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Environmental management system focus on Malaysia's Langkawi Geopark

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Abstract. Human activities towards development will have various effects on Environment any way. We couldn't limit these activities, should try according to present and future needs for its development and completion, on condition that should not destroy environment and natural resources. In fact Environment and development are separately matters, it is necessary with application and using of Environmental Management tools in all of development program , minimum damaging enter to resources and Environment. Langkawi is administrative district and the town of Kuah is its capital and the largest town in it. The total land area of the islands is 47,848 hectares while Langkawi, which is the main island. Lafarge Malayan Cement is the leader in the Malaysian cement industry. In Malaysia, it operates a nationwide network of facilities which include three integrated cement plants in Langkawi, Kanthan, and Rawang, one grinding plant in Pasir Gudang, and distribution channels by road, rail, and sea. In this paper we want to show effect of Lafarge factory on Langkawi Island, Optimizing and recovering of factory existent Environmental situation, Removing Environmental problems and improvement relevant standards and Schematizing and controlling on Environmental safety preservation and preferment, decreasing of contaminated resource and Environmental planning arrangement and integration with utilizing Environmental Impact Assessment and Environmental Management System.

Keywords: Environmental Management System, Langkawi Island, Effect

1. Introduction

Primary object in Environmental assessment report preparation have confidence on policies observance and special goods in factory programs and activities base of criterion, standards, Environmental acts and regulations Environmental impact identification, prediction and assessment is one of accepted ways for reaching to sustainable development aims and could settle as one programming tool in available of programmers, managers and determinants until base on that could identify Environmental potentially impacts in developing refinery and logical alternatives select for its solution. Human activities towards development will have various effects on Environment any way.

Consider to the effect of action in area and both of advantage and disadvantage of LAFARGE factory in island. Our success in obtaining International Standards Organization (ISO) 14001 certification in 2002 is one of the ways we have demonstrated that commitment. This environmental statement augments the ISO 14001 requirement for public reporting of our environmental performance. Performance data provided in this statement is based on the data available at the time the statement was generated. Where possible, 2005 data was used. Otherwise, 2004 data was used. Immediately following Rio,other institutions began focusing on

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the development of Environmental Management Systems (EMSs) that encourage comprehensive identification of an organization's adverse environmental aspects followed by management of those aspects having environmental significance. Drivers for Implementation – Organizations are driven to undertake change, including implementation of an EMS, for four principal reasons; Public Policy, Customer Requirements, Moral Persuasion and compelling environmental organization. An Environmental Management System (EMS) is a structured framework to manage environmental issues. ISO 14001 is a voluntary Environmental Management System Standard. However, some customer or clients may require it to do business. Many aspects of environmental management are include to obtain certification .In an over simplistic way of thinking, it is the design and implementation of an Environmental Management Framework that minimizes the impact of the organizations operations on the Environment.

Standards provide certified companies with the opportunity to extend their interpretation of environmental management system to include sustainable development, as the environmental concepts found in the ISO 14001 Standards are complex and reflect the fundamental ideas of ecologically, socially and economically sustainable development.

