

Strategic Environmental Assessment (Sea) Process For The Pharmacological And Environmental Toxicological Management To Achieve Sustainable Development

Dr. Vijayan Gurumurthy Iyer, Ph.D., PDF, D.Sc.(Eng.), LL.D., DL,
Professional Engineer and Doctor,
Guest Lecturer of Pharmacology and Environmental Toxicology,
University of Madras,
A-2/31, Kendriya Vihar-II, Paruthipattu, Avadi, Chennai-600 071, India.

Abstract

Strategic environmental assessment (SEA) process can be broadly defined as a study and check of the potential impacts (effects) of a proposed project, program, plan, policy or legislative action on the environment and sustainability. SEA process for achieving sustainable environmental pollution control and public health protection in pharmacological and environmental toxicological industry 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site, generic 4.0 and source-specific 4.0 that aims to incorporate environment and sustainability considerations in to planning and decision-making processes, and to formulate sustainable projects, policies, plans, programs and legislative actions. "Environmental impact assessment" (EIA) (pharmacological and environmental toxicological environmental impact assessment) can be defined as the systematic identification and evaluation of the potential impacts (effects) of the proposed projects, plans, policies, programs, or legislative actions relative to the physical-chemical, biological, bio-chemical, bio-medical, pharmacological, toxicological, bio-physical, radioactive, cultural, socio-economic, and anthropological components of the total environment. The objectives of the study and check : (i) Prediction and assessment of impacts on pharmacological environment, and (ii) Prediction and assessment of impacts on toxicological environment. The sustainable pharmacology is the study and check of the action of medicinal drugs on science and humanities considering environment and sustainability factors. The sustainable environmental toxicology is the study and check of poisons on science and humanities considering environment and sustainability factors. The significance of the work is mainly confirmatory and partially novel. The purpose of the study and check is to sustainably environmental pollution control and public health protection. Considering wide gap in pharmaceutical and environmental toxicological skills and knowledge in industry 4.0, generic 4.0 and source specific 4.0, the study is attempted to cover the strategic environmental assessment (SEA) process towards sustainable pharmacological and environmental toxicological management development to achieve business excellence. The limitation and sustainable restriction of the study is proposal for environmental health impact assessment (EHIA) process. The primary purpose of the EIA process is to encourage the considerations of the environment in project planning and decision making process and to arrive at actions which are more sustainable environment compatible. It is concluded that Industry 4.0 impacts (effects include source specific, industrial specific and generic generation or decay period) protocol for SEA process for the sustainable environmental pollution control and public health protection is helpful for sustainable development. The SEA treaty protocol pertains to federal and Official Government procedures are helpful for making much earlier decision than EIA process. Therefore, it is key tool for sustainable pharmacological and environmental toxicological development.

Keywords: Environment, Impact, Pollution, Pharmacology, Public, Sustainability, Total, Toxicology

INTRODUCTION

Pharmacological and toxicological environmental impact assessment is presented in this research article. Significance of the research work is mainly confirmatory and partially novel. Strategic environmental assessment (SEA) process towards sustainable pharmacological and environmental toxicological management development to achieve business excellence such that SEA introduced in order to incorporate environment and sustainability factors in to environmental pollution control and public health protection project planning and decision

making process such as project formulation and appraisal of study and check of the action of medicinal drugs for coronavirus infection byssinosis synergistic diseases and environmental pollution control, naturally pigmented color cotton, eco-friendly seed-cotton processing, sustainable seed-cotton ginning process, coronavirus impact assessment, environmental health impact assessment of Chinese Quinson nuclear power plant Industry 4.0 environmental health impacts (effects include source specific, industrial specific and generic generation or decay period) at Quinson, China to consider the

safety and health impacts in to radioactive environment, carcinogenic impact assessment process of chrome composite leather-clad roller cotton ginning process and chromium effluent discharge at downstream Buriganges river at Bangladesh and unsafe chromium pollution discharge from Indian Tamil Nadu Chromates and Chemicals Limited TNCC , Ranipet , unsafe chromite mining in Odissa and 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site that should have been included sustainable projects, policies, programs, plans and legislative actions.

Three most of the significant terms are " Sustainable environmental inventory", "Sustainable environmental impact assessment," and " Sustainable environmental statement "[1]. Vijayan Gurumurthy Iyer(2) proposes the most significant legislation is the Sustainable Environmental Impact Assessment Act that is SEIA process Act while considering environmental sustainability as well as quality guidelines, regulations and procedures in order to ensure that balanced decision making regarding the environment and sustainability occurs in the public interest. Environmental pollution control and public health protection process should include the integrated considerations of technical or scientific / engineering, economic, environment, social, and other factors. The most important of these considerations can be referred to as "the three Es" (Engineering or technical, economics, and environment) planning and decision making process. The past five decades have been characterized by passage of legislations dealing with the environment including legislations of control of water, air and land pollution, solid and hazardous waste management, resource conservation and recovery protection (RCR) and soil and ground water remediation 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. Coronavirus and impact assessment (CIA) and byssinosis are discussed [3]. The principle of seed-cotton roller ginning process invented by McCarthy roller ginning double rollers are commonly made up of chrome composite leather clad roller (CCLC) engineering material. It is required to be mitigated by replacing all CCLC rollers with rubberized cotton fabric rollers (RCF) for sustainable environmental pollution control and public health protection with respect to the pharmacological and toxicological environmental impact assessment. As per case study and check, a sustainable of waste characterization and assessment plan is investigated. Only 20% of Chennai International Airport (SIA) generated municipal solid waste (MSW) is recycled and composted every year. By conducting intensive recycling and composting programs, about 67% of the airport municipal solid waste will be recycled. So the savings be a sum of landfill fees (tipping fees) and carbon credit tax per year which could

potentially save three folds with MSW recycling and composting program. Vijayan Gurumurthy Iyer (4) emphasizes the airport saving has four times than the present amount of airport MSW savings. Low carbon technologies control greenhouse gas and sustainable pharmacological eco-friendly products and services are proposed.

LITERATURE SURVEY

The sustainable pharmacology is the study and check of the action of medicinal drugs on science and humanities considering environment and sustainability factors. The sustainable environmental toxicology is the study and check of poisons on science and humanities considering environment and sustainability factors. The significance of the work is partially confirmatory and partially novel. The purpose of the study and check is to sustainable environmental pollution control and public health protection. Considering wide gap in pharmaceutical and environmental toxicological skills and knowledge, the study is attempted to cover the strategic environmental assessment (SEA) process towards sustainable pharmacological and environmental toxicological management development to achieve business excellence. The limitation and sustainable restriction of the study is a proposal for environmental health impact assessment (EHIA) process. The legislation of EIA process was established in 1970 by the enactment of the National Environmental Policy Act (NEPA) in the USA[1]. This was first time that EIA process became an official tool in scientific sector to protect the environment. Three of the significant terms while complying with the requirements of NEPA process are "environmental inventory", "environmental impact assessment process", and "environment impact statement". EIAs of design environmental pollution control and public health protection structures were undertaken in order to protect environment during the year 1950 in Japan, Europe and North America [4,5].

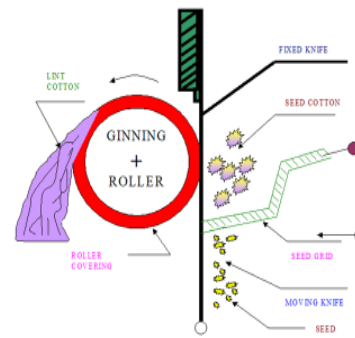
Larry W. Canter(1) mentioned that the purpose of the EIA process is to encourage the consideration of the environment in organizational planning and decision making process. Historically, the choice of proposed projects, policies, plans, programs, permits, procedures or legislations was primarily based on only one criterion called economic viability. Coronavirus impact assessment (CIA) has been conducted[6]. Picture represents the principle of seed-cotton roller ginning process invented by McCarthy roller ginning double rollers made up of chrome composite leather clad roller (CCLC) engineering material. It is required to be mitigated by replacing all CCLC rollers with rubberized cotton fabric rollers (RCF) for sustainable environmental pollution control and public health protection[7].

