1. Introduction

The contemporary ecological crisis points to the precarious state of Earth, our planetary home. The ecological crisis is about our home as it is evident in the etymological origin of the very term ‘ecology’, derived from two Greek words: oikos and logos, meaning ‘home’ and ‘discourse’ respectively. It is not a mere environmental issue, or even a host of them, as it is often presented in the media and in academic discussions. The crisis is about the real threat to the survival and flourishing of life, including human life, on Earth, our common home. From climate change to species extinction, from pollution of land, air and water to the fast depletion of natural resources, the impact of the contemporary ecological crisis on our common planetary home is indeed a matter of deep concern.

that was held in Stockholm. A number of regional and international meetings have since been organized under the auspices of the United Nations Organization, the most prominent among them having been the Earth Summits held every decade (1992: Rio da Janeiro, 2002: Johannesburg, 2012: Rio da Janeiro). The Intergovernmental Panel on Climate Change (IPCC) was established in 1988, the Convention on Biological Diversity (CBD) in 1993, and the United Nations Convention to Combat Desertification (UNCCD) in 1996. The United Nations Framework Convention on Climate Change (UNFCC) came into existence in 1994 and has held top-level international gatherings every year with the explicit aim to reduce greenhouse gas emissions, the most memorable of these annual meetings having been the 2009 Copenhagen summit of world leaders. At the same time several regional and national bodies and organizations have also been set up in various parts of the world for the protection of the home planet.

In spite of such important initiatives over successive decades, the state of our home planet is only deteriorating year after year. Report after report, from the scientific community, indicate in no uncertain terms that many of the natural processes that sustain life on Earth are on the verge of a near collapse, and that our common home is in danger. Despite high-level negotiations to reduce greenhouse gas emissions, policies aimed at reduction of deforestation and biodiversity loss, and measures to check pollution of the air, land and water, the defilement of our planetary home continues unabated. The ecological crisis has a disproportionate impact on groups that are already vulnerable like women, children, indigenous groups, minorities, and not the least, the future generations. Tragically, the victims of the ecological catastrophe are almost always those who have contributed least to causing the crisis in the first place, thus making it a profound moral crisis.

How do we find ourselves in such a paradoxical situation with the crisis getting worse and the poor and vulnerable sections of humanity suffering most from it? Why have not international efforts to ward off the ecological crisis and to mitigate its disastrous impacts on vulnerable populations not reaping any success? One possible reason is that we have mostly adopted a top-down approach so far, as evident especially in international climate change negotiations. We have left the responsibility of dealing with the ecological crisis, the crisis of our common home, mostly to politicians, technocrats, geo-engineers, and the lot. We have expected salvation to come from above. However, any solution to the ecological crisis will probably come from below, on account of actions from committed individuals and grassroots mass movements. It is about the indispensable role of individuals and movements in the restoration of our common home that we shall be dealing in this paper. We will cite examples of how a few charismatic individuals and movements have substantially contributed to addressing some of the important manifestations of the ecological crisis. We will conclude with a reflection on the importance of motivating groups and individuals, in the light of examples already presented in the paper, to care for our common home.
It is an area where education, especially that imparted in higher centres of learning like universities, can make a significant contribution.

2. Individuals Responding to the Ecological Crisis

It is true that the ecological crisis has only worsened in the last few decades on a global scale. However, the silver lining in the clouds is an array of exemplary citizens around the world who have waged successful battles against individual manifestations of the ecological crisis like pollution, deforestation, desertification, climate change, biodiversity loss, etc. We shall present below a few inspiring personal examples in this regard.

To the classic question, “Can one person really make a difference in the world around us?” the name of Rachel Carson (1907-1964) stands out as an eloquent answer. Carson was a marine biologist by profession who not only worked in the laboratories but spent a lot of her time writing about science. She managed to popularize science through her beautiful literary prose. Here trilogy on sea and marine life: Under the Sea-Wind (1941), The Sea Around Us (1951), and The Edge of the Sea (1955) were best-sellers in which she effortlessly communicated the sense of wonder and awe before the immensity and beauty of the oceans and the complexity of marine life. However, Carson’s most important work was to be her very last one, The Silent Spring. Observing the natural world around her with the keen eyes of a scientist, she began to take note of how pollution of the land and water through the indiscriminate use of pesticides was threatening life, including the quality of human life. Carson could not remain silent and would dedicate the last years of her life, while fighting against a breast cancer that would eventually

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3 Idem, The Sea Around Us, Oxford University Press, New York 1951. The book conveyed her deep conviction that the earth is truly “a water world, a planet dominated by its covering mantle of the ocean, in which the continents are but transient intrusions of land above the surface of the all-encircling sea” (p. 15).