2. Methodology

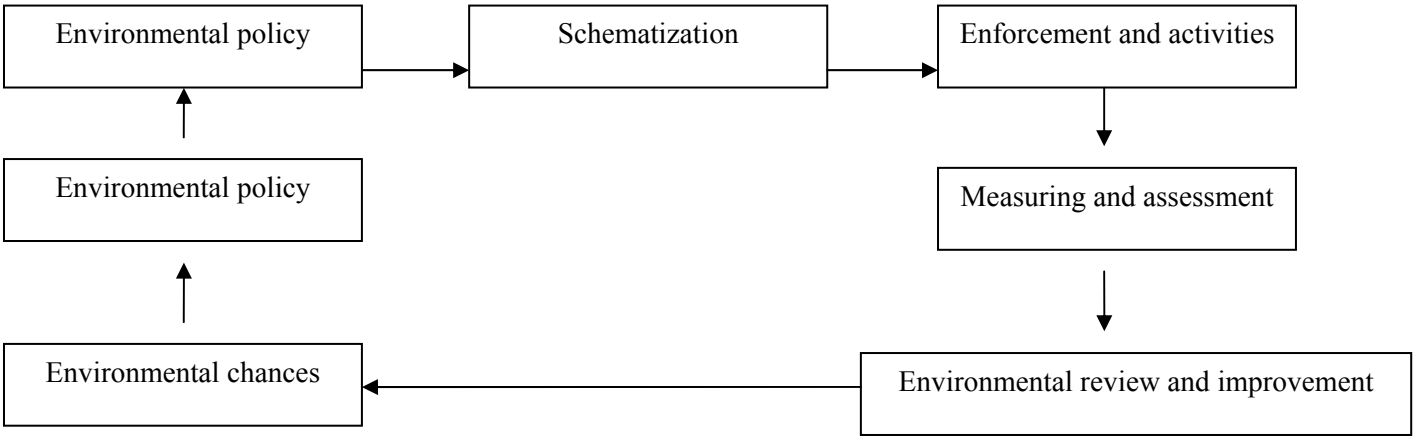
2.1 Study Area

Langkawi, the so-called Jewel of Kedah, comprises archipelago of 99 islands located in the Andaman Sea, around 30 km away from the northwestern coast of Peninsular Malaysia. The largest of these islands is Pulau Langkawi which has a population of nearly 96,726 capita. The only four of the 99 islands that are inhabited are Pulau Langkawi (the main island), Pulau Rebak, ulau Dayang Bunting, and Pulau Tuba. However, the only inhabited island nearby Langkawi is Pulau Tuba. Langkawi is administrative district and the town of Kuah is its capital and the largest town in it. The total land area of the islands is 47,848 hectares while Langkawi, which is the main island, has an area of 32,000 hectares. From north to south, Langkawi is nearly 25 km long and from east to west it has comparable length. The coastal areas consist of flat alluvial plains with limestone ridges. Two-thirds, approximately, of the island are predominated by natural vegetation, hills, and forest-covered mountains. The island is characterized by a sunny, hot and humid tropical climate. The average annual temperature is about 32 °C (33-24 °C) and the average yearly rainfall depth is around 2500 mm. The rainy season extends from August to September. The company's cement operations are located in Langkawi Malaysia. In September 2006, the cement plant located in Langkawi conducted its routine annual shut down for maintenance. Among the plant's facilities stood a 16,000 ton capacity, multi-flow cement silo which had been on the management's agenda months before. We want to survey effect of factory on natural environment of island.

2.2 Methods

In this paper for management of Lafarge refinery plan using Environmental Management System method, Environmental Management System include different components, in this graph will show main elements in EMS:

Chart 1: Environmental management system



Environmental policy is performance leader and direct improvement of organization Environmental Management, so that could protect itself Environmental operation and provide its possible improvement. Environmental Management should establish and install performance methods for recognition Environmental aspects relevant to refineries and have confidence on relevant aspects to evident events has done in huge identification Environmental objectives. Performance and activities include several cases should consider Environmental Management, such as: structure and responsibility, small and huge objectives and programs, training and information. In organization should create and install collected performance methods for regular measurement of total indicator activities that have evident Environmental impacts and their monitoring is performed. Management Organization should review and estimate Environmental Management System during specified times for permanent improvement and preservation, suitable and effective Environmental Management System. The data in this research were collected via a survey using a questionnaire and personal interviews. It is established that an interview survey method can give better results. In addition to the face-to-face interviews.

In questioner checklist method of impact identification at first various questions relevant to effective activities I design, material products , unites process , transportation , factory impacts on water resources, air quality , solid waste substances , watery and drought land…. Are designed identifying effective activities on Environment elements? In these checklists is used yes or no answers to per question to show existence or nonexistence Environmental impact, in other words preliminary object in this method is identifying existence or nonexistence of impact so that effective information and activities is exploitable and screening , also designing many questions cause not to hide activity or element in point of assessor group view and consider to all of aspects in second step all of factory activities have every kinds of eventual impact due to factory performance and exploitation on Environmental elements, in other words have yes answer, will design more questions. These questions in general classification include: physical-chemical Environment, ecological-biological, economic-social-cultural is considered yes, no answer for them and probably impact for them. In applied method obtained data of reports survey about Environmental existence condition, factory technical anatomy, field survey and expert opinions and also propounded index in groups meetings change to question format and identify species impacts.