It is necessary to consider three criteria of economic, environmental and social viabilities. Environment coupled with quality and sustainability management (EQM) is a pharmacological and environmental toxicological managerial approach that was the targeted research area in order to achieve socio-economic improvement and sustainability based on the triple bottom-line approach (economical, environmental and social) feasibility studies and checks [8].

BASIS OF RESEARCH WORK

The paper outlines SEA process for certain projects for sustainable development. Pharmacological and toxicological environmental engineering product – process hybrid lifecycle analysis (LCA) has been conducted for identifying, measuring, monitoring and control the impact of engineering industrial pharmacological and environmental toxicological products on the environment and sustain efficacy by means of mass and energy balance methods. LCA considers the activities and events related to raw materials, money, transformation, ancillary materials, equipment, method, market, man power, production, use, disposal and ancillary equipment. As far as environmental pollution control and public health protection safety is concerned personal protective equipment and materials (PEEMs) that include state-of-the-art garments, clothing, gloves, safety shoes, hard hats, safety glasses, shields, respirators, full aprons, safety belts, and other safety items which have to be used by an individual. Such equipment is important for personal protection and for safety. It is the manager’s and supervisor’s responsibility to ensure that they are used.

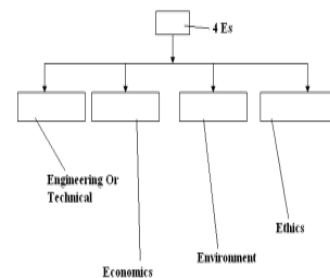
The worker’s compensation law and occupational disease law must be implemented in 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site and Indian Ginning Factories (Generic 4.0) for the gin and mill workers’ occupational and public environment and health safety protection and study and check of the action of medicinal drugs for coronavirus infection diseases and environmental pollution. Coronavirus impact assessment (CIA) is emphasized according to Vijayan Gurumurthy Iyer(4) for projects. Picture represents the principle of seed-cotton roller ginning process invented by McCarthy roller ginning double rollers made up of chrome composite leather clad roller (CCLC) engineering material and study and check of the action of medicinal drugs for coronavirus infection byssinosis augmenting diseases and environmental pollution control . Vijayan Gurumurthy Iyer(4) suggested mitigation by replacing all CCLC rollers with rubberized cotton fabric rollers (RCF) for sustainable environmental pollution control and public health protection.



McCarthy PRINCIPLE OF COTTON ROLLER GINNING PROCESS



The Most Important Considerations in Project Planning and Decision Making Process Can Be Referred To As “The Three Es”. Sustainable Industry 4.0 (Specific Industrial) , Generic 4.0 (Agriculture) and Source Specific (Municipal)



BATTERY OF DOUBLE ROLLER (DR) GINNING MACHINES



**GROUP OF OCCUPATIONALLY EXPOSED WORKERS
IN PALA HOUSE AND BEATING OF LINT COTTON**

The enactment of worker's compensation law and occupational disease law shall increase materially the cost of insurance to industry. The increased cost and the certainty with which it is applied will put a premium on accident-prevention work. This cost can be materially reduced by the installation of safety devices. Environmental pollution control and public health protection research experience has shown that approximately 80% of all the industry 4.0, generic 4.0 and source specific 4.0 pharmacological and environmental toxicological accidents are preventable.

Environmental Impact Assessment and Environmental Health Impact Assessment (EIA and EHIA) processes have been investigated for nuclear power plants with respect to the radioactive alpha, Beta and gamma environment to consider the safety and health impacts to mitigate psychological health loadings on workers and nearby residents. SEA system is a potentially useful element of good environmental management and sustainable development; however, as currently practiced in environmental pollution control and public health protection pharmacological and environmental toxicological organizations, it is far from perfection. Emphasis should be given in environmental pollution control and public health protection on maintaining economic viability of the operation, while in turn taking care to preserve the ecological and social sustainability's of the country.

Vijayan Gurumurthy Iyer(4) deliberates an International EIA process that is required multi-disciplinary integrated approach study and check initiated very early stage of Indo-Matsushita Midget electrode project in 1982 at Tada and 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site for technical, economic, ecological and social sustainability .

SUSTAINABLE MATERIALS AND METHODS Conceptual Framework for Screening and scoping of SEA Process

Screening and scoping processes are the items which are employed in the SEA processes (Figure-1) .

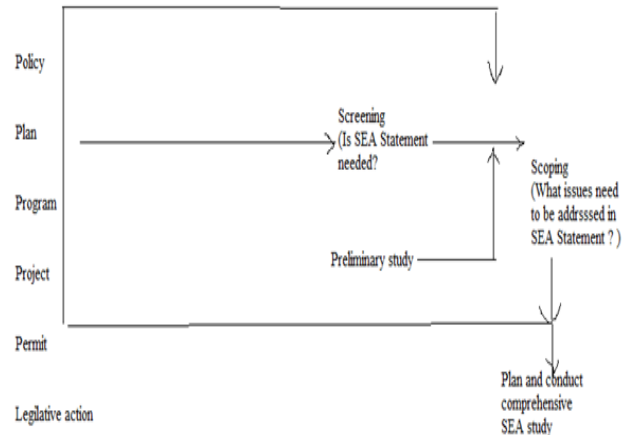


Figure-1: Conceptual Framework for Screening and Scoping Processes of SEA Process

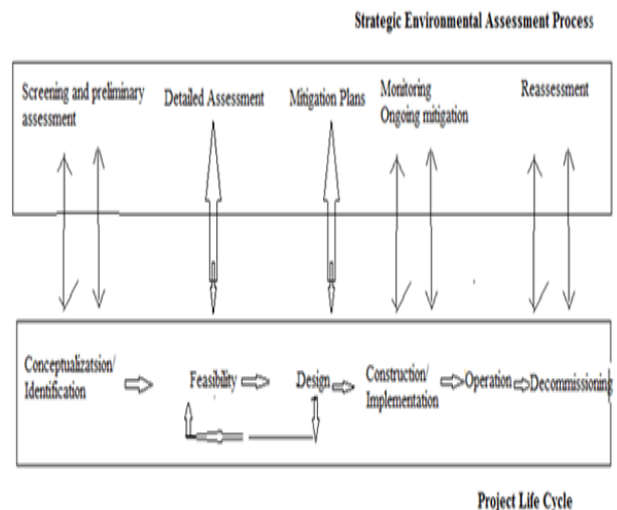


Figure-2: Strategic Environmental Assessment (SEA) Process at Different Phases of Project Life Cycle Assessment

during the last two centuries due to the fast urbanization and industrialization along with advancement of pharmacological and toxicological environmental pollution control and public health protection Science, Engineering and Technology, there have been considerable developments in scientific sector with the resultant wastage of copious amount of resources and tremendous environmental stress and strain.

Subsequently, it was realized that there were many adverse impacts on environment and society. These unsustainable scientific developments have sustained

the environmental as well as sustainability growth and development. Vijayan Gurumurthy Iyer(4) reiterates that sustainability of design and development, quantity, quality and sustainability of life, safety on earth, reciprocal accountability product approach and continuous process improvement of our environment is of utmost important as per the case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. Sustainable environmental pollution control and public health protection scientific development is a kind of development that should occur without damage to the environment and natural resources. Hence, hectic developmental activities during the last two centuries have caused considerable environmental and social impacts(effects). These impacts (effects) have been measured, monitored and mitigated by international environmental impact assessment process(Figure-3).

