

Chapter IV

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Ecopedagogy in *The Back of the Turtle*

Ecopedagogy is a movement that emerged to educate people about environmental hazards. Ecopedagogy is a means of creating awareness about the influence of the ecological havoc and to take steps to prevent ecological devastation done to plants, animals and numerous organisms. “Ecopedagogy is a new kind of scientific inquiry into how we can best produce a more just, more ecological and peaceful sustainable civilization” (Grigorov 14). The concept of Ecopedagogy was influenced by the philosopher Paulo Freire.

The first Earth Day was celebrated in April 22, 1970 and it is officially identified as the starting of environmental movement. Celebrating Earth Day is considered as the pedagogical event towards creating the ecologically strong society. Theorists like Rachel Carson, Aldo Leopold, and Murray Bookchin strived hard to create awareness to the public regarding the environmental devastations. The recent decades have witnessed the unsustainable economic practices which created a great threat to the sustainability of the planet. According to Millennium Ecosystem Assessment (MEA), the impact of the human alterations done to the environment is unimaginable. “It found that during the last fifty years, humanity has altered (and mainly degraded) the earth’s ecosystems more rapidly and extensively than in any comparable time of human history” (Kahn, “Critical” 19). These impacts have created exponential demand for natural resources thus changed the social and economic status of the corporate companies. The large-scale industrial energy resources such as coal, fuel and oil have led to increase extraction despite knowing the consequences. This eventually led to the emission of carbon which is responsible for global warming. In addition to that most of the forests, prairies and wetlands were

converted into agricultural land for dominant farming practices like mono cropping.

These practices made the soil infertile.

The so-called green revolution has been sold as a success because short-term food production via these methods increased by a factor of nearly three... water use doubled (nearly 70 percent of used water goes to agriculture), half of all wetlands were developed, timber pulping and paper production tripled while 50 percent of the forests disappeared, and damming of flowing waterways doubled hydropower. (Kahn, "Greening" 2)

Globalization of corporate companies has diverse effects on other species. Many species have gone extinct and the rest are on threat of permanent disappearance. "A vision of continued economic growth of this kind is consonant only with planetary extinction: either great changes are made in our global lifestyle now or irrevocable social and ecological upheavals will grip the world by 2032" (United Nations Environment Programme 224). As the ecological devastation went out of control, environmental movement has helped to a great extent by creating awareness in conserving nature and reducing pollution. As Murray Bookchin states,

Nor do piecemeal steps however well intended, even partially resolve problems that have reached a universal, global and catastrophic character. If anything, partial "solutions" serve merely as cosmetics to conceal the deep seated nature of the ecological crisis. They thereby deflect public attention and theoretical insight from an adequate understanding of the depth and scope of the necessary changes. (12)

International ecopedagogy movement focuses on transformation through radical education by following the concept of Paulo Freire's *Critical Pedagogy*. Ecopedagogy strives to interpolate the aims of Freire who wanted justice for all species based on humanitarian basis and he also wanted politics that equalizes the nature's imbalance by opposing the globalization of imperialism on one hand, and to stimulate "ecoliteracy" (Orr 1), on the other hand. Ecopedagogy aims to realize cultural knowledge found in normative notions like sustainability and "biophilia" (Wilson 85), the bond between nature and the other forms of life. The first discussion on the ecopedagogy movement took place on the Rio Earth Summit, 1992. Following the Summit, many intellectuals supported the worldwide initiatives like the Earth Charter. The first International Symposium on the Earth Charter was convened by the Instituto Paulo Frierie and Moacir Gadotti, accompanied by the Earth Council and UNESCO in order to educate the public regarding ecological havoc.

Freire's influence had great impact among the pedagogues from U.S.A and other advanced nations. Freire's main aim was to throw light on environmental issues.

Until today, Critical Pedagogy almost completely disregarded not just the cosmopolitic aspects of ecological ethics in terms of threats to present and future life conditions of all humanity. It disregarded the fundamental philosophical and existential challenges of subject-object relations, in which "nature" is not conceived as a standing reserve either for mere human consumption or as a potential source of dangers, threats and risks.

