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Environmental Sustainability Planning for Agricultural Implements

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Abstract

The Review of Literature has been explored from the year1994 to present and various observations have been discussed to justify the present study**.** Estimates in 1986 suggested that roughly one half of the increased agricultural production in the prior 36 years had originated from irrigated acreage, approximately one third of the world's plants have been developed on the one-sixth of the cropped location that had been irrigated, and also the irrigated acreage was, on average, much more than two times as effective as rain-fed ground. Prudent decision making involves a factor of prospective climate change scenarios on long-range choices about environmental impact as well as water consumption.

Key words: Sustainability, Agricultural, Environmental, impact

1. Introduction

Hence agricultural machinery and implements started growing in demand and manufacturing started taking place. It went on increasing and still increasing .This further led to influencing environmental pollution in reverse way. This research aims to explore the present impact of agriculture implements manufacturing sectors with its effects on pollution and analyze the means and various steps to reduce the same. Agricultural Implements manufacturing industries use raw material from the Iron and steel industry to produces agricultural machinery products. If we explore the research done in past, a majority of work has been taken on iron and steel industry regarding the environment. These industries are adversely affecting the environment in manufacturing process. This research has tried to add the link that the agricultural manufacturing industry is taking the raw material from iron and steel industry while the iron and steel iv industry is affecting the environment in the process of production. For this reason research has also analyzed the relevant reference (objective wise) of manufacturing industries industry in literature. This study covers total of 80 industries out of which 44 (55%) are from Haryana state, 31 (38.8%) is from Punjab and rest 5 (6.3%) are from NCR region. Haryana and Punjab are two major states where agriculture activities are higher. As such majorly agriculture product manufacturing industries are concentrated here. In recent times NCR has witnessed a major pollution problem from the agriculture in Haryana and Punjab. The reuse of crops (Parali) becomes impossible to remove from the field for sowing new crops. There is no machinery or implements to remove them .The farmers are burning it in the field itself, creating huge pollution in the NCR region. On the basis Literature survey identified the research gap and the thesis proposed the current scenario of agricultural implements manufacturing. An evaluation of the current status of Agricultural Implements manufacturing industries w.r.t their emission of pollutants and their level of significance have been analyzed including EMP plan for industries and government.

