

# Air, Soil and Water Ethics in United States

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**Abstract:** Environmental ethics is a discipline that believes in the relationship between human beings and the natural environment. Environmental ethics studies the moral principles and relationship of human beings value and moral status of the environment and its nonhuman content. As United States is one of the biggest world economy powers and possess huge consumers, its environmental impact is equally high and important to explore the nation's environmental ethical stand toward air, soil and water. In order to identify, study and analysis the environmental ethics in air, soil and water in United States, the existing key environmental concepts, policies, acts and programs must be understood. To preserve and conserve natural resources and meet the need of the people without compromising nature, the United States adheres to environmental ethics in air, soil and water resources through established federal and regional environmental agencies, policies, acts and programs.

**Keywords:** air, soil and water resources, environmental impact.

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## I. INTRODUCTION

All natural resources including air, soil and water are inherently structured without boundaries and exploring their relationship with human being through moral principles are environmental ethics. The inspiration for environmental ethics was the first Earth Day in 1970, which led to the development of environmental ethics as a separate field of study and gained much attention since then; by 1975, treatment of nonhuman environmental factors become significant on the philosophical agenda; and currently, environmental ethics are widely studied globally and debated in all level including private and government sectors (Palmer, 1994/2012).

The human population growth of the last century has been truly phenomenal; human population doubled (2.5 billion to 5 billion) in 40 years since year 1950 and expected to reach 8 to 12 billion before end of 21<sup>st</sup> century and this doubling time is less than the average human lifetime (Sullivan & Climatewire, 2013). As the population is exceeding the carrying capacity of our planet, natural environments are being used for human inhabitation and results depletion of quality of air, soil and water. United States carry only 4.5 percentage of world population but consume 33 percentage of world resource and product 33 percentage of its pollution (Pojman & Pojman, 2012). This unproportional metrics makes our nation more responsible in understanding the environmental ethics and implement effective environmental regulation to conserve and preserve natural resources and meet the need of the people without compromising nature. United States adheres to environmental ethics in air, soil and water resources through established federal and regional environmental agencies, policies, acts and programs. This paper provides a background of air, soil and water environmental ethics; a summary of United States environmental agencies, policies, acts and program; analysis of environmental ethic policy, mission and vision statement in order to support nation's commitment into environmental ethics.

## II. BACKGROUND

Environmental ethics on air, soil and water resources are the interrelated and significant in all respect. United States environmental agencies committed to preserve and conserve natural resources and meet the need of people without compromising the nature. To identify and understand the nation's overall commitment into environmental ethics on air, soil and water, this paper briefly summaries the ethics in environment and major United States Environmental Agencies back ground, concepts and policies.

**Ethics and Environment:**

Ethics is an individual or group moral philosophy because it is concerned with what is morally good and bad or what is right and wrong (Pojman & Pojman, 2012); and environmental ethics means exploring the ethical relationship between human beings and the earth and all living creatures; not only the human or other living things individual (Palmer, 1994/2012). Nature has intrinsic value, i.e. it is valuable in of itself, regardless of its utility to humans (Pojman & Pojman, 2012). In the article *Naturalizing values* Rolston III (1998) details numerous marvels that have occurred in nature that were outside of humans' control and many are still outside human understanding. Examples include the wings of dragonflies, bacteria species, plants and genes. The plants and animals are a part of our lives and they are an integral part of the environment and hence have a right to be considered a part of the human life and they should also be associated with our guiding principles as well as our moral and ethical values (Palmer, 1994/2012). There are varieties of approaches to environmental ethics mainly anthropocentric and anthropogenic and holistic. Anthropocentric approach is human centered morality, only human have intrinsic value and moral standing, humans are the most important and dominant species on earth and can dominant over nature and rest of the natural world has instrumental value (use to humans) (Palmer, 1994/2012). The overwhelming weakness of anthropocentric approach is their focus on humans and human only thus, the ethical theories are limited and moral criteria are unjustifiable. Biocentric environmental ethic values only living beings, specifically individual organisms (not species or ecosystems) have intrinsic value and moral standing; and humans are not superior to other life forms nor privileged, and must respect the inherent worth of every organism; and humans should minimize harm and interference with nature: eat vegetarian since less land needs to be cultivated (Taylor, 1981/2012).

Anthropogenic is non- anthropocentric value which designates an effect and impact on environment, biodiversity and other resources due to human activities; and suggest that more than 60 percentages of species can be experiencing mass extinction within one million years (Browning, 2010). Meadows (1990) states that the biodiversity is the accumulation of all life's past adaptation and make up the structure of the ecosystem and the significant benefits are pollination by honey bee, decomposing by organisms and various economic benefits by forestry, tourism, wild food, medicine and others. Over population, land and forest exploitation and introduction of non-native species are the significant reason for biodiversity extinction; introduction of brown tree snakes by Europeans in Guam Island invaded native birds which resulted appreciable habitat reduction and extinction among native birds (Browning, 2010). Holistic environmental ethic approach is another non-anthropocentric ethic which conceptualize the Earth as a single whole made up of all everything exists on it and interconnected (Palmer, 1994/2012). Aldo Leopold's land ethic is like holistic approach which extends the boundaries of the community to include soil, water, plant and animals for collectively, the land (Palmer, 1994/2012). The significant strength of holism is which rejects hierarchy and the weakness is exclusion of individuals form the whole ethical arena. In his paper, "The Land Ethic" Leopold (1949/2012) explains that we have not given the land (the soils, waters, plants, and animals) the respect it deserves; and have viewed the land as, strictly economic, entailing privileges but not obligations. The environmental ethic philosophy spread over many fields (biology, geology, economics etc.) and aspects (soil, air and water pollution, animal rights, food, climate change etc.); and only few concept, interpretation and representative sample are summarized in this section.