4 Idem, The Edge of the Sea, Oxford University Press, New York 1955. The Edge of the Sea was to be a guide to the seashore life on the Atlantic coast with an aim to demonstrate the interdependence of all forms of life. As Carson writes, “Nowhere on the shore is the relation of a creature to its surroundings a matter of single cause and effect; each living thing is bound to its world by many threads, weaving the intricate design of the fabric of life” (p. 14).

5 P. H. Hynes offers a comprehensive judgement on Carson’s trilogy when she writes that these volumes “stirred people to love the sea because of its beauty for which she was their eyes, for its mystery of which she was the oracle, and for its cadence and sound for which she was its voice”. P. H. Hynes, The Recurring “Silent Spring”, Pergamon Press, New York 1989, p. 35. We might also cite in this regard an article that Carson wrote for Woman’s Home Companion (July 1956) titled “Help Your Child to Wonder”. She narrated in this autobiographical article her efforts to introduce her niece’s son, Roger, to the wonders of the world.

consume her and attending to family responsibilities which sucked away much of her precious time and declining energy, to script a book that would entitle her to immortal fame.

Around the time of World War II, some European industrial chemists came across hitherto obscure chemical substances that could serve as ‘the perfect pesticides’ against agricultural pests and insects. Chief among these was DDT (dichloro-diphenyl-trichloro-ethane). DDT was synthesized already in 1873 by a Swiss PhD student by name Othmar Zeidler, who was working in the laboratory of Adolph von Bayer at the University of Strasbourg. But since no particular use could be found for the new compound, it lay unused for nearly 60 years. In 1939, a Swiss chemist, Paul Müller, who was serving as a research chemist at the J.R. Geigy Company in Basel, discovered the great potentialities of DDT as a very potent pesticide that could be used against pests. Soon farmers in Switzerland and elsewhere in Europe began using DDT to protect their crops from insects, which began to be produced on an industrial scale in the meantime. During the war years, the allied forces used it to kill lice and mosquitoes, thus preventing the outbreaks of typhus and malaria. Recognizing the humanitarian contribution Paul Müller was awarded a Nobel Prize in medicine and physiology in 1948 precisely for his work with DDT.

In the years following the Second World War, DDT and other powerfully toxic substances were enthusiastically used on a massive scale by the government, farmers, foresters, and gardeners in the United States, and on a lesser scale in Western Europe, to control agricultural pests. It is estimated that the production of synthetic pesticides like DDT in the United States soared from 124 million pounds in 1947 to 638 million pounds by 1960, a more than five-fold increase in just over a decade. The surge in the use of pesticides like DDT was to be attributed to its apparent merits which were highly extolled by the chemical companies and government agencies. These pesticides instantly killed a wide variety of insects while they appeared to be relatively harmless to mammals. “It was inexpensive and, because it was both a persistent pesticide that did not break down easily in the environment and an insoluble substance that was not washed away by rain, it did not have to be reapplied very often.”

The fame of DDT as a harmless pesticide was not destined to last long. Already from the early years there were some scientists who were concerned about the long-term side effects of DDT. Even before Müller won his Nobel Prize in 1948 for the discovery of DDT, doubts were raised about it within the scientific community.

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9 See A. MacGillivray, Words That Changed the World, p. 8; A. R. Quaratiello, Rachel Carson, p. 84.

10 A. R. Quaratiello, Rachel Carson, p. 83.
In 1945, the United States Fish and Wildlife Service (FWS) and other concerned groups began to raise questions about DDT. They were concerned about the lethal impacts of DDT and other pesticides on the rest of wildlife. Evidence emerged throughout the 1950s of the alarming declines in the populations of American birds, from the beloved robin to the magnificent bald eagle. It was also noticed how some pest insect populations had started to develop resistance to DDT, decreasing its effectiveness and leading farmers to apply greater and greater amounts of insecticide, particularly on cotton fields.