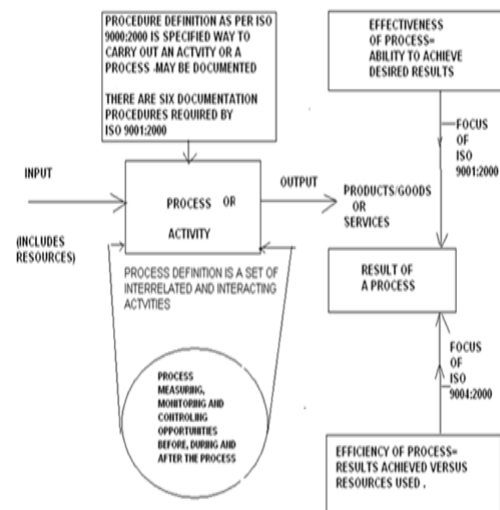
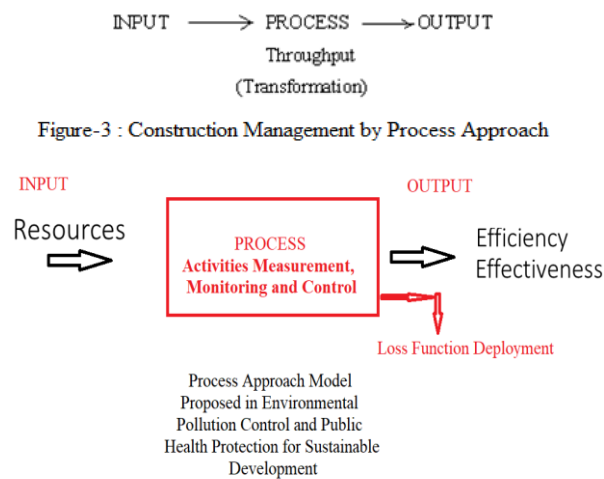


Figure-4: Schematic Diagram of a Construction Process

International EIAs are important in international project planning and decision making process that mitigates potential environmental impacts in more

than one country according to Vijayan Gurumurthy Iyer(4) 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. Loss function deployment has been investigated in 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. The use of sustainable environmental pollution control and public health protection in environmental and sustainability matters in two areas that is sustainable development with global problems and prevention technologies for pharmacological and environmental toxicological industries that are designed to reduce the environment effects of products and processes (Figure-4).

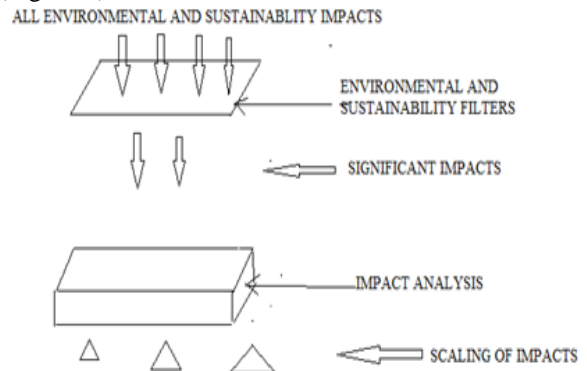


Figure - 5: Procedure for finding out the Significance of Environmental and Sustainability Effects

The integration of environmental protection and economic development is the most important strategic environmental assessment tool in achieving sustainable development (Figure-5).

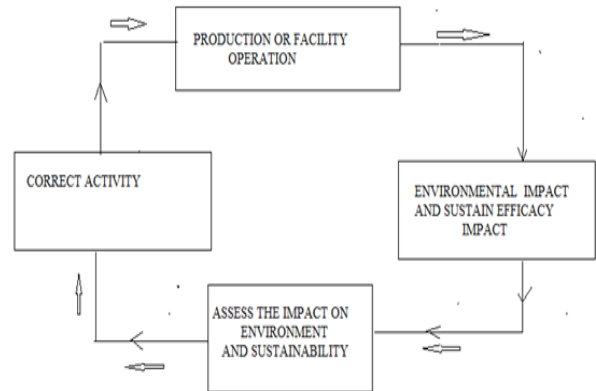


Figure-6: Environmental and Sustainability entitled "After-the -fact" evaluation

Project planning and decision-making should include the integrative consideration of pharmacological and environmental toxicological engineering or technical, economic, environmental, ethical and social factors. A midget electrode project was taken as a case study for the strategic environmental assessment process (Figures-5 and 6). International EIA process has been designed for the sustainable midget electrode project design, sustainable cotton ginning process, and study

and check of the action of medicinal drugs for coronavirus infection diseases and environmental pollution control and public health protection scientific study to identify and predict the potential effects of the physical, biological, ecological, socio-economic, cultural environment, environmental toxicological, anthropological and on human health and well-being are adequately protected. Environmental Impact Statements (EIS) have been prepared for the project which considering environmental and socio-economic factors with respect to development and other proposed actions. Glynn Hendry J and Gary W. Heinke (5) the EIA/SIA system is a potentially useful component of good environmental and sustainability management for 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site.

In chromium leather tanning Industry 4.0 impacts (effects include source specific, industrial specific and generic generation or decay period) and chromium textile industry, chromium environmental contamination and pollution air, water and land that has discharged beyond safe limits, which seriously affects the life on the earth. environmental pollution control and public health protection system in pharmacological and environmental toxicological mitigates scientific impacts (effects) on wastes and toxic emissions from industries, thermal power plants, smelting pollution, auto exhaust pollution in large metropolitan areas, photo chemical smog have been poisoning the atmosphere beyond the permissible levels which causes serious health hazards. Air pollution causes adverse environmental health and social impacts.

Mindless disposal of untreated industrial wastes at downstream Buriganges river at Bangladesh from Unsafe leather tanneries, Indian Odisha Unsafe chromite mines and chromium bearing effluents from TamilNadu Indian TNCC company site at Ranipet. Radio-active wastes generated in Chinese nuclear power Industry 4.0 impacts (effects include source specific, industrial specific and generic generation or decay period) at Quinson, China to consider the safety and environmental health impact assessment in radioactive environment, nuclear power plants, environmental pollution control and public health protection debris, industrial sanitary waste assessment for 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site, hazardous waste impacts, municipal solid waste from airports industries, agricultural wastes and domestic wastes that have contaminated and polluted the water, soil and land beyond the tolerable limits, which adversely affects land fertility, water quality, vegetation, aquatic and marine life. This is proving more and more hazardous as this development continuously damaging the

pharmacological and toxicological environment viz., melting of glaciers, climate change, carbon tetra chloride emission, greenhouse gas emission, ozone layer depletion. For example, due to continuous increase in CO₂ concentration in the atmosphere due to industrial emission of about 382 ppm which lead to climate change. This decrease in glaciers contributes to about 29.5 % of mean sea level rise since 1991. Water supplies stored in the glaciers were projected to decline. Besides contaminating and polluting air, water, soil and land, intensive technological activities lead to depletion of natural resources.

This must have been required to bring our energy and intellectual capacity in tandem whereby that can meet the challenge efficiently without major disruption as well as without compromising on the livelihood of future generation of their needs. development would have occurred without damages to the pharmacological and toxicological environment and major disruption, and the process of urbanization and industrialization would have occurred in sustainable manner by utilizing the resources efficiently. Now, these environmental problems are the present environmental challenges and opportunities for improvement. In order to overcome these environmental problems that shall require new and more efficient solutions, technologies, processes and products alongside behavioral change.

Low carbon and energy efficient technology of environmental pollution control and public health protection based Industry 4.0 impacts (effects include source specific, industrial specific and generic generation or decay period) can make contributions to mitigating impacts of economic growth on global warming (figure-7) with the resultant output of sustainable green pharmacological and environmental toxicological products and services (eco-bio-medical genomics) which are environmental advantages with good performance and cheaper prices as per the case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. The dual goals of green design are the waste prevention and better material management as depicted in Figure 7.

Vijayan Gurumurthy Iyer (4) deliberates the concept of the sustainable design environmental pollution control and public health protection scientific green buildings that considerably reduce the environmental impacts associated with e.manufacturing, use and disposal.