(Gur-Ze'ev 23)

Freire's last pedagogical reflection created revolution on eco-humanism which espoused the need to conquer the objectification of human and nonhuman nature as a part of

liberation. Lately, Latin American theorists stated to merge their work with the critical theory of Herbert Marcuse, German-American philosopher and sociologist who was a member of Frankfurt School of Critical Theory. Critical readers consider Marcuse as a central theorist who clearly brought out the relationship between capitalists society and ecological issues. Marcuse found that solution for the ecological crisis can be achieved by overcoming the dichotomy between nature and culture opposition. Illich was a Croatian-Austrian theologian, sociologist and a philosopher. He was a great critic who created awareness regarding environmental issues Henry Giroux, Stanley Aronowitz and Michael Apple are literary critics who were involved in environmental movements.

This chapter attempts to analyse the novel *The Back of the Turtle* as a case study of ecopedagogy as it create awareness by throwing light on the darker side of the defoliants, genetically modified organisms and weight loss supplements which affect both environment and living beings. In the novel, *The Back of the Turtle*, the corporate company, Domidion experiments on a genetically modified bacterium, SDF 20 and creates a defoliant called Green Sweep which poisons Smoke River, near British Columbia. It kills vegetation and many species including human beings.

Thomas King begins his novel by introducing Gabriel Quinn, a successful scientist who is a Native American. He works for the multinational chemical company Domidion. Gabriel Quinn suddenly disappears from his office and so does the turtle which is kept inside the tank at the Domidion Company. When Gabriel discovers the darkest side of the defoliant, Green Sweep, he quits his job and returns to Smoke River where his mother was born. On his return, he is dumbstruck by looking at the deserted ghost town which was once richly covered with flora and fauna. He then realizes that it is the aftermath of

his own finding called Green Sweep. Driven by guilt, he tries to kill himself but fails. He meets Mara, an artist who has returned to the reserve after spending many years in Toronto. He meets Nicholas Crisp, an old native man who tries to comfort everyone and stops him from committing suicide.

Thomas King sketches the rich vegetation of the Samaritan Bay and Smoke River, an Indian reserve before it was devastated by the Green Sweep. When Gabriel returns to Samaritan Bay, he regrets for his wrongdoing. He is shattered by looking at the ghostlike beach and the deserted landscape which has turned infertile because of the Green Sweep. He remembers the landscape before the ruin. The whole beach was covered with many sea creatures like orange fish, purple urchins, black mussels and crimson crabs. The green sea anemones had flapped against the rock like green grass. During summer, pregnant sea turtles return to the beach to hatch eggs and one turtle may lay around hundred eggs. The eggs remain inside the sand for sixty days. When the baby turtles are ready to hatch out, they emerge out in unison. This process is a visual treat because it looks as if the sand is boiling from inside. Once the baby turtles are hatched, they find their way to the ocean. Tourist flocked to the bay during this season to witness the baby turtles and to collect shells. Native people gathered there to entertain the tourists. “There had been jugglers then, fire eaters, acrobats, magicians, and musicians, who set up shop along the broadwalk each evening and entertained the multitudes who came down to the water to wait for the turtles and to watch sunset” (King, “Turtle” 49).

The Green Sweep, the defoliant that was aerielly sprayed over the Smoke River reserve took away many lives. The government forces the remaining families to shift. “For their own safety, the officials had said. And for their own safety, the families has

been relocated to Saskatchewan and Manitoba, to communities as far away from Samaritan Bay as possible” (King, “Turtle” 156). After that, the government blocked the entrance to the Smoke River Reserve by parking a school bus and a wooden sign board is put up next to it. “Restricted Access Area. Authorized Personnel Only. By Order of the Minister of Indian Affairs” (King, “Turtle” 97). In addition to that, there are many official sign boards from various government agencies stating: warnings and prohibitions.