Rachel Carson was herself concerned about the dangers of DDT and other pesticides already since her days at the Fish and Wildlife Service. She was convinced that DDT was not the miraculous substance advertised by chemical companies and vouched by many scientists during the war years. She argued that further research was necessary to determine the true dangers of the pesticide. In fact, as Carson delved into the subject of pesticides more deeply, the enormity of the problem became more apparent to her. In her earlier writing, especially in the trilogy on sea, Carson had celebrated ideas of ecological interdependence, interrelationships, food chains, and webs. But now she was discovering a dark side of the truth of interrelationship. The very cycles of life, so fundamental for the sustenance of life on our planet, were being contaminated by millions of tons of ‘man-made poisons’. Carson realized that DDT and other pesticides were beginning to infiltrate the tissues of humans, wildlife, and the environment on a large scale, causing untold damage. She could not remain indifferent to such a global threat and thus was born Silent Spring, one of the most influential books of the twentieth century.

The short book that Carson planned to complete in one year eventually turned into a demanding project that took nearly four years. As a scientist and as a well-known author, she had relatively easy access to the solid facts that she wanted to incorporate into the book. Her own expertise as a biologist enabled her to comprehend and consolidate the technical data supplied to her by the experts. She also personally sought out experts in many fields through correspondence and interviews in order to learn about the damage to human health and to the lives of birds, insects, fish, and other animals by the indiscriminate use of pesticides. Carson made every effort to churn out a thoroughly documented work on the harmful effects of pesticides, DDT in particular, for humans and the rest of the chain of life.

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11 See A. MacGillivray, Words That Changed the World, p. 31.
12 See ibidem, p. 8, 31.
13 See A. R. Quaratiello, Rachel Carson, p. 83.
16 The book contained fifty-five pages of documentation in terms of voluminous endnotes at the end to support her claims.
As Mark Hamilton Lytle notes, the Silent Spring actually went through a number of working titles, including Man Against Nature, The Control of Nature, and How to Balance Nature, none of which ever satisfied Carson or her literary agent, Marie Rodell. Her editor Paul Brooks and agent Marie Rodell suggested to title the book Silent Spring, a title that summed up the most powerful warning of the book that the indiscriminate use of pesticides that caused the decline in bird and insect populations would eventually lead to a spring devoid of birdsong.

Rachel Carson’s Silent Spring was published to critical acclaim in September 1962. In this work, Carson described the ecological consequences and health hazards involved in the introduction into the biosphere of thousands of toxic substances by industry and modern agriculture. The book immediately drew the attention of the world to the health impacts of pollution. Carson pointed to how the heavy dependence of modern industrial agriculture on chemical fertilizers and pesticides was beginning to take a toll on human lives. She showed, for example, how a pesticide like DDT, made its way into the food chain, and eventually even into the mother’s milk administered to babies. We quote below from the classic work of Carson: “In the less than two decades of their use, the synthetic pesticides have been so thoroughly distributed throughout the animate and inanimate world that they occur virtually everywhere. They have been recovered from most of the major river systems and even from streams of ground-water flowing unseen through the earth. Residues of these chemicals linger in soil to which they have been applied a dozen years before. They have entered and lodged in the bodies of fish, birds, reptiles, and domestic and wild animals so universally that scientists carrying on animal experiments find it almost impossible to locate subjects free from such contamination. They have been found in fish in remote mountain lakes, in earthworms burrowing in soil, in the eggs of birds – and in man himself. For these chemicals are now stored in the bodies of the vast majority of human beings, regardless of age. They occur in the mother’s milk, and probably in the tissues of the unborn child.”

Carson argued that in the light of health impacts, the hazards of pesticide use must be sufficiently weighed before the application of such chemicals could be approved. Carson was, in fact, raising deep concerns about humankind’s impact on the physical world and the rest of the biosphere. The fundamental question, according to Carson, “is whether any civilization can wage relentless war on life without destroying itself, and without losing the right to be called civilized.” She alerted her generation to the hazards of pesticides, aware that future generations will not condone our lack of prudent concern for the integrity of the natural world that supports all life.