2. Review of Literature

Stockle offered an evaluation of the watering effects on the planet. Irrigated lands add substantially to the earth's farming results as well as food resources. Estimates in 1986 suggested that roughly one half of the increased agricultural production in the prior 36years had originated from irrigated acreage, approximately one third of the world'splantshavebeendevelopedontheone-sixthofthecroppedlocationthat had been irrigated, and also the irrigated acreage was, on average, much more than two times as effective as rain-fed ground. **Matson P. A.** studies the field of intensification in agriculture using the high- yield varieties of crops, mechanization irrigation pesticides and chemical fertilizers under theeraof"Green revolution"whichhasproven to bethereasonofremarkableincreasein productions ofgrains in thecountries that are at developing stagesincelast fewyears.**Gunningham, N., & Sinclair, D.** this paper shows that there are potentially considerable dividends in using an environmental management system as a regulatory flexibility tool, in terms of efficient regulatory resource use, greater flexibility and cost savings for individual organizations, and better environmental outcomes. **Weber, W. L., &Domazlicky, B.** this particular paper describes the directional result distance functionality is utilized to create a Malmquist Luenberger list of complete component efficiency development for producing when both bad and good outputs are collectively created. The list is built using infoon bad and good papernumbersas well as input quantities, circumventing the issue of recouping shadow cost info for the undesirable output required for the Tornqvist or Fisher variety of efficiency indices. **Sigrimis, N. et** this research work determine that the agricultural field is quickly being converted into a significant industry that has got to depend intensely on computer integrated managing as well as control methods. The technologies are also important for coming generation of animals and plants. **Guccione, G., &Schifani, G.** discussed environmental impacts, agricultural mechanization,andtechnologicalinnovation.Thestudydealswithmechanizationaspects by analyzing 2 conservative methods, minimum tillage and sod seeding that are a good innovation example as well as ecofriendly. **Cox, S.** the study tells us about the growth of technology that helps to improve the livestock and crop production, welfare of livestock and people, environmental considerations and product quality. The content of this particular analysis provides proof ofthepotentialorexploitationofITaswellasagriculture'sprecisionpromotioninthebroadest sense. Additionally, it states that imagination along with skill improves the technology for the rural environment along with production of food. **Tilman, D.et** the objective of sustainable farming is actually maximizing the net advantages which modern societygetsfrom agriculturalproductionofdiet andmeals and with environmental services. This can call for improved crop yields, higher effectiveness of nitrogen, phosphorus as well as water consumption, ecologically grounded management methods, judicious use of antibiotics and pesticides, and significant alterations in certain livestock production methods. **Biondi, V. et** in order to achieve sustainability of an environment, managerial innovation as well as technology are seen in this study. **Horrigan, L. et al.** from the research on How Sustainable Agriculture Can Address the Human and Environmental Health Harms of Industrial Agriculture via his investigation determined that Hunger, as well as food insecurity, arepresently difficulties not of source scarcity but of inadequate political will or maybe moral imperative to alter the way foods are allotted Pinstripe Anderson et al. have believed that the growing community by itself is creating food that is enough to offer everyone with > 2,500 calories/day. **Rusinko, C.** this research work represents the relation among competitive results along with manufacturing policies based on environmentally sustainable based on industry. **Aryeetey, E.** the majority of the yellow (around 97%) is generated by contemporary, large scale mines 4. These mines, much like many other contemporary mines on the planet, are capital comprehensive, extremely mechanized activities. **Pretty, J.** this particular paper implies that despite excellent improvement in agricultural efficiency of the past half-century, with crop as well as livestock efficiency clearly pushed by increased utilization of fertilizers, irrigation water, agricultural machinery, land, and pesticides, it will be over-optimistic to believe that the interactions willcontinuetobelinearintheforthcoming. **Khalequzzaman, K. M., & Karim, M. A.** this research paper deals withagricultural mechanization as well as its environmental impacts. **Arapatsakos, C. I., &Gemtos, T. A.** talked about the emission of gas from the engines of the tractors used for agriculture purposes, stating that