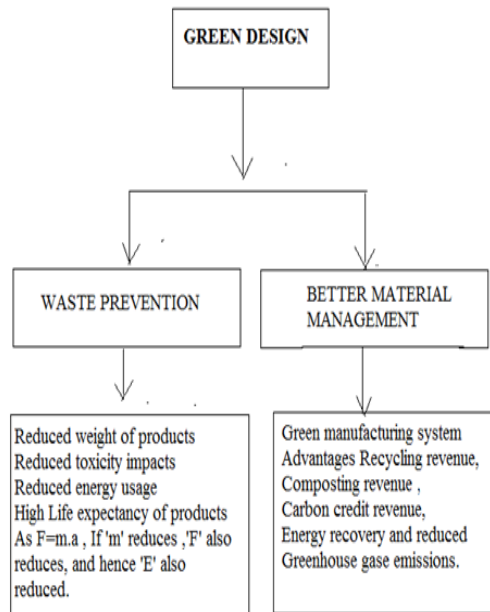


Figure 7 : Dual Goals of Green Design and Manufacturing Process

Product Process Hybrid environmental and sustainability lifecycle analysis (LCA)

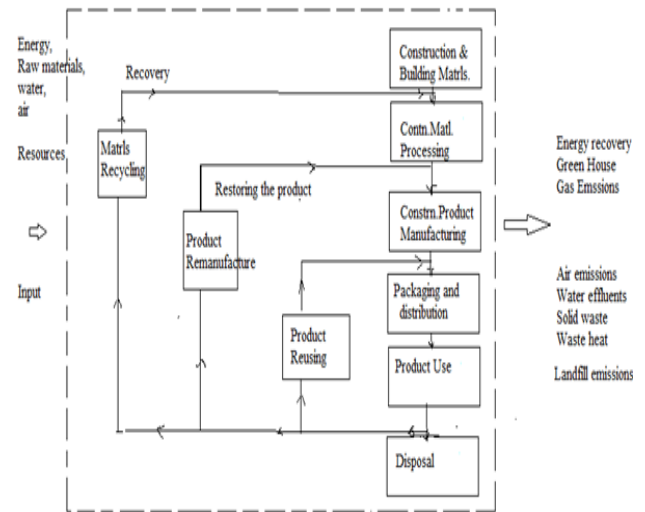


Figure - 8: Construction Product environmental lifecycle analysis (LCA)

Vijayan Gurumurthy Iyer (4) deliberates that prior to the enactment of National Environmental Policy Act on Environment in 1970 in the USA, only technical or engineering and economic factors dominant in planning and decision-making process in most of the World projects, plans, programs, permits, policies and legislative actions.

As per the research results of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site that project planning and decision-making process must include the integrated consideration of engineering or technical, economic, environmental, safety, ethical, social and sustainability factors.

This is an important consideration can be referred to as “Concept of the Four Es and 1 S” in environmental pollution control and public health protection based organizational planning and decision-making process.

There investigations are ecological and biogeochemical principles and tools such as energy flows and material cycling, element ratios, mass and energy balance, element cycling, product environmental lifecycle assessment (LCA) (Figure-8) are available in order to solve major environmental problems that we face in our world today such as global warming, acid rain, pharmacological and toxicological environmental pollution and increasing greenhouse gases with special reference to case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site.

Vijayan Gurumurthy Iyer (4) Fintech enviro product lifecycle analysis (LCA) and hybrid analysis are used for identifying and measuring the impact of industrial pharmacological and environmental toxicological products on the environment and sustain efficacy by means of mass and energy balance methods (Figure-8). LCA consider the activities related to extraction of raw materials, ancillary materials, equipment production, use, disposal and ancillary equipment.

Environmental Health Impact Assessment (EHIA) process for Nuclear Power Plant Project towards Sustainable Environmental Pharmacological and Environmental Toxicological Development

Vijayan Gurumurthy Iyer (4) environmental health impact assessment (EHIA) process is proposed in this research for Chinese nuclear power plant Industry 4.0 at Quinson, China to consider the safety and health impacts in radioactive environment during the environmental pollution control and public health protection phase in order to address psychological health impacts on agriculture, horticulture, plant, workers and nearby residents. Environmental health impact assessment can be defined as the systematic identification and evaluation of the potential environmental health impacts or effects of proposed nuclear power projects, plans, programs, policies or legislative actions relative to the physical-chemical, pharmacological and toxicological, biological, cultural and socioeconomic components of the total environment. At present there are more than four hundred thirty-seven nuclear power plants situated in the World. It may be mentioned that EHIA conduction is suggested for sustainable nuclear power projects, plans, programs, policies, or

legislative actions in the World. Nuclear power plants generate electricity using heat generated in pressurized water reactors where nuclear reaction takes place. During the operation of nuclear power plants which use Uranium-235, Thorium-232 and Plutonium-239 as fuels in nuclear reactors causing nuclear fission impacts (effects) on environmental pollution control and public health protection. That time copious amount of radiation dose due to radioactive pollution escaping out in the order of about 120 billion Becquerel (120 GBq) to 240 billion Becquerel (240 GBq) that is 50 grams to 100 grams, radiation activities viz., Alpha (α), Beta (β) and Gamma (γ) as against the safe limits of 0.1 Bq/l or Bq/kg (ppm) in land, air and water when operation, repair and maintenance of replacing old nuclear fuels with new fuels taken place. High exposures to radioactive pollution damage mental health and psychological burden on workers and nearby residents. As per a psychological health impact survey conducted in a nuclear power plant at Quinson, China, severe psychological disorders including radioactive poisoning, depression and post-traumatic stress (Vijayan Gurumurthy Iyer (2) to an extent among 49% of the nearby residents in and around 82% of the nuclear power plants in the World that is the environmental psychological health impact loadings due to radioactive environment on workers and nearby residents during the test run phase using computer simulation models. Psychological health impact assessment (PHIA) on workers and nearby residents have been addressed to mitigate psychological health impact loadings on workers and nearby residents.

Environmental Health Impact Assessment (EHIA) Process For Sustainable Industrial Development Towards Environmental Pollution Control and Public Health Protection

Vijayan Gurumurthy Iyer (4) EHIA process is investigated on cotton double roller (DR) ginning industries using chrome composite leather clad (CCLC) washers and design and development of an eco-friendly alternative including study and check of the action of medicinal drugs for coronavirus infection diseases and environmental pollution and eco-friendly processing of color cottons and breeding's of naturally pigmented color seed-cottons. The objective is to assess the environmental health impacts of Indian cotton ginning industries and pharmacological and environmental toxicological industries. Most of the cotton ginning operations are performed by using DR ginning machines which serve an important role in the Indian cotton ginning industries. Vijayan Gurumurthy Iyer (7) seed-cotton roller gin rollers employed in ginning factories are commonly made of Chrome composite leather cladding (CCLC) covering fixed to a shaft. The CCLC contains about 18,000 to 36,000 mg/kg (ppm)

of chromium particles. When the seed-cotton is processed in DR ginning machine, the lint cotton is contaminated with hexavalent chromium dust of about 140 to 1990 mg/kg (ppm) which is carcinogenic substance against the safe limits of 0.1 ppm. During the cotton ginning process due to persistent rubbing of CCLC over stationary knife the chromium particles are adsorbed into lint cotton such that the spun yarns and woven fabrics get contaminated about 100 to 200 ppm which according to World Health Organization (WHO) eco-standards should not be more than 0.1 ppm. The CCLC rollers used in cotton roller ginning machines get powdered during the ginning process. As chromium is a specific dust, gin and mill workers and residents are directly exposed to this carcinogenic substance and are vulnerable to environmental health hazards as study and check of the action of medicinal drugs for coronavirus infection diseases and environmental pollution. To offset this problem, pollution-free eco-friendly washers/rollers both for laboratory and commercial studies have been fabricated and experimented. Environmental health inventory (EHI) serves as the basis for evaluating the potential environmental health impacts both beneficial and adverse of a proposed action. Environmental health impact statement (EHIS) describes the affected environmental health or environmental health setting without the project.

