

Why is Environmental Health So Significant?

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1. Abstract

This paper examines the importance of environmental health from the perspective of both natural health and human health and how we can reduce the detrimental aftermaths of chemicals, pesticides and certain occupations on them. Indiscriminate use of chemicals and pesticides and the impacts of certain occupations have been depicted with references from relevant books, articles and so on. In fact, environmental health is the branch of public health and it is extremely important to properly maintain the health of nature and human for the proper functioning of the whole planet and for sustainable development. Unfortunately, many are not aware of the significance of environmental health and they damage it through the haphazard use of chemicals and pesticides. On the other hand, human health is called the locomotive of human body and again, we are unknowingly undergoing the harsh effects of certain occupations that are utterly avoidable if we become a little bit precautious. It is mentionable that this paper has considered only chemicals and pesticides regarding natural health among several other contaminants of our natural environment. Based on the arguments and conclusions of various books and research articles, it is argued that indiscriminate use of chemicals and pesticides are extremely harmful to both natural and human health and they may destroy the normal chains of our environment and cause several fatal diseases for human beings. Again, Callings like Weavers, Coopers and Rope Makers have serious human cost of health and consequently, we suffer from various diseases in the long run. This paper also suggests some ways and means by which we can decrease the negative impacts of chemicals, pesticides and some occupations to some extent. The paper concludes by suggesting that everybody must not use chemicals and pesticides unnecessarily and there should be strict rules and regulations to restrict their use and natural substitutes could also

be used. On top of that, negative impacts of certain occupations should not be neglected and a few thoughtful initiatives can reduce the harmful impacts.

What would happen when the apple trees were coming into bloom but no bees buzzed among the flowers, so there was no insemination and there would be no fruit and if the spring were without voices i.e., no robins, catbirds, doves, jays, wrens sing. Such is the significance of maintaining the health of our environment. According to WHO [10], "Environmental health is the branch of public health concerned with all aspects of the natural and built environment affecting human health." There are five basic disciplines contributing to the field of environmental health e.g., environmental epidemiology, toxicology, exposure science, environmental engineering, and environmental law. Since it is a vast topic, the main purpose of this paper is to depict the detrimental effects of chemicals, insecticides and certain occupations on human health and natural environment. People should be aware of the indiscriminate use of chemicals and pesticides and the impacts of certain occupations on natural health and human health and find ways out to theoretically bring down their negative impacts.

Among all the aggressions of man on the environment, the most minacious is the adulteration of air, water, earth, rivers and sea with dangerous and even life-threatening materials i.e. chemicals and pesticides. This contamination is mostly irreparable since it has initiated an evil circle not only in the world but also in the living tissues. In her famous environmental science book *Silent Spring*, Rachel Carson delineates chemicals that are sprayed on the cultivated lands, woods, gardens, lawns and so on remain forever in the soil and destroy its organic capacity, penetrate the crops grown there; thus find their way into human bones and organs and stagnate there in a chain of poisoning and death. During rainy season, these chem-

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icals are washed away going along with the streams, rivers, seas and even oceans. Making things worse, Carson's., (1962)[1, 2] argued that they flow inexplicably by underground water sources and when emerged, they bring about extensive losses to vegetation, livestock and those that drink water from once pure wells. The chemicals to which life is asked to make its adjustment are no longer merely calcium, copper, and silica; rather they are the manufactured creations of man's ingenuous mind that are infused in the laboratories. (p. 87). One might argue that we all know the harmful effects of chemicals but we have no alternatives and to meet the increasing demands of rising population, we must use them. Actually, there are alternatives e.g., instead of organochlorine pesticides such as DDT, we can use organophosphates such as chlorpyrifos, diazinon that degrade naturally in the environment and are non-persistent. Therefore, Albert Schweitzer has said, "Man can hardly recognize the devil of his own creation."