The counterattack to Carson's claims was swift and ruthless, especially from the chemical industry. In 1962, the year of *Silent Spring*’s publication, some 500 chemical compounds, in more than 54,000 formulations, were registered for use as pesticides in the country. However, she was attacked not only by those who disagreed with her and by those who stood to gain from continued use of pesticides like chemical companies, but also by agriculture groups, the Nutrition Foundation, and even the American Medical Association. Medical information about the long-term effects on human health of pesticides like DDT was scarce because of the relatively short time some of the chemicals had been in use. But Carson did not flinch before such fierce opposition and courageously defended her claims before government officials, congressional committees, the press, and the world.

Tragically, the courageous marine biologist who warned humanity of the health hazards of pollution, would be snatched away prematurely on account of a cancer that she herself contracted. Rachel Carson died on April 14, 1964, when she was just 56 years old. But by then, her *magnum opus* had already sold more than a million copies, and within the first decade of its publication it was translated into 16 languages.

Carson’s courageous battle against pesticides for their lethal effects on human health and the rest of the biosphere was ultimately successful. Patricia Hynes refers to *Silent Spring* as “the most vital and controversial book ever written on the environment” that “altered a balance of power in the world. No one since would be able to sell pollution as the necessary underside of progress so easily or uncritically.” In 1972, ten years after the publication of her book, the US Environmental Protection Agency, cancelled the registration of DDT in the United States, while other organic phosphates like Aldrin and dieldrin were banned in 1974 and chlordane in 1988. The positive effects of DDT ban were quickly evident, as the human intake of DDT in the United States decreased from 13.8 milligrams per day in 1970 to 1.88 milligrams per day in 1973. DDT levels had declined drastically also in a variety of fish and bird populations since the ban of the pesticide. The subsequent improvement in wildlife was conspicuous, particularly with regard to insect, fish and bird populations that were once driven nearly to extinction or fast declining, including the fabled bald eagle and the American robin.

The legacy of Rachel Carson lies in more than the recovery of American wildlife and the improvement of human health conditions. Her ultimate legacy is the birth of the modern ecological consciousness. Carson is considered by many to be the “the fountainhead of the modern environmental movement.”

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MacGillivray, it was Carson’s book, *Silent Spring*, that proved to be the catalyst for the formation of a mainstream environmental consciousness. *Silent Spring* made ecology a household name and brought terms such as “interdependence,” and “balance of nature” into common usage. Carson sort of served as a midwife at the birth of a worldwide environmental movement in the early 1970s. MacGillivray sums up well Carson’s influence on the birth and spread of the ecological movement: “The eight heady years after Carson’s death mark the birth of the modern environmental movement, blending wilderness conservation, pollution control, and human health. The movement gained an international perspective that had previously been lacking. In 1970, just six years after Carson died, 20 million Americans celebrated Earth Day. At the same time, the Clean Air Act was introduced, the Environmental Protection Agency was founded, and by 1972, the United States, along with many other countries, had banned the use of DDT.”

As Patricia Hynes rightly acknowledges, in almost every manifestation of the current environmental movement, from the Earth Day to the emergence of grassroots environmentalism, ecofeminism and women’s environmental activism, Carson’s influence is markedly evident. Significantly, in April 1998, *Time* magazine voted Rachel Carson into its list of 100 people of the twentieth century, and DDT, the pesticide she campaigned against, was voted one of the 100 worst ideas of the century. Carson’s legacy continues to improve life for all the inhabitants of Earth, the human and non-human of our common household.