Thomas King portrays Dorian Asher, Chief executive officer of Domidion as a typical greedy capitalist. Thomas King introduces Dorian by making him watch the world glide by. He clearly watches the change in weather patterns. “Before the influx of fresh water from the melting Arctic ice cap had begun to slow the ocean’s thermohaline conveyor, and global weather patterns had begun to shift” (King, “Turtle” 11). He counts all the barren trees as he sits back in his luxury Sedan. He knows very well that these trees would never turn green again. He says, “It was our own fault, he reminded himself, not that finding blame in the obvious was of any value” (King, “Turtle” 14). Dorian is a person who wants to make money by exploiting all the natural resources. “Aristotle had said that we make war so we may live in peace. Dorian wondered if the old Greek had ever realized just how wrong he had been. We make war so that we may destroy our enemies. We make war so that we may control resources and markets, and make money” (King, “Turtle” 15). His company headquarters is named as Tecumseh Plaza. He asks his secretary Winter about the name and she explains the history of the name Tecumseh. In the late eighteenth and early nineteenth century, an Indian confederation was organized to oppose the expansion of European companies. Tecumseh was the leader of the Indian Confederation who was eventually killed during the war in 1812.

“And the plaza is named after him”

“It is,” said Winter.

“Ironic, don’t you think?”

“There’s a peace prize named after Alfred Nobel,” said Winter.

(King, “Turtle” 16)

Dorian Asher and his wife Olivia buy a mattress and the company assures him that the mattress would give them comfort. ““You’ll sleep like babies”, the sales associate had told them. “The foam moulds to your body and eliminates any pressure points”” (King, “Turtle” 39). Dorian is obsessed with sensuous luxury so he buys the luxurious mattress. His expectation is ruined soon after removing the plastic from the mattress as it emits violent odour which causes continuous cough. The odour remains unbearable even after opening all the windows. This forces them to shift to their guest quarters and sleep. Dorian is disappointed and calls the stores the next morning.

Yes, the sales associate told him, off-gassing was quite common. Yes, all the emissions were within government regulations and did not pose a health hazard. Yes, in rare cases, the fumes might irritate eyes and cause some minor coughing. No, the guarantee only covered manufacturer’s defects. But there was no need to worry, the man assured Dorian. In most cases, the problem would resolve itself. (King, “Turtle” 39-40)

Even after two months, Olivia and Dorian were still in the guest quarters. By then the smell disappears, but each time they try sleeping on the mattress, they would wake up

with sore throats and headaches. The store manager was sympathetic but at the same time he tried to convince him.

“Aside from that, how does the bed feel?”

“It’s comfortable,” Dorian admitted. “A little warm for my liking, but comfortable”.

“And that’s the most important thing, isn’t it”. (King, “Turtle” 40)

The company provides him twenty percent off on a special mattress cover which protects the bed from moisture yet allows the foam to breathe. After covering the bed, their headaches gradually reduced but the sore throat did continue for a long time. Most of the mattresses contain different kind of materials that emits chemical toxins. Foam mattresses are manufactured using chemical named polyurethane. Synthetic mattresses contain chemicals like benzene, formaldehyde and naphthalene. The above mentioned compounds are cheaper than organic mattress materials. It is a saddening truth that the manufacturers skimp on quality by adding hazardous chemicals to seek profit. Manufacturers cast aside the health and environmental issues with the only motive of making money.

Thomas King exposes the infections caused by Genetically Modified species in the novel *The Back of the Turtle*. As William I. Robinson states,

As the worldwide ruling class, the transnational bourgeoisie has thrust humanity into a crisis of civilization. Social life under global capitalism is increasingly dehumanizing and devoid of any ethical content. But our crisis is deeper: we face a *species crisis*. Well-known structural contradictions

analysed a century ago by Marx, such as over-accumulation, under-consumption, and the tendency towards stagnation, are exacerbated by globalization, as many analysts have pointed out. (34)

Corporate companies not only use their power to employ the strategies to dominate nature but also to go against nature's law by creating Genetically Modified species. Domidion Company experiments with two different species and creates new kind of bacteria and viruses and sells it to other countries. Dorian's secretary Ms. Winter reminds him about nasty flu cultures namely Anthrax and Botulism. Anthrax is a spore forming bacterium named *Bacillus Anthracis* which lives in soil and it affects both humans and animals. Botulism is also a bacterium that lives in soil and it is caused by a neurotoxin produced from a bacterium, *Clostridium botulinum*. It emits poison that causes paralysis. Dorian asks her if his company is responsible for these flu cultures. She replies,

Of course, there was really no way Domidion could keep track of every virus and bacterium that the corporation shipped around the world. Cultures sold to the Japanese for research might be resold to the Italians, who might trade them to Saudis for oil, and from there no one knew where they went. Not the corporation's fault that product occasionally fell into the hands of madmen. (King, "Turtle" 18)

After listening to Winter's explanation, Dorian confidently says that it is not corporation's responsibility. Anthrax, Botulism, Plague and Variola are called as bioweapons. Bioterrorists buy bioweapons from corporate companies to attack their enemies.