**US Environmental Agencies, Acts and Programs:**

In United States, we have comprehensive nature of environmental, health and safety laws, many government agencies or departments responsible for carrying out certain provision or section of laws. The environmental protection laws and programs are managed by various governmental agencies for different sectors and this section provides an overview of the main US environmental agencies responsible for environmental protection; and they are Environmental Protection Agency (EPA), US Department of Energy (USDE), US Department of Agriculture (USDA), US Department of Interior (USDI) and US Department of Commerce (USDC). These federal government agencies manage various management programs and acts including for air, soil and water preservation and conservation. USDA founded in 1862, and celebrated its 150<sup>th</sup> anniversary in 2012. USDA is responsible primarily for matters relating to food and, also protects national forests and grasslands, works with landowners on private lands to conserve natural resources, and supports farmers and helps them conserve resources (USDA, 2012). Department of Commerce established during 1903 and works with the business community to foster economic growth and manage National Oceanic and Atmospheric Administration (NOAA) and National Marine Fisheries Service (NMFS) which predicts changes in the Earth's environment and conserves the nation's coastal and marine resources to ensure sustainable economic opportunities (USDC, 2014). To ensure environmental

protection, EPA was established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard-setting and enforcement activities; EPA works with state and local governments to fight pollution for a cleaner, healthier environment for the American people (EPA, 2014). USDE established during 1977 which promotes efficiency in energy use, diversity in energy sources, improved environmental quality and manage the Office of Energy Efficiency and Renewable Energy (OEERE) which works to develop renewable and efficient energy technologies that are cost-effective (USDE, 2014). USDI is charged with protecting and providing access to the nation's natural and cultural heritage and honoring its trust responsibilities to tribes. USDI also manage Bureau of Land Management (BLM) (manages what remains of the public domain -- about one-eighth of the nation's land), National Park Service (NPS) (manages the country's National Parks), Indian Affairs administers federal programs (for Indian tribes and promotes Indian self-determination), Office of Surface Mining (protects citizens and the environment during coal mining and reclamation) and U.S. Geological Survey ( provides geologic, topographic, and hydrologic information needed for the wise management of the nation's natural resources) (NRDC, 2014). Bureau of Safety and Environmental Enforcement (BSEE) is a federal agency and the Deepwater Horizon Disaster Gulf of Mexico in 2011 was the catalyst for the development of this bureau. BSEE work for environment and safety protection and conserve offshore resources by a wide variety of laws, regulations, and other communications with the offshore industry (BSEE, 2014). In the wake of increasing concern about environmental pollution, environmentally ethical United States government consistently evaluating the risk and introducing agencies to manage and mitigate environmental impacts.

### III. ANALYSIS

US Environmental agencies function according to the established policies, mission and vision statement. The policies are set of principles, rules, and guidelines formulated or adopted by all agencies to reach its long-term goals. Mission and vision statements define agencies purpose, aspirations and primary objectives. Agencies may also integrate the policy into their mission statement. Agencies normally review and update their policies, vision and mission statement to meet the ever-changing environmental ethic from all sectors. Despite these agencies have many other functions, environmental stewardship part of policy, mission and vision statement are briefed along with applicable environmental ethic approach in this section of paper.

#### **US Environmental Federal agencies:**

USDA is one the early federal agency established during 1862 focused mainly to provide leadership on food, agriculture, natural resources and rural development, and committed to promote agriculture production sustainability that better nourishes Americans while also helping feed others throughout the world; and to preserve and conserve our Nation's natural resources through restored forests, improved watersheds, and healthy private working lands (USDA, 2014). This statement is not purely anthropocentric but holistic environmental ethic approach. Holistic environmental ethic approach is a non-anthropocentric ethic which conceptualize the Earth as a single whole made up of all everything exists on it and interconnected (Palmer, 1994/2012). USDA intent to taking care human benefits not only in US but throughout the world and preserve and conserve all natural resources. USDE committed to ensure our nation's prosperity by addressing its energy, environmental and developing renewable and efficient energy technologies (USDE, 2014). The mission focused on meeting the energy requirement and at the same time developing environmental friendly energy resources. USDE activities support the anthropogenic environmental value which concerns the effect and impact on environment, biodiversity and other resources due to human activities (Browning, 2010). USDC manage the NOAA and NMFS departments which predicts changes in the Earth's environment and conserves the nation's coastal and marine resources and have a goal to observe, protect, and manage the Earth's resources to promote environmental stewardship. Climate change is fundamentally an ethical issue (Gardiner, 2204/2012) and having goal to address climate change by USDC agencies is a positive environmental stewardship. EPA have mission and purpose to ensure that the federal laws protecting human health and the environment fairly and effectively; and environmental protection is an integral consideration in U.S. policies concerning natural resources, human health, energy, agriculture, ecosystem and industry and these factors are similarly considered in establishing environmental policy (EPA, 2013). EPA established objective and goals and two-year action plan for effective implementation and monitoring; the goals are 1) reduction of air pollution, 2) improve access to clean and safe water, 3) promote material and waste management and clean sites, 4) enhance joint preparedness for environmental response and 5) enhance compliance assurance and environmental stewardship (EPA, 2014). EPA commitment is holistic ethical approach which taken care of whole in ecology. BSEE has