Design and development of the EHI is an initial step in the EHIA process. It is concluded that EHIA process should be conducted for certain textile additive process, projects, plans, programs, legislative actions, policies in the project planning and decision-making process for sustainable environmental pollution control and public health protection.

International EIA Process

International EIA process is a potentially good environmental and sustainability management system (EMS) as per the case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. International organization for Standardization (ISO)'s 14000 and 9000 standards focus on Environmental Management System (EMS) and Quality and sustainability Management System (QMS) of all sorts of organizations apart from more than 19500 published standards. Environmental Management System (EMS) and Quality Management System (QMS) have been separately featured in ISO. Environmental Management System (EMS) standards apply to the management system concepts of an organization's environmental issues and opportunities [9]. It defines the features of an EMS that need to be in place to ensure that the organization identifies and focuses on improving areas where they have

significant environmental impacts. This system can be integrated with ISO 9000 Quality Management System (QMS) standards to achieve excellence in quality as well as environmental obligations. The overall aim of the EMS is to provide protection to the environment and to prevent pollution so as to mitigate coronavirus impacts, byssinosis synergistic or augmentative diseases among mill and gin workers, study and check of the action of medicinal drugs for coronavirus infection diseases and environmental pollution, pharmacological and toxicological environmental impact assessment, manufacture eco-friendly color cotton and naturally pigmented seed-cottons (or Kapas) products and services.

EMS focuses on key drives of performance excellence in products and processes as well as organizations that are focused on delivering values to the customers, internal operational processes, and to staff's learning. Hence, this system approach to the environmental management shall achieve excellence in the overall performance of the organization. In the present study about two third of environmental pollution control and public health protection waste was recoverable due to the conduction intensive on-site training programs on recycling and composting processes as against the conventional environmental pollution control and public health protection scientific management practices which could able to recover the waste of only 10 to 15% in pharmacological and environmental toxicological industries.

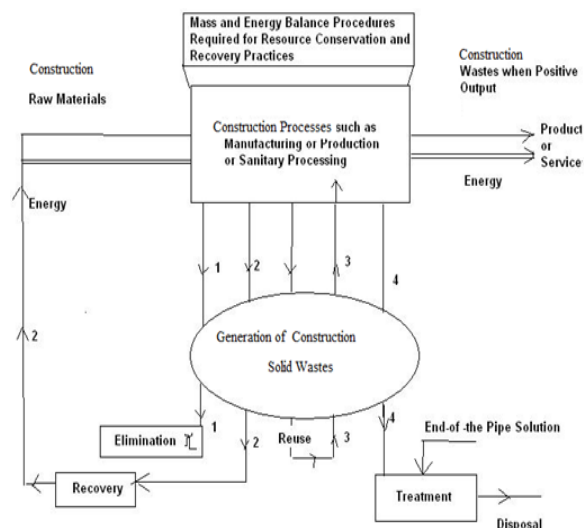


Figure- 9 : Schematic Representation of Constructional Process or Activity Showing Sustainable Construction Waste Management

Environmental pollution control and public health protection system mitigates waste impacts(effects) are produced by industry 4.0, generic 4.0 and source specific 4.0. the study has been attempted to identify and evaluate special waste minimization hierarchy of

pharmacological and environmental toxicological waste management for properly environmental pollution control and public health protection including minimizing generation and treatment that have been generated, and disposing of waste residuals.

Vijayan Gurumurthy Iyer (4) deliberates a case study and check on generation of potential waste management strategies for effect on group or generic environmental pollution control and public health protection system 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. All environmental pollution control and public health protection systems should be included EIA in cotton textile additive processes generate wastes such as printing, dyeing, finishing, eco-design in the form of liquids, solids or gases. Some wastes are considered as hazardous. The waste minimization hierarchy of waste management is duly ranked from most desirable to least desirable (Figure-9)

1. Eliminating waste generation –Most desirable, 2. Reducing waste generation- Most desirable, 3. Reuse, recover or recycle waste materials- Most desirable, 4. Treating waste to diminish quantity and to detoxify the hazardous and non-hazardous solid wastes --Least desirable, 5. Disposing of waste residuals- Least desirable. Waste minimization include only elimination, recovery, reduce, reuse and recycle hierarchies. Waste minimization does not include treatment of wastes as well disposal that is point number 4 and point number 5 because, these are traditional waste control strategies involves treatment and disposal which are called end-of-the pipe solutions and are costly affairs as well as involve control of high discharge standards. Modern waste control strategies involve point number 1, point number 2 and point number 3 which are not requiring end-of- the pipe solution for the waste management problems.

Solid and hazardous waste generation is the sum of material recovery and discards. Report on waste audit conducted for Industry 4.0 impacts (effects include source specific, industrial specific and generic generation or decay period) is presented for recovering two-third of municipal solid wastes (MSW) in Chennai International Airport industry by recycling and composting processes (Figures- 10 and 11) for sustainable environmental pollution control and public health protection.

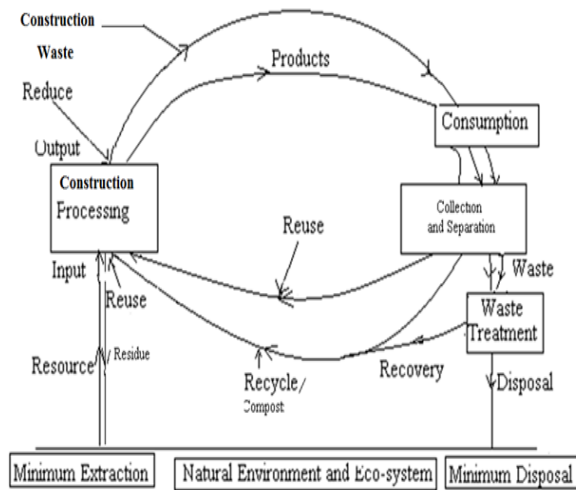


Figure -10 : Closed Loop-Shaped Green Economy for Sustainable Construction Waste Mgt.

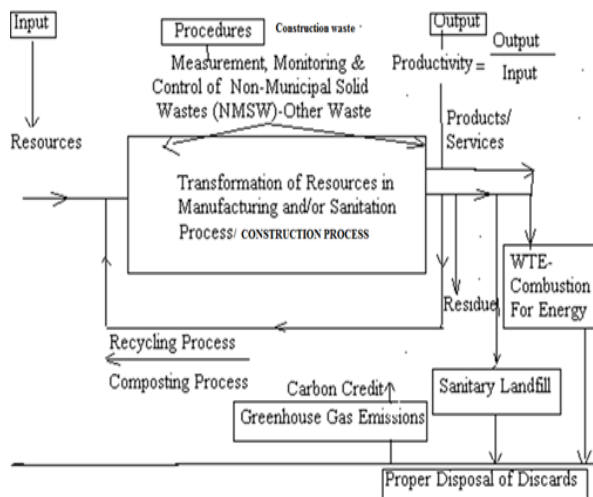


Figure - 11: Sustainable Construction Waste Management System

Vijayan Gurumurthy Iyer (4) deliberates the sustainable economic improvement, natural resources to be utilized at optimum level so as to maximize efficiency as per the result analysis of optimum pharmacological and environmental toxicological competitive and social markets. The efficiency of a kind of sustainable economic system is referred in "A.K" sustainable economic model that is the product of engineering or technical factor level (A) and the capital (K). Vijayan Gurumurthy Iyer (4) deliberates the sustainable economic improvement is explained by three factors which are given below:-

1. The natural increase in the accumulation of labor potential, Capital accumulation or money with which a business is started and run, and 3. Sustainable technological momentum can be referred as total factor productivity (TFP) or efficiency in environmental pollution control and public health protection scientific process. Such momentum keeps the capital development dynamic which

emerges from the sustainable enterprise creation process, green products or services, new methods of production and processes, new environmental pollution control and public health protection system and transportation, new markets and new forms of organization.