A major shift took place between the “pre-modern” and “modern world” cosmologies that has had profound consequences for our thinking and actions regarding the natural world. I have indicated that the modern scientific tradition depicted nature as a non-living entity to be manipulated, controlled and exploited” (O’Sullivan 105).

Thomas King edifies the impact of illegal biohazard wastes being dumped into oceans. Anguis is one of the ships which carries tons of barges that Domidion run under a Bolivian registry and flag. Before six months, the ship left Montreal on a routine run to dump a mountain of toxic waste and incinerated biohazards into the oceans. Before the ship reaches Ottawa to unload the toxic waste, Ottawa passes the law which prohibits the illegal disposal of hazardous waste. So the barge makes its way back to Montreal where provincial officials refuses to let it land. “Quebec, as it turned out, had no objection to garbage leaving the province, but had strict laws prohibiting it from coming in, and the Anguis was ordered to vacate the St. Lawrence Seaway and find another port of call” (King, “Turtle” 18).

Domidion manages to silently clear the barge but Newspapers and Medias project the issue stating that the Anguis is carrying hazardous waste. Domidion has not faced such desperate situations before. “In the past, the corporation had always been able to find poor countries and desperate governments who needed money” (King, “Turtle” 19). After that Domidion makes a deal with Haiti but they refused to take it. Anguis goes up and down the coast and by the time it reaches the coast of Brazil, cyclone pushes it out of the Caribbean and eventually the Anguis vanishes from there.

Thomas King has portrayed the evil side of the weight- loss supplements manufactured and marketed by Domidion. Edgar W.Jenkins aptly says,

Who benefits, who loses? Who pays? What are the social, environmental, personal, or other consequences of following, or not following, a particular course of action? What alternative courses of action are available? These questions are not always and perhaps only rarely, going to yield agreed answers, but addressing them is arguably fundamental to any educational program that claims to advance technological literacy for all. (4)

Dorian is questioned by a journalist for producing Silhouette, a weight-loss supplement as it caused kidney failure in teenage girls and young women. Media coverage of this issue affected his business expansion efforts to China. Agricultural minister is not convinced with his statements and cross-examined him for manufacturing harmful health supplements. After the stressful interview, Dorian goes to gym to relax. Thomas King juxtaposes the situation. Dorian has created a poisonous weight-loss supplement to other people but he does not use it instead he goes to gym to keep himself fit. This shows the height of corporate greed. Thomas King creates awareness about such weight-loss supplements sold in market. People consume diet supplements for various reasons such as weight gain, weight loss, to build muscle tissue and boost energy without knowing their side effects. According to the Dietary Supplement and Health Education Act (DSHEA) of 1994, the manufacturer is solely responsible for the safety of their product. There are many manufacturers accused for unsafe supplements. Thomas King warns people not to consume weight-loss drugs unless a person is advised by a doctor. People put themselves into trouble by using these products.

Thomas King educates the readers about the world's worst manmade disasters through the character Gabriel. Under Gabriel's tenure, Domidion has created many viral and bacterial strains which changed the aspect of agribusiness. His findings paved way for biowar. "It was one of the small ironies of biology that organism designed to increase crop production could also be modified to destroy nations" (King, "Turtle" 22). Dorian is dismayed after Gabriel's disappearance from Domidion. When he further investigates about his disappearance, he comes to know about a shocking revelation. Winter gives him a file which contained photographs and the first image is a small house. Winter tells him that it is the house which Gabriel rented before leaving. The following photos are the rooms of the house in which the walls are covered with enigmatic writing and it read,

"Chernobyl. Idaho falls. Chalk River". Dorian read the names on the screen. "Pine Ridge, South Dakota?"

"It's an Indian reservation," said Winter. "it was used as a bombing range during World War II."

"Rokkasho and Lanyu?"

"Nuclear and biological waste dumps."