a mission to protect the environment, and conserve resources offshore through vigorous regulatory oversight and enforcement and with a vision to be a world leader in safety and environmental stewardship. Introduction of BSEE due to offshore spill incident is one of the examples of US environmental agencies commitment into environmental ethic and stewardship. United States environmental policy motivated and informed by environmental ethics, usually strives to satisfy environmental ethical precepts (Talbot, 2003).

#### **US Environmental Acts and Programs:**

To support and implement the US national agencies enforcement, various environmental acts and programs established in consistent with established environmental policies, mission and vision statement. The significant environmental acts and programs discussed in this paper are the Clean Air Act (CAA), Clean Water Act (CWA), The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), The Endangered Species Act (ESA), The Federal Land Policy and Management Act (FLPMA), The National Environmental Policy Act (NEPA) and The Oil Pollution Act (OPA).

The CAA is a law enacted by Congress during 1966, further amended few times and the latest amendment was during 1990 in order to protect and enhance the quality of the nation's air; and CAA divided into seven titles, each focusing on specific air pollution issue (air pollution prevention and control, emission standards, permits etc.) (EPA, 2013). The CAA also sets goals for the concentration of various pollutants in the ambient (surrounding) air. These goals are set so that the health risk from the various pollutants is essentially zero.

The CWA is the foundation established during 1972 and the lately amended in 1977 which work for surface water quality protection and it does not deal directly with ground water; and CWA established the basic structure for regulating discharges of pollutants into the waters of the United States so that nation's water quality can be restored and maintained pollution free (EPA, 2014). CWA impose restrictions and strict controls with respect to the discharge of pollutants, including spills and leaks of oil and other substances, into the waters of the United States, unless authorized by an issued permit; also, prohibit the discharge of dredge and fill material into regulated waters, including wetlands, unless authorized by an issued permit (Walker, 2012). The FIFRA was enacted by Congress in 1947 to regulate the formulation and use of pesticides in the United States; and the primary focus is to provide federal control of pesticide distribution, sale, and use; and to study the consequences of pesticide usage but also to require users (farmers, utility companies, and others) to register when purchasing pesticides (EPA, 2012).

ESA was enacted by Congress in 1973 to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service and the Commerce Department's National Marine Fisheries Service (NMFS) and it further focus on many of our nation's native plants and animals which are in danger of becoming extinct (USFWS, 2013). All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. FLPMA is managed by Bureau of Land Management and enacted by Congress in 1976 which recognize the value of our nation's public land and provide a framework in which the lands could be managed in perpetuity for the benefit of present and future generations (BLM, 2014).

NEPA is the laws enacted in 1970 that establishes the broad national framework for protecting our environment with a basic policy to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment; and environmental risk assessment (Environmental Assessments (EAs) and Environmental Impact Statements (EISs)) are required from all Federal agencies and are the most visible NEPA requirements (EPA, 2014). OPA is law enacted in 1990, largely in response to rising public concern following the Exxon Valdez incident to

Strengthen the EPA's ability to prevent and respond to catastrophic oil spills. The OPA requires oil storage facilities and vessels to submit to the Federal government contingency plans to respond large discharges (EPA, 2014).

#### **IV. CONCLUSIONS**

Almost all the environmental agencies acts and programs studied in this paper are ethically environmental focus to conserve and preserve all natural resources including air, soil and water. This analysis primarily focused on identifying United States environmental ethic on air, soil and water resources. Based on the policies, mission and visions and details of goals and objective, the US environmental agencies, policies, acts and programs are holistic environmental approach rather than human being (anthropocentric) focused. United States government established comprehensive environmental

regulations and well managed by various federal agencies, acts and programs. US have very transparent regulatory management system where everyone has freedom access into environmental protection agency's document, procedure, reports and statistics. Such approaches demonstrate our nation's stewardship into environmental ethics so that every citizen can be part of system and justify our nation's principle of unity and ethics. In the essay *Pagan Environmentalism: Principle of Unity* Starhawk (2012) highlights three core principles: 1) care for the earth; 2) care for the people (People are a part of the earth.); and 3) care for the future (share and reinvest the surplus); and I believe we do all.

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