NO_X, CO, HC are the gasses that are emitted from the tractors used in farms having engines running on diesel. **Wiktorsson, M.et** reviewed regarding a necessity for green sustainability and a worldwide improving production, operate a gigantic demand for technologies as well as tactics that will lessen CO_2emissions internationally. **Juostas, A., &Janulevicius, A.** talked about the quality of working the tractorshave as per its harmful impacts on our environment. **Nelson, G. C. et** explored on India's agriculture greenhouse gas mitigation. **Killebrew, K., & Wolff, H.** people obtain several benefits from Environmental Impacts of Agricultural Technologies Ecosystem services like provisioning of nutrient cycling, energy, biodiversity, fiber, feed, food, freshwater. **Merkisz et al.** talked about the machinery used in agriculture purposes and the emissions exhausted by them under the conditions of real-operations.The authors concluded their research by testing a confirmed usage of the vehicles which are not on road but exhausts higher emissions by testing them. **Rusko, M., & Procházková, D** the paper shows that earth is actually among the fundamental public assets associated with the human system, and this should be thus especially secure. **Garetti, M., &Taisch, M.** this particular paper concludes that Sustainability is actually and can be an important problem for the future and present generations. **Baby, S.** this research paper verifies the development of EMP "Environmental Management Plan" at EIA "Environmental Impact Assessment" analysis performed for the construction of roads as well as upgrades the development in "Kuwait". This study provides an outline to develop EMP as well as its components which must be added in this plan. There are 4 major EMP components: (a) EMP Implementation Program (b) Recommendations, (c)Monitoring Program (d) Mitigation Program.**Tonelli, F. et** this particular paper signifies to contribute to dealing with academic research development and upcoming manufacturing activities. **Morelli,J.** has provided the improvement of an AHP based design for renewable production methods analysis in electric board industries. The unit was created using Analytic Hierarchy Process (AHP) strategy. **Aragón, F. M., &Rud, J. P.** the conclusion of this research paper tells us that in agricultural fields, mechanical activities occur highly, but environmental policy must countheproductioneffectsonlocalincomealongwithagriculturefields.**Banawi, A.** the usage is exhibited by work as well as benefit of any novel methodof building analysis, merging tri distinct methods in one frequent program and also working with the process in an untapped segment to enhance the environmental functionality of the building tasks throughout & before the building stage. **Li Y. et al.** a vital part of improving agricultural production and also protectingfood protection of China during the final 6 years have been resulted by fertilizer. **Ashfaq, A., &Khatoon, A**. their research dealt with different methods used by the textile industries and additionally talks about the management of wastewater and usage patterns of water of the textile manufacturing companies. **Stuchly, V., &Jasiulewicz-Kaczmarek, M.** this particular paper shows that talking aboutrenewablemanufacturingcallsforsignificantgrowingassortmentofevaluationand concentrating on supporting procedures. **Kumar,Ashok** the study mainly focus to sustain the environmental pollution generated by chemical industries. **Mazur-Wierzbicka, E.** this paper shows that (CSR) may be used in agriculture because it is a sustainable development tool. A relation between Common Agricultural PolicyandCSRisshowninthisstudy.**Zou, X. et al.** discussed the Greenhouse gasses emitting due to the irrigation in agricultural lands of China. **Ghandehariun, A. et** provided the feedback of his on Sustainable production and the software within machining procedures.**Sharma, S. et al.** this study explained that as per the "World Business Council for Sustainable Development" known as the CSR is termed as a continuous commitment for behaving in ethical manner and contributing in economic growth by enhancing the life quality in a workforce as well as also for the families of a society or a local communityon a large scale. **Behera, B. & Reddy, V. R.** This particular paper tries to learn the environmental effect of water contamination on countryside towns in standard and on agricultural production, man health and fitness, and livestock particularly. **Patil, K. B &Salkar, V. D**. this paper shows that textile effluent is categorized on the basis of residual dye, mineral oils, suspended solids, high COD and BOD loads. Further,duetostackemissionsintoatmosphere,airgetspolluted.**Benke,Kurt& Tomkins, B.** determine that Solutions for enhancing potential food output are exemplified by urbanized vertical agriculture and that requires significantly higher utilization of automation and technologies for land-use optimization. **Thakur, S. B.**

&Uprety,B. K. discussed the effects ofvarious irrigation systems on the environment. **Paivaet** presented detailed research on the part the bio-gas material plays on building materials owing to the changes occurring in the environment, in this report it is presented the potentiality of the bio-based building materials to mitigate climate change. **Bai et** the impact of using agricultural machines on air quality: combine harvesters. Low air quality is one of the serious problems associated with several environmental impacts over human health and ecosystem. **Adhikari, S., &Ozarska, B.** presented research on reducing the impacts on environmentbecauseoftheprocessofproductionoftimberproducts"FromSawmilltoFinal Products" concluding that the primary causes of impacts on the environmentusually takes place in the whole chain from supplying of wood to saw-mills producingthe final products. **Zhang, L. et** made use of methods based on info metric-theory like, co-words analysis, document clustering, document cocitation analysis, through a network of co- occurrence of subject terms. **Montt, G. et** this paper argues that economic activity and work cannot be understood independently from the natural environment in which they takeplace. **Ibrahim, Y. M. et** the current study provides a conceptual context that investigates the moderating SMA impact on relation among SMPs along with SP. **Cai, W. et** This study gives a new concept of LESER (Lean Energy-Saving and EmissionReduction)aswellasatechnique forenhancingreduce waste emissionsaswell as efficiency of energy. **Goni, F.A. et** the main objective of thisstudy isto outline the analysis, describe literature as well as focus on environmental sustainability from previous research work. There are 3 main categories of sustainability development.

3. References

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