3. Results and Discussion:

In Langkawi factory prediction directed gases recovery to flame, Ovens gas-burner and steam boiling, recovery sour gases, sour water , gasoil and kerosene HDS in addition to increase quality prevent to external contaminated spreading. Also decline wasting temperature with chimney, application before excite transformer and improving fuel condition in oven, separating Hydrogen sulfur gases and ammoniac in sour water unvarnished process are important predict actions in controlling and decreasing air pollution due to factory , that these actions cause to decrease air pollution extensively. Part of industrial waste include: fiber glass and fiber stone, inactive coal, polluted sand to vanadium oxide obtained oven sandblast, dry cell and fluorescent and hazardous for waste disposal act according to authorization department of protection Environment. Sewage is produced such as lime and soil relevant to industrial water, catalytic sulfur recovery, catalytic color recovery, catalytic methane province.

In factory there is possible to appear accidents and hazards relevant to personnel and labor during exploitation in per industrial unit and per process and they are probable and unavoidable to the extent, in this part is mentioned to some hazards and accidents that maybe occur. Presumption of explosion and inflame fuel tanks and its pipeline, gas turbines, transfer tankers, Explosion outbreak in various installation inside refinery ,Produced substances leakage from stores and their transfer pipeline, Sewage and wastewater leakage from stores and their transfer equipments and Traffic and ply relevant to personnel and driving accidents. These cases could reach to minimum by: awareness safety equipments installation, necessary training to personnel, using of individual protection equipment, Environmental and safety and sanitary management application.

Environmental Monitoring Program should done activity that their supervision and effects of management have superior importance. Doing environmental monitoring and environmental measurement and controlled cases connected with important environmental aspects, usually recognized environmental

outcome and assessment and analysis of impacts and mitigation measures or performance of environmental program enterprise for control or decline activities.

Environmental monitoring program is necessary with objective of prevention of Environmental pollution, appearing dangerous factors in office, providing necessary basis for satisfied native people and superintend performance criterion, Environmental regulation and mitigation measures in factory. In monitoring program, is preparing sufficient information about settlement, process and activity's collection and correlate material and this information send to hygiene , safety and Environmental unit.

In EMP (Environmental Monitoring Plan), special manner of and quality, contaminate indicator in Monitoring process, monitoring hearsay, measurable factors and monitoring until is shown, in primary Environmental consideration, minimum on time measurement and monitoring (includes measurement, survey, filed work) is done as baseline until data and result analysis is use in determination of conformity and non conformity, intermediation technical monitoring supervisor and responsible. After elementary stage of monitoring and measurement, according to EMP table, written plan and performance ways, relevant directions, is continuing assembled monitoring. Education of the personnel is important. Overlake people in one Environmental Management System, part of EMS process, could result in better and acceptable decision. Public participation probably is time consuming, but without this, suggested EMS will be against of needs and priority public.

4. Conclusion

Environmental Monitoring Program should perform activity that their supervision and effects of management have superior importance. Environmental monitoring program is essential to reach the Management objective with prevention of Environmental pollution, and providing necessary factors for performance criterion, Environmental regulation and mitigation measures and controlling of activities also. due to assessment ,Environmental Monitoring Program and continuing investigation of different effect of project activity on Environmental factors and also control the accomplishment of mitigation activities and predicted approaches in designated plan and discount and decrease the Environmental effects ,notice the management program and implementation is very essential and it is including project requirements and it's special necessity ,also the total issues of environmental management systems. This program should be consisting of the organization chart, monitoring plan, education program, and cooperation of local societies. According to controlled negative impact management and positive impact considerable assume Economic social-cultural Environmental elements, Biologic and Ecologic Environmental elements, Physical and Chemical Environmental elements consider in this research. And according to obtained results the refinery has advantage for residential people in island due to experts view in questionnaire

5. References

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