There is no dearth of inspired and committed individuals like Carson when it comes to the care and protection of our common home. We may cite, among many, Chico Mendez, a Brazilian rubber tapper, trade union leader and environmentalist in Brazil’s Amazonia, who advocated the rights of peasants and indigenous peoples, and ultimately sacrificed his life in the fight against powerful land owners; Wangari Maathai, the 2004 Nobel Prize winner who single-handedly inspired the Green Belt Movement in Kenya that oversaw the planting of nearly 30 million trees; Vandana Shiva, the champion of biodiversity who today runs her own University in the foothills of the Himalayas where students are taught traditional and organic agricultural methods; Yacouba Sawadogo, the innovative farmer from Burkina Faso, “the man who stopped the desert”, who single-handedly has had more impact in the Sahel region than all the national and international research combined; James Hansen, the former NASA scientist and the most re-
nowned climate scientist of our day who propelled global warming to international agenda in the early ‘90s; Rebecca Hosking, the wildlife filmmaker of BBC, who appalled at the death of hundreds of albatross birds from plastic pollution in the oceans managed to convince shopkeepers in her own little town of Madbury in the UK, in eighty other villages, towns and cities, including Brighton and Bath, and finally 33 London Councils group, to ban the use of plastic bags; Bill McKibben, the founder of the 360.org mass-movement that managed to organize the largest climate change march in New York on 20 September, 2014, etc. These and many other unsung ‘environmental’ heroes have not run shy of their vocation to be prophets and seers, warning humanity of the serious threats to our common home. May their tribe flourish!

3. Grass-root Movements in Defense of Earth

The most exciting signs of hope in the ecological arena today are the environmental movements that have sprung at the grassroots level all around the world. For example, we see villagers working out their own water-shed programmes, women campaigning to protect local forests, children participating in rallies and demonstrations to create awareness, student groups involved in tree plantation operations, young people protesting in defense of the environment at economic forums and other international meetings, and more and more people opting for eco-friendly recyclable products. It is exciting to realize that ecological preservation is steadily becoming a ‘people’s movement’ in many parts of the world, making environmental protection a ‘social’ concern. These movements are of all hues and colours and vary from local and indigenous movements to those with a global outreach. They extend from transnational organizations like the Greenpeace, the Friends of the Earth, the World Wildlife Fund, and Die Grünen to regional ones like the Green Belt Movement in Kenya, the Environmental Defense Fund in the USA, the Narmada Bachola Movement in India, the Pagbustaw sa Kamatuoran in the Philippines, the Asociacion ANAI in Costa Rica, the Comité de Defensa Popular in Mexico, the Comissao Pastoral da Terra in Brazil, and countless others.

We shall pick up just one case from the myriad of grassroots environmental movements. We will briefly dwell on the Chipko movement which has become a ‘classical’ paradigm for environmental movements all over the world. The Chipko Movement in northern India is an emblematic case of a grassroots environmental movement organised by the people, especially women, to protect their native forests and their native identity. The name of the movement, Chipko originally means to ‘embrace’: the villagers hug the trees, saving them by interposing their bodies between them and the contractor’s axes. The first Chipko action took place spontaneously in April 1973 in the village of Mandal in the upper Alakananda valley of the Himalayan region. The women of the area, under the leadership of an activist, Chandi Prasad Bhatt, went into the forest and formed circles around the
trees, embracing them, in order to prevent them from being chopped down, and singing in unison: “Embrace the trees and save them from being felled; the property of our hills, save them from being looted”.

Over the next five years the movement spread to many districts of northern India. The Chipko protests in Uttar Pradesh achieved a major victory in 1980 with a 15-year ban on green felling in the Himalayan forests of that state. Since then the movement has spread to Himachal Pradesh in the North, Karnataka in the South, Rajasthan in the West, Bihar in the East and to the Vindhyas in Central India.

The Chipko Movement brings under a common umbrella hundreds of decentralised and locally autonomous initiatives. Its leaders and activists are primarily village women, acting to save their means of subsistence and their communities. Its underlying philosophy is the Gandhian principle of non-violent resistance (satyagraha). The Chipko movement has contributed to the prevention of soil erosion in the Himalayan region by succeeding to block the felling of trees for commercial and industrial logging. The movement has also contributed in ensuring the livelihood of people from their own natural resources and in re-asserting their own native identity.

The grass-root environmental movements are fast-spreading. The success of these movements consists in the fact that they are participatory in nature and are realized at the grassroots level. The most fulfilling realization about these environmental movements is that they have as their protagonists native communities. These movements are formed at the local level, involve local people, and focus on local environmental issues. They are participatory in character and lay great emphasis on empowering people from below and from within. They also send a powerful social message that the Earth is our common home, and that we all need to contribute in taking care of her, a task that needs to begin at the local level.