"Renaissance Island." Dorian's face softened, as though he had run into an old friend. "The Russian anthrax facility." (King, "Turtle" 23)

Dorian's face becomes red when Winter informs him that these photographs were taken by the security. The last photograph shows the view of the kitchen and on the wall, Gabriel has written, "Bhopal and Grassy Narrows" (King, "Turtle" 24). Gabriel has gathered

all the industrial disaster list that had occurred all over the world as soon as he finds the evil side of Green Sweep, a defoliant that he had created. Paulo Freire affirms,

The rationality basic to science and technology disappears under the extraordinary effects of technology itself, and its place is taken by myth-making irrationalism.... Technology thus ceases to be perceived by men as one of the greatest expressions of their creative power and becomes instead a species of new divinity to which they create a cult of worship.
(62-63)

Green sweep project was co-ordinated by Dr. Gabriel and Dr. Thicke. The task given to Dr. Thicke's team is to increase the virulence of SDF 20 without increasing its life cycle. Dr. Gabriel's team is responsible for extending the bacterium's environmental range in addition to prevent the horizontal gene transfer. "The two teams were able to increase the bacterium's virulence, and they were able to extend its environmental range by splicing in genetic material from thermophiles and psychrophiles" (King, "Turtle" 409). However they are only partially successful by limiting the life cycle of the bacterium and both failed to eliminate the risk gene transfer. Eventually they fail to continue the project so Dorian bursts out, "Mistake on mistake on mistake. In the end, we shut the project down and disposed of the remaining stock" (King, "Turtle" 409). Agent Orange is the defoliant created in 1960s during the Vietnam War. It was a chemical combination of two phenoxy herbicides that had been contaminated with dioxin. It was used in U.S. military's warfare program in order to destroy the plant based ecosystem of an area. Green Sweep is a bacterium and the only similarity between the two defoliants is the use of colour in the

names. “Dorian tried to remember who had come up with “Green Sweep”. Someone with the sense of humour” (King, “Turtle” 320).

Thomas King throws light on imperialist hegemony that led to destruction of natural vegetation beyond sustainability. Dorian, being a capitalist has committed a series of mistakes, each one compounding the other. Domidion has been constructing pipeline across the interior of British Columbia. Right from day one, there has been sequence of problem in building the pipeline: problem with environmental groups and First Nations community who were against the construction, issues with the terrain and the thick bush. Then the mid-level manager plans to try a shortcut. Instead of eradicating the undergrowth of bush with chainsaws and machines, the manager calls the main head quarters of Domidion to get the new defoliant called Green Sweep. It is the product which failed despondently during their experiment and Dorian has warned them to keep the bacteria safe but the Green Sweep gets into the hands of the mid-level manager without Dorian’s knowledge.

The first mistake is that Domidion uses Green Sweep near Kali Creek in British Columbia before going through any of the testing protocols. The second mistake is considered to be a major one. The dilution ratio recommended for GreenSweep was 1000:1 but they load 10:1 ratio onto the plane in Terrace, British Columbia. The last mistake is not noticed by anyone until the plane has dumped the loads into Kali Creek watershed.

Thomas King illustrates that this toxic cocktail named Green Sweep kills all life in the countryside including people. Green Sweep defoliant was sprayed in the area includes mountainous terrain with the presence of streams. Spraying defoliant on such a landscape would be an environmental nightmare. The effect is immediate. “Everything GreenSweep touched had died. Trees, undergrowth, animals, fish. Everything. It was only luck that the

clearing crews had not been in the vicinity when the plane went over” (King, “Turtle” 322). The similar aerial spraying is documented in Rachel Carson’s *Silent Spring*. Carson states that the aerial spraying was targeted to kill the gypsy moth all over England. The damage was severe.

Some leaf crops were so burned and spotted as to be unmarketable. Other carried heavy residues; a sample of peas analyzed at Cornell University’s Agricultural Experiment Station contained 14 to 20 parts per million of DDT. The legal maximum is 7 parts per million. Growers therefore had to sustain heavy loss or find themselves in the position of selling produce carrying illegal residues. As the aerial spraying of DDT increased, so did the number of suits filed in the courts. (Carson 108)

In Kali Creek, the damage might have been limited if not for an unexpected storm that come out of the northwest that drives heavy rain on that specific area. The downpour washes away the bacterium into Kali Creek, a stream running near Guyana, South America. From there, it makes its way to the ocean.