Standard Production Function (SPF) is expressed based on operation approach as

$$Y = f(C, L)$$

Where Y=Output, C=Capital, and L=Labor

As knowledge is a crucial factor for the economic growth, Standard Production Function (SPF) is modified based on process approach as

$$Y = A \cdot f(X_1, X_2, X_3, X_4, X_5, X_6)$$

'A' represents Knowledge on sustainable constructional engineering or technical factor,

$$Y = \text{Output,}$$

Input elements are namely, man power, machinery, materials, method, money and market

denoted as X_1, X_2, X_3, X_4, X_5 and X_6 respectively,

f = Standard production function and process.

As per the given standard production function, knowledge is a decisive production variation, sustainable innovation level is required in engineering or technical system. The solution is the development of reformed SEA implemented environmental pollution control and public health protection industries.

Importance For The Conduct Of Environmental Impact Assessment (EIA) and Management Study For The Environmental Pollution Control And Public Health Protection

Historically, the choice of new projects was primarily on one criterion, that is economic viability. Presently, second and third choice criteria that is environmental and social impact have become a strong yardstick, therefore a triple bottom-line approach that is economic, environmental and social factors to environmental pollution control and public health protection project viability. Environmental Impact Assessment (EIA) process is a systematic identification and evaluation of potential effects of proposed projects, plans, programs, plans or legislative actions relative to the medical, toxicological, pharmacy, physical-chemical, medical, anthropological, biological, cultural and socio-economic components of the total environment. The case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site.

Steps to Conduct Environmental Impact Assessment and Management

Step-1: Identification of quantity and quality and sustainability characteristics of concerned environment of proposed project.

Step-2: Preparation of description of existing environmental resource conditions.

Step-3: Procurement of relevant quantity and quality standards.

Step-4: Impact predictions,

Step-5: Assessment of impact significance,

Step-6: Identification and incorporation mitigation measures.

Conduct of Environmental Impact Assessment (EIA) Study For the Efficient Industrial Projects

1. Prediction and assessment of impacts on surface water environment,
2. Prediction and assessment of impacts on soil and ground environment,
3. Prediction and assessment of impacts on the air environment,
4. Prediction and assessment of impacts on the noise environment,
5. Prediction and assessment of impacts on the biological environment,
6. Prediction and assessment of impacts on the visual environment,
7. Prediction and assessment of impacts on socio economic environment.
8. Prediction and assessment of impacts on cultural environment,
9. Prediction and assessment of impacts on Radioactive environment
10. Prediction and assessment of impacts on archaeological environment,
11. Prediction and assessment of impacts on anthropological environment
12. Prediction and assessment of impacts on educational environment
13. Prediction and assessment of impacts on pharmacological environment
14. Prediction and assessment of impacts on toxicological environment
15. Prediction and assessment of impacts on bio-medical environment

Benefits of EIA in Environmental Pollution Control and Public Health Protection

1. Considerable reduction in waste and the depletion of resources.
2. Considerable reduction and / or elimination of the release of pollutants in to the environment.
3. Green design and green building products to minimize their environmental impact in Production, use, and disposal.
4. Control the environmental impacts of sources of raw material.

5. Waste minimization and adverse environmental impact of new developments.

6. Promote environmental awareness among employees and the community.

7. Corona virus biochemical and biological disasters will be controlled Vijayan Gurusurthy Iyer (4).

Environmental Management Programs

The organization shall establish and maintain a program(s) for achieving the environmental objectives and targets. Reference case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. It shall include designation of the responsible function, team, or individual and a time frame for achievement.

1. State the objective / target.
2. State the purpose (how the objective/target will support the policy).
3. Describe how the objective/target will be achieved.
4. State the program (team) leader.
5. Designate departments and individuals responsible for specific tasks.
6. Establish the schedule for completion of the tasks.
7. Establish the program review, which will include format, content, and review schedule.

Conduct of Social Impact Assessment (SIA) Study

Vijayan Gurusurthy Iyer (4) deliberates the Social Impact Assessment (SIA) process that is a systematic identification and evaluation of potential social effects of proposed projects, plans, programs, plans or legislative actions relative to the society. Vijayan Gurusurthy Iyer(3) emphasizes for the purpose of the SIA process which is to bring about a sustainable and equitable biophysical and human environment. SIA process includes the monitoring, measurement and control opportunities including analysis and management of the intended and unintended social consequences whether both positive and negative impacts of planned interventions and any changes takes place in social transformation process invoked by those interventions. The SIA process should include the analysis of the use of land, culture, industrial process, economic development, and their impact on service sectors such as water use, energy use, sanitation and traffic. SIA process is done to ensure that there is no mismatch between the environmental pollution control and public health protection development and socio-cultural and economic development of the project areas.

Sustainable Water and Waste Water Quality Management

Water and waste quality is to be maintained for the sustainable environmental pollution control and

public health protection pharmacological and environmental toxicological scientific site namely, 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site, such that water supply to consumers is safe and hygiene. Relevant water, waste water and industrial waste quality standards in pharmacological and environmental toxicological industries 4.0 are followed [11]. Sustainable sanitation facility in pharmacological and environmental toxicological is also provided. Sanitation impact assessment study has been conducted for sanitation projects and plans. Sewerage system, storm water drainage systems, pharmacological and environmental toxicological waste water treatment system, industrial waste treatment system, sustainable septic tank design are important onsite requirements. Relevant waste water discharge standards are to be followed. Process approach for measurement, monitoring and control opportunities for water, waste water and industrial water waste quantity and quality with specific reference to pharmacological and environmental toxicological industries 4.0, generic 4.0 and source specific 4.0 are followed [12].

RESULTS AND DISCUSSIONS

Safety Science, Engineering and Management In Environmental Pollution Control and Public Health Protection INDUSTRY 4.0 , GENERIC 4.0 AND SOURCE SPECIFIC 4.0

(Safety First)

Safety management is the systematic identification and evaluation of potential safety requirements of proposed projects, plans, programs, plans or legislative actions. The purpose of the safety engineering and management is to bring about design and constructions of environmental pollution control and public health protection engineering structures as per case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. It has been observed that environmental pollution control and public health protection methods and machineries used in India in pharmacological and environmental toxicological are to be obsolete and outdated because they were old which operated on poor performances in terms of productivity, quality, efficiency and safety. Some of the alternative machineries, which are indigenously manufactured, also do not guarantee for the superior performance and necessary safety conditions because of their poor design and materials of construction. It is mandatory that checking for safety requirements with regard to machineries, bridges, roads and buildings. Safety personnel responsible for overseeing the safety of all operating personnel must be cognizant of the latest laws and regulations pertaining to worker safety and occupational health [13]. These are changed and/or updated from time to time. Checking for Safety (CFS) such that to

ensure that the question of safety will not be overlooked, it is well to have all plans, specifications and drawings checked for safety, making special provision for this in each set of specifications and in the title plate of each drawing duly checking periodically for cranes, hoists, ventilation, lifts, tackles, fire protection systems, alarms, buildings, mechanical guarding and electrical and electronic equipment and heavy engineering equipment. Personal protective equipment (PPEs) and materials include garments, clothing, gloves, safety shoes, hard hats, safety glasses, shields, respirators, full aprons, safety belts, and other safety items have to use by an individual [13]. Such equipment is important for personal protection and for safety. It is the manager's and supervisor's responsibility to ensure that they are used. As far as occupational-disease prevention is concerned that those persons engaged in or working near operation are exposed to appreciable quantities of dusts, fumes or gas, it is important that adequate control measures in pharmacological and environmental toxicological industries must be adopted. Some major considerations involved in the application of effective control to industrial occupational disease are given. Some of the policies, practices, and procedures to prevent exposure of personnel to unsafe materials are also provided. As far as the worker's compensation law is concerned, it must be enacted strictly in our country. The principle involved is that the worker injured or disabled in environmental pollution control and public health protection systems and industries should be enabled, through proper medical treatment, to return to wage-earning capacity as promptly as possible and while incapacitated, should receive compensation in lieu of wages, and regardless of fault. The expense of medical treatment and compensation should properly be borne by industry and become a part of the cost of its products. The laws generally provide that workers injured in industry shall be furnished the necessary medical treatment, and, in addition, compensation based on a percentage of their weekly wages, payable periodically.