Just as it is with charismatic individuals who have pioneered efforts to protect our common home – some of whom we have mentioned in the previous section – grassroots movements in defence of Earth are numerous and varied. They are indeed signs of great hope in our present era of ecological crisis.

4. Motivating People to Care for Our Common Planetary Home

The concrete examples that we have cited in this paper bear testimony to the truth that in the context of the contemporary ecological crisis, salvation will not

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come from above, but from below, from the dedicated actions of committed citizens around the world. Our common planetary home, which is increasingly imperilled, will be saved ultimately by common people. History is replete with examples of how motivated citizens and groups have ushered in epochal and revolutionary changes. From Buddha, the Enlightened One, and Gandhi the apostle of non-violence (ahimsa) to Rosa Parker, the tiny woman whose refusal to cede her seat in a public commuter bus nearly half-a-century ago which sparked off the successful movement against racial segregation in the United States, and Nelson Mandela, the charismatic leader who inspired the non-violent struggle against apartheid in South Africa, there is no shortage of inspiring testimonies in this regard. Christianity, the largest of the world religions, spread out of the tiny Palestinian enclave, thanks to the efforts of a tiny group of disciples, ordinary and mostly illiterate people, who were given the commission by the Master, the Lord Jesus, to go and proclaim the good news of the Kingdom of God to the whole of creation.

In the task of protecting and safeguarding our planetary home, the most important task today is to motivate people, especially young people, the leaders of tomorrow, to act to protect the common home that sustains and nurtures us. The role of centres of higher learning like Faculties and Universities, where education not only informs students but also inspires them to make responsible life-choices, is vitally important in this regard. Philosophy itself, which is ultimately about forming a critical and creative view of reality, Weltanschauung (worldview), darshana (in Sanskrit, meaning vision) can make a vital contribution here. Philosophical education can and should help young minds to leave aside the dualistic and mechanistic Weltbild of Modernity that conceived the natural world in diametrical opposition to humanity, and embrace a new vision of reality in which humans exist in harmonious and not exploitative relationship with the rest of God’s creation. In the foreword to the twenty-fifth anniversary edition of Silent Spring issued in 1987, Paul Brooks who was the editor of the first edition, wrote about changing the direction of our thinking: “… Silent Spring will continue to remind us that in our overorganized and over-mechanized age, individual initiative and courage still count: change can be brought about, not through incitement to war or violent revolution, but rather by altering the direction of thinking about the world we live in”.

The great transformation of our perception of the natural world and of our relationship with it, along with our thankful and responsible living in it, will be ultimately realized by simple people in humble ways. Jesus’ parable about the growth of the Kingdom of God, a beautiful image that the Master drew from the lap of nature, can shed light on this profound truth. “He put before them another parable: ‘The kingdom of heaven is like a mustard seed that someone took and sowed in his field; it is the smallest of all the seeds, but when it has grown it is the greatest of shrubs and becomes a tree, so that the birds of the air come and make nests in its branches.’” (Mt 13,31-32).

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Salvation from Below. Individuals and Grassroots Movements for Ecological Renewal

Summary

The author argues that the lack of success in responding to the contemporary ecological crisis – the greatest of humanity’s challenges today – has to do mostly with a top-down approach, as evident in international climate change negotiations. It appears that we have left the responsibility of dealing with the crisis mostly to politicians, technocrats, geo-engineers, and the lot. We have expected salvation to come from above. However, any solution to the ecological crisis will probably come from below, from committed individuals and grassroots mass movements, who can make an indispensable contribution in the restoration of our common home. The paper offers examples of some charismatic individuals and movements who have substantially contributed to addressing the challenge of the ecological crisis in our day. The article concludes with a reflection on the importance of motivating groups and individuals to care for our common home.

Keywords: ecophilosophy, grass-root movements, individuals and ecological renewal, young people and the environment

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Słowa kluczowe: ekofilozofia, ruchy oddolne, jednostka a odnowa ekologiczna, młodzież a środowisko