Nowadays, Chemicals and pesticides have immense human health effects not only to those who are directly exposed to them on a regular basis e.g. farmers but also to those having no option but eat the adulterated food. Apart from farmers, being the most vulnerable victims of the spraying of chemicals and insecticides, the foods adulterated by chemicals and insecticides when entering the body can cause kidney failure, heart diseases, rise in blood pressure and so on. Thousands of people suffer from various diseases for the sake of food adulteration and suffer from various diseases. Even food adulteration can reduce life-span of people to a large extent. Many of the pesticides have been associated with health and environmental issues, and the agricultural use of certain pesticides has been abandoned. Exposure to pesticides can be through contact with the skin, ingestion, or inhalation. The type of pesticide, the duration and route of exposure, and the individual health status (e.g., nutritional deficiencies and healthy/damaged skin) are determining factors in the possible health outcome. The numerous negative health effects that have been associated with chemical pesticides include, among other effects, dermatological, gastrointestinal, neurological, carcinogenic, respiratory, reproductive, and endocrine effects. Furthermore, high occupational, accidental, or intentional exposure to pesticides can result in hospitalization and death (Nicolopoulou-Stamati, P., Maipas, S., Kotampasi, C., Stamatis, P., & Hens, L.,2016) [5]. Occupational health is such an issue that is very often overlooked by us considering the fact that occupations are mainly associated with bread and butter; however, certain occupations pose direct threat to our health, bringing in several fatal diseases, curtailing our lifespan, reducing the activation of various organs and so forth. In 1931, [8] Thackrah's pioneering work, 'The effects of the Principal Arts, Traders and professions and of Civic States and Habits of Living on Health and Longevity...' enlists 149 multifarious professions that have directly or indirectly negative effects on human health e.g., the bad posture of such workers as Pavers, Weavers, Coopers and Rope Makers leads to deformities, gout, liver disease, apoplexy, and death.

Cleanliness is considered unnecessary in labour-intensive factories such as garments and leather industry and it destines for diseases like Asthma and Pulmonary diseases. Even though we are not always privileged to choose our own likable profession and rather we are very often forced to do a certain job, we must not forget the negative impacts of that job on one's health and mind. Energy efficiency and space constraints have led us newer structures of our office buildings. Modern homes and offices are much better insulated than before 1960s. Improved insulation has been accompanied with changes of the indoor air quality (IAQ), caused by the greater use of synthetic building materials (D'Amato et al., 1994) [3]. Trumann, A. et al. 2014 asserts "They have provided an environment in which much more airborne contaminants are produced and may build up to substantially higher concentrations than are typically encountered outside". The air of the offices situated in the tight buildings is often too dry and with specific smell particularly if the new finishing materials are used (Tint et al., 2011; Traumann et al., 2012) [7, 9]. The specific health complaints connected with the new construction styles are nominated as Sick Building Syndrome (SBS) symptoms. The SBS is characterized by the following: eye, nose and throat irritation; a sensation of dry mucous membranes and skin; erythema (skin redness); mental fatigue; headache; a high frequency of airway infections and cough; hoarseness; wheezing, itching and non-specific hypersensitivity; nausea and dizziness (Traumann, A. et al. 2014) [9]. Even though it is not possible to reduce the harmful effects of insecticides, pesticides and certain occupations on human health to zero percent, we can certainly decrease the extent of harm by taking the following measures. very often we can kill certain insects naturally as Rachel Carson tells us in Silent Spring, the excretion of marigolds was used to kill the soil nematodes in the Netherlands. Selective Spraying can be used as a sound ecological method for the vegetation programs of farms, forests and ranges; not annihilating all in a living community. Artificially introduced diseases, sterilizers, and predators could be the alternatives of chemicals. In regard to occupational health, diet, posture, exercise in the open air, cleanliness, muscular exercise, ventilation, general safety and temperature and humidity in the workplace should be taken into consideration. Thackrah's suggestions are important here e.g. the dust might be removed by a current of air under the floor, the ill effects of noisy occupations can be diminished by putting cotton wool in the ear passages and so on. Above all, being conscious of the probable harmful effects is very significant.

There is an Italian proverb, "Better no law than laws not enforced." and Japan could be the best example in this regard. The maximum residue limit of agricultural chemical has been fixed for each crop and the Standards for Agricultural Chemical Use has been established by the Ministers of Agriculture, Forestry and Fisheries, and the Environment, on the basis of the Agricultural Chemicals Regulation Law, thus users of agricultural chemicals are legally obliged to comply with these standards. Now, someone can say that to control

the usage of chemicals and pesticides, forcing by law is not effective. However, greed is in the instinct of human beings and legal bindings as well as fear of punishment can play a vital role in controlling their usage.

