species used as vegetative cover. The tone of the ECC is recommendatory, as far as details are concerned. Surprisingly, the first ECC that recommended the vetiver grass for stabilizing heavily eroded soil, degraded areas and stream banks was on a forest plantation project. The ECC of the Pacific Timber Export Corporation (PATECO) forest plantation project explicitly recommended the use of vetiver grass.

It is noteworthy to reiterate that an ECC is a very important document to all project developers. Nothing will move without an ECC. The mitigating measures contained in the ECC are important too, precisely because violation on any measure will mean legal sanction and a Peso 50 000 fine for every violation. On the average, an ECC contains 20 mitigating measures; violation means penalty amounting to P1 000 000. Of course, it is better for a project to religiously follow the ECC than have to pay that much.

Lastly, vetiver grass was not recommended in the ECC solely for the sake of promoting it but because DENR believes in the potential of vetiver grass as far as erosion control and soil stabilization are concerned. The EIS system is an environmental policy of the Philippine government; the ECC that recommends the use of vetiver grass is an important output of such policy. Promotion of vetiver grass in the Philippines starts with its incorporation in the environmental policy.

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