Dependents of employees kill in industry are likewise compensated. Occupational diseases law provides provisions for compensation benefits in occupational – disease case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. The enactment of worker's compensation laws and occupational disease law shall increase materially the cost of insurance to industry. The increased cost and the certainty with which it is applied will put a premium on accident-prevention work. This cost can be materially reduced by the installation of safety devices in pharmacological and environmental toxicological industries 4.0 [13]. Vijayan Iyer Gurusurthy (14) emphasizes that as per the research

experience that show approximately 80% of all the accidents occur in Industry 4.0, Generic 4.0 and Source specific 4.0 are preventable. As far as the fire loss prevention is concerned, which is an indispensable element in environmental pollution control and public health protection scientific industry 4.0 impacts (effects include source specific, industrial specific and generic generation or decay period). It exists only with top management direction and the support of labor. The designation fire protection usually encompasses the entire field of prevention of loss by fire, including both the causes for the occurrence of fires and methods for minimizing their consequence. Some of the fire standards of protection to prevent injury and loss of life are given in this paper.

Fire protection engineering practices both in building design and in safe operating practices are also included. Business, economics, management and eco-tourism scientific noise safety is concerned 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site, noise is recognized as a pollutant, both as a nuisance and as the cause of hearing impairment. There is evidence in environmental pollution control and public health protection pharmacological and environmental toxicological sites that noise cause ailment such as hearing impairment, physiological and psychological disorders including anxiety and heart disorders. Protection from noise is required when sound levels exceed those standards. When protective equipment is required, it must be provided by a trained person and periodic checks made of the effectiveness and efficiency.

Total Quality and Sustainability Management (TQM)

Total Quality and sustainability Management (TQM) can be broadly defined as a set of systematic activities carried by an institution to efficiently achieve institutional objectives that satisfies beneficiaries at the appropriate time and price. The definition of quality is “The totality of features and characteristics of products or services that bear on its ability, efficacy and values to satisfy a given or implied need”. TQM is a comprehensive and structured approach to an environmental pollution control and public health protection educational integrated management that seeks to improve the quality of educational services through ongoing refinements in response to continuous feedback. Vijayan Iyer Gurumurthy (14) deliberates the standard definition of quality and sustainability are applicable commonly to both products and services that are stated and unstated. TQM has an important role to play in addressing quality and sustainability issues surrounding the pharmacological and environmental toxicological constructional

development. TQM is a comprehensive and structured approach to environmental pollution control and public health protection that seeks to improve the quality of services through ongoing refinements in response to continuous feedback. TQM leads to sustainable environmental pollution control and public health protection in pharmacological and environmental toxicological industries. Vijayan Gurumurthy Iyer (14) remodifies International Organization for Standardization’s ISO 9000 series define Total quality and sustainability (TQM) as a management approach centered on quality and sustainability , based on the participation of all its members and aiming at long term success through customer satisfaction and benefits to all members of the organization and society. Hence TQM is based on quality and sustainability management from the customer’s point of view. TQM processes are divided into four sequential categories: plan, do, check, and act (Figure-12). This is also called the PDCA cycle or Deming’s cycle for continuous process improvement. In the *planning* phase, constructionists define the problem to be addressed, collect relevant data, and ascertain the problem’s root cause; in the *doing* phase, constructionists develop and implement a solution, and decide upon a measurement to gauge its effectiveness and efficiency ; in the *checking* phase, constructionists confirm the result through before-and-after data comparison; in the *acting* phase, constructionists document their results , inform others about process changes, and make recommendations for the problem to be addresses in the next PDCA cycle. ISO 9000 series focus on quality management for all sorts of organizations. It defines the features of quality and sustainability management system (QMS) that need to be in place to ensure that identify and focus on improving the areas where they have significant pollution control and public health protection deficiencies as per case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site.

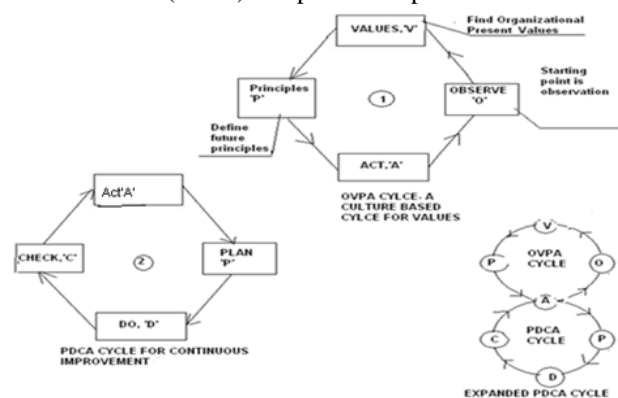


Figure- 12: Conceptualization of Culture Based Environmental and Quality Management entitled "OVPA" Cycle By Incorporating the Expanded PDCA Cycle for Indian Construction Industries towards Sustainable Construction Management

The ISO 14000 Environmental Management System (EMS) standards apply to the management system to manage an organization’s environmental and sustainability issues and opportunities. It defines the features of an EMS that need to be in place to ensure that the organization identifies and focuses on improving areas where they have significant environmental impacts. Vijayan Gurumurthy Iyer (4) integrates ISO 9000 Quality Management System (QMS) standards, ISO 14000 EMS and ISO 18000 in order to achieve excellence in quality as well as environmental obligations in the process of coronavirus impact assessment (CIA) and midget electrode project. The overall aim of the EMS is to provide protection to the environment and to prevent pollution to manufacture eco-friendly products and services.

The ISO 14000 series of standards assist the organizations to excel environmental and economic gains for continuously improving organizational performances. They are used for prevention of pollution, reduction in wastes, enhancement of internal management system efficiency, optimum utilization of resources and compliances for legal and regulatory requirements. EMS can be basically divided into five events which form the sequence of a cycle (Figure 13) . These five events pharmacological and environmental toxicological industry 4.0 are (1) Environmental Policy , (2) Environmental Planning , (3) Environmental implementation and operations, (4) Checking and corrective actions, and (5) Management Review. The ISO 14000 series of standards have also been designed to cover the areas of environmental issues and opportunities for the organizations to compete the global customer centric markets so that the products and services can be manufactured at par with the international requirements.

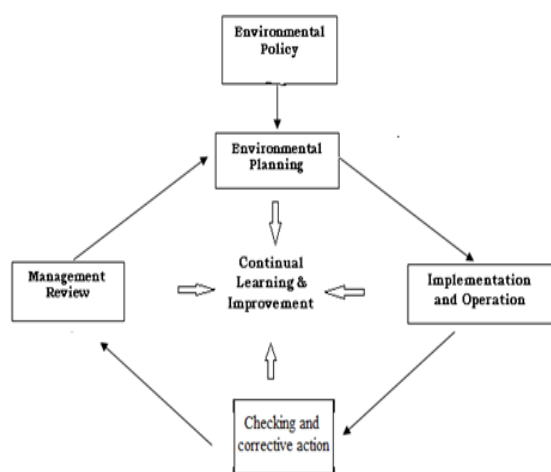


Figure - 13; Environmental Management System

EMS focuses on key drives of performance excellence in products and processes as well as

organizations that are focused on delivering values to the customers, internal operational processes, and to staff’s learning for an efficient environmental pollution control and public health protection. It may be mentioned that Occupational Health and Safety , Environment and Quality Management (EQM) are managerial process approach centered on environment and quality through beneficiary satisfaction in pharmacological and toxicological scientific industries that lead to economic improvement and sustainability (Vijayan Gurumurthy Iyer, 2016). Hence, this quality and sustainability system approach to the environmental and occupation health and safety management shall achieve excellence in the overall performances of the pharmacological and toxicological organizations as per the case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site.