We take an example in which the maximum residue level of an agricultural chemical A in crop B is set at 1 ppm. Assuming that when agricultural chemical A is applied to crop B, and that the maximum residue level in crop B decreases as shown in Fig. 8, the residue of 2 ppm immediately after spraying drops to 0.5 ppm 7 days later. Thus, the last acceptable spray day can be set as “up to 7 days prior to the harvest”. The residue on crop B cannot exceed the standard values if the users apply agricultural chemical A observing this usage period (Food and Agricultural Materials Inspection Centre, compliance with the usage). Apart from law, coordination among various departments of the government is also challenging since environmental health and human health are inextricably related to one another and require various levels of intervention. In Bangladesh, Food Adulteration is related to 15 different ministries and that is why, regulation of the Food Safety Act, 2013 has not yet been formulated even after eight years of the enforcement of law. Lack of proper harmonization results in delay of govt. initiatives and deteriorates human and environmental health. Moreover, our marginal

farmers are not educated enough to realize the over-use of pesticides and chemicals in their crops. Therefore, mass awareness-raising programs can be initiated at the sub-national level of the government. Agricultural and health officials of a particular locality can play a vital role regarding building up consciousness among the producers, businessmen and consumers. Workshops and seminars need to be organized on a regular basis focusing on the injurious effects of chemicals and pesticides. At the same time, working environment must be given importance in that a congenial atmosphere increases productivity. Research shows that a happy workplace results in a 12% spike in employee productivity. Conversely, the same study revealed that unhappy workers are 10% less productive than workers reporting average levels of workplace satisfaction. In fact, 56% of workers ranked a strong workplace culture as more important than salary (Office Partners on Pearls website, 2020) [6]. Sustainable development is the buzzword of the day and to ensure a better environment of our future generation, we must be aware of the formidable influences of chemicals and pesticides as well as the negative impacts of some professions. People should bear in mind that earning bread and better by hook or by crook does not mean destroying our health negligently. Finally, human health and environmental health should be given utmost importance and we cannot deny their necessity.

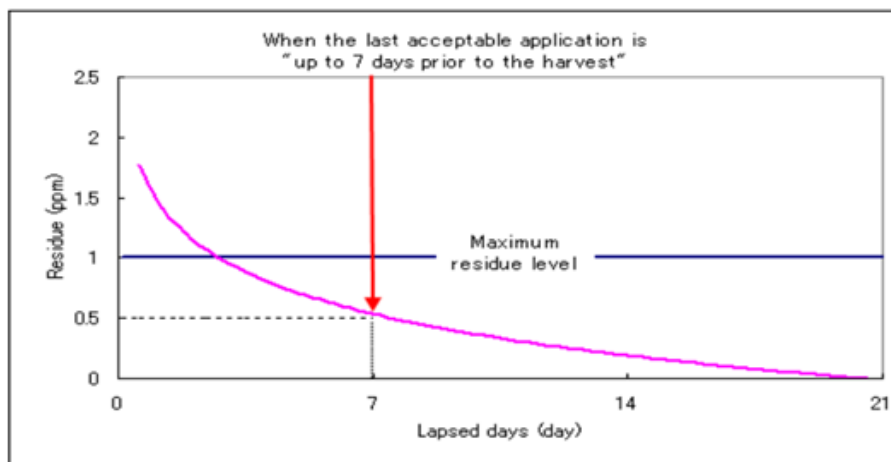


Figure 1: Food and Agricultural Materials Inspection Centre of Japan

2. Conclusion

In conclusion, Rachel Carson has rightly said in *Silent Spring*, “No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world. the people had done it to themselves.” So, we must be cautious of the use of chemicals and pesticides in our environment and come up with more natural substitutes for them so that human health in particular and nature in general can be least affected by them. Side by side, occupational health should be given due importance and at the same time, our workplaces should

be built in a healthier manner. We must confess the fact that better working environment breeds better productivity. We must consider that health is wealth; whether it is human or natural health. If we care environmental health will care us as it always does selflessly. For a better future and sustainable development, there is no alternative to abandoning our selfish conducts towards nature and be more kind to our environment. Thus, human health and natural health can be kept in the healthiest condition.

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