CONCLUSION AND RECOMMENDATIONS

Pharmacological and toxicological environmental impact assessment are presented in this article with a help of case study and check of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. The objectives of the study and check: (i) Prediction and assessment of impacts on pharmacological environment , and (ii) Prediction and assessment of impacts on toxicological environment. The sustainable pharmacology is the study and check of the action of medicinal drugs on science and humanities considering environment and sustainability factors. The sustainable environmental toxicology is the study and check of poisons on science and humanities considering environment and sustainability factors. The significance of the work is partially confirmatory and partially novel.

The purpose of the study and check is to sustainable environmental pollution control and public health protection. Considering wide gap in pharmaceutical and environmental toxicological skills and knowledge in industry 4.0, generic 4.0 and source specific 4.0, the study is attempted to cover the strategic environmental assessment (SEA) process towards sustainable pharmacological and toxicological management development to achieve business excellence. The limitation and sustainable restriction of the study is proposal for environmental health impact assessment (EHIA) process. Vijayan Gurumurthy Iyer (4) aims the SEA process in order to incorporate environmental and sustainability factors in to environmental pollution control and public health protection process planning and decision-making process in pharmacological and toxicological industries such as waste minimization project formulation and appraisal of 1984 methyl isocyanate poisoning Union Carbide India Limited

(UCIL) Bhopal Indian plant site , toxicological CCLC cotton roller ginning, eco-friendly color seed-cotton processing , allied study and check of the action of unsustainable medicinal drugs for byssinosis cum coronavirus infection diseases among gin mill workers, naturally pigmented color cotton breeding science, eco-friendly sustainable seed-cotton processing industries, coronavirus impact assessment , byssinosis impact assessment , Indo-Matsushita midget electrode (battery carbon rod) plant in 1979 at Tada, sustainable bridge, road and sanitation structures, green building, IGCAR Kalpakkam TamilNadu Chennai Nuclear power plant, Quinson Chinese Nuclear Power Corporation, cotton textile industries 4.0 and concrete batching plants that included projects, polices, programs, plans and legislative actions.

The primary purpose of the SEA process is to encourage the consideration of the environment, safety, health, social and sustainability factors and to arrive at actions that are compatible. Environmental health impact (EHIA) process should be considered as an official tool to protect the environmental health. Sanitation impact assessment has been investigated for the sustainable environmental pollution control and public health protection and sustainable sanitary projects and plans. EIA process is a multidisciplinary approach that must be necessary in providing a prevention mechanism for environmental management and protection in any environmental pollution control and public health protection development. EIA process is designed to identify and predict the potential effects of the bio-medical, pharmacological, toxicological physical, biological, ecological, socio-economic, cultural environment, radio-active environment, anthropological environment and on human health and well-being are adequately protected [14].

Vijayan Gurumurthy Iyer (4) reiterates on specific industrial , generic and source specific pharmacological and environmental toxicological pollution control and public health protection system that should include the integrated consideration of technical or engineering, economic, environmental, safety, health, social and sustainability factors to achieve environmental pollution control and public health protection excellence. Vijayan Gurumurthy Iyer (14) emphasizes the SEA process protocol for studying and checking the quality and sustainability of environmental and social assessment and management plans. SEA treaty and official Government procedures helpful for making much earlier in the decision-making process than EIA process in pharmacological and environmental toxicological industries such as 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. Therefore, it is key

tool for sustainable pharmacological and environmental toxicological development. SEA aims to incorporate environmental and sustainability considerations in to strategic decision- making processes, to formulate policies, plans, and programs and legislative actions. Prior to the National Environmental Policy Act (NEPA) process in 1970 in the USA, technical and economic factors dominance the World's pharmacological and environmental toxicological pollution control and public health protection projects. The objective of the study and check is to conceptualize SEA process for the environmental pollution control and public health protection in context to pharmacological and environmental toxicological industries based on fifteen number of sustainable detailed project reports submitted by the extension learners of Diploma in Entrepreneurship and Business Management course conducted by the Entrepreneurship Development Institute of India during the research year 1999 to 2020 under the author's counselling. The ISO 14000 Environmental Management System standards apply to the management system concepts of total quality and sustainability management to an organization's environmental sustainability issues and opportunities for continuous improvement process . It defines the features of an EMS that need to be in place to ensure that organizations identify and focus on improving areas where they have significant environmental impacts (effects) . EMS focuses on key drives of performance excellence in products and processes as well as organizations that are focused on delivering values to the customers, internal operational processes, and to staff's learning. Hence, this system approach to the environmental and sustainability pharmacological management shall achieve excellence in the overall organizational performance.

Environmental pollution control and public health protection engineering pharmacological and toxicological product –hybrid life cycle analysis has been conducted for identifying and measuring the impacts (effects) of industrial products on the environment and sustain efficacy by means of mass and energy balance methods. LCA considers the activities related to raw materials, transformation, ancillary materials, equipment, methods, market, production, use, disposal and ancillary equipment. As far as the environmental pollution control and public health protection system safety is concerned, personal protective equipment (PPE) and materials that include garments, clothing, gloves, safety shoes, hard hats, safety glasses, shields, respirators, full aprons, safety belts, and other safety items have to use by an individual. Such equipment is important for personal protection and for safety. It is the manager's and supervisor's responsibility to ensure that they are used. The enactment of worker's compensation laws

and occupational disease law shall increase materially the cost of insurance to industry such as 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. The increased cost and the certainty with which it is applied will put a premium on accident-prevention work. This cost can be materially reduced by the installation of safety devices. The environmental pollution control and public health protection research experience has shown that approximately 80% of all the allied pharmacological and toxicological industrial accidents are preventable for sustainable development. It is concluded that quality and sustainability management is process approach centered on environment and quality through beneficiary satisfaction that leads to sustainable economic improvement and sustainability based on the triple bottom-line approach.

TQM has an important role to play in addressing quality issues surrounding the sustainable environmental pollution control and public health protection and development. Sustainable water and waste water management in pharmacological and toxicological industry 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site have been characterized and assessed. EIA and EHIA processes have been conducted for a Chinese nuclear power plant Industry 4.0 impacts (effects include source specific, industrial specific and generic generation or decay period) at Quinson, China to consider the safety and health impacts in radioactive environment to mitigate psychological health loadings on environmental pollution control and public health protection and on workers and nearby residents. SEA system is a potentially useful element of good environmental management and sustainable development; however, as currently practiced in environmental pollution control and public health protection Industry 4.0, Generic 4.0 and Source specific 4.0, it is far from perfection example 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. Emphasis should be given in environmental pollution control and public health protection on maintaining enviro-economic viability of the operation, while in turn taking care to preserve the economical, ecological and social sustainability of the country.

International EIA process may be required multi-disciplinary process approach that has been conducted very early stage of Indo-Matsushita carbon rod Industry 3.0 impacts (effects include source specific, industrial specific and generic generation or decay period) in 1982 at Tada for economic, environmental and social viabilities. It is concluded that the protocol governing affairs of Local, State, Federal System for Strategic environmental

assessment (SEA) process has been proposed for studying and checking the quantity, quality and sustainability of environmental health, coronavirus impacts (effects), biochemical disaster mitigation and social impact assessment and management plans of 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site. SEA treaty and official Government procedures are helpful for making much earlier in the plan and decision-making process than EHIA/EIA/CIA processes. Therefore, it is key tool for sustainable pharmacological and environmental toxicological development. SEA aims to incorporate environment and sustainability considerations in to strategic plan decision-making processes, and to formulate sustainable projects, policies, plans, programs [14]. Vijayan Gurumurthy Iyer (4) of the SEA research that shows approximately 80% of all the Coronavirus and byssinosis biochemical epidemic and pandemic disasters and accidents are preventable that including 1984 methyl isocyanate poisoning Union Carbide India Limited (UCIL) Bhopal Indian plant site

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