Starting from the very reasonable, but unfortunately revolutionary concept that social practices which threaten the continuation of life on earth must be changed, we need a theory of revolutionary ecology that will encompass social and biological issues, class struggle, and a recognition of the role of global corporate capitalism in the oppression of peoples and the destruction of nature. (Bari 146)

Kali Creek incident has been a catastrophe. Green Sweep carves its path of destruction all the way to the coast. The surprise is that the bacterium remained extremely virulent

even after it gets mixed up with salt water in the ocean. It wipes out all life in the bay and shoves the kill zone out into the ocean around twenty kilometers. It kills the vegetation, the animal life, and many people living alongside including the residents of Smoke River Reserve, a place where Gabriel belonged to, lost their life. This would have been the front page news but the other major incident overpowers Kali Creek incident. The earth quake in Japan resulting in tsunami destroys the Fukushima Daiichi nuclear facility. The meltdown goes out of control because of the negligence of the officials. The world started focusing the news story of Fukushima Daiichi nuclear fallout at Japan. By the time all the anchors and correspondents shift their gaze from the more powerful nuclear catastrophe, Kali Creek has been subsumed and forgotten. “By saying no to the devastating empire of greed, whose centre lies in North America, we are saying yes to another possible America.... In saying no to a peace without dignity, we are saying yes to the sacred right of rebellion against injustice” (qtd. in Espada 28).

Thomas King gives the glimpse of the severity with which the Green Sweep has destroyed the landscape in Samritan Bay. As David Selby, a pedagogue and a theorist, rightly points out:

The altogether commendable rhetoric notwithstanding, a perusal of current humane education curricula and learning materials...suggests that humane education in practice narrows its focus to animal-related issues and that, with the exception of environmental themes, little studied effort is being made to relate the learning taking place to the broader goals laid down for the field. Equity, justice, development and peace...are rarely built into learning programmes in a conscious, consistent and structured way. (4)

Nicholas Crisp shows Gabriel the place where the catastrophe had occurred. “There is where it began. One day was all it took” (King, “Turtle” 388). Gabriel is awestruck by the sight as the reserve is deserted. The earth seems to be brown and alive but as he moves further, the earth has shrunk and the soil dead. The flow of the creek is clean and cold as he set his fingers hoping that he would catch a glimpse of something moving alive. Then he sees a shadow and thinks it to be a fish or a turtle but he has not expected bones. “Almost everywhere he looked, everywhere he walked, there were bones” (King, “Turtle” 403). He has seen many other turtle bones on the beach which are buried in sand or crushed by the waves but these bones are different. “They hadn’t been buried in the sand or crushed by the waves. They lay out on the ground where the creatures had died one minute alive, the next minute dead, the fall of the creek drowning out the weeping” (King, “Turtle” 403). Gabriel then walks past a cluster of bones which he suspects to be a family of rabbits and he also finds skeleton of a deer and a fawn lying at the water’s edge.

Thomas King explains another environmental disaster that takes place in Athabasca River. Two of the Domidion’s tar-sand dams fail and dumps millions of gallons of toxic waste into the river. In spite of early signs and warnings, the company fails to act upon. Tar-sands are a mixture of clay, sand, water, and bitumen, which is heavy black viscous oil. Tar-sand is an investment opportunity but it is a tedious process to extract bitumen and expensive as well. An enormous amount of fresh water is required to extract the oil and it also emits four times the greenhouse gases. The news spreads like a forest fire that all the Media telecast become live The Media is unaware about the collapse of the second dam.

“Early this morning,” Mansbridge began, “an earthen dam at Domidion’s oil-sands facility gave way and dumped thousands of gallons of toxic sludge into the Athabasca River. A spokesperson for the corporation has told CBC that a cleanup crew is on site and the spill does not constitute an immediate hazard to local communities or to the environment.” (King, “Turtle” 275)

Immediately an environment conservation group starts to protest against the toxic dump. The whole group begins to chant the name of the company in four distinct syllables. “Do-mi-di-on! Do-mi-di-on!” (King, “Turtle” 275). The image on the television is of Tecumseh Plaza and the Domidion corporate headquarters. Dorian’s picture is displayed in the corners of the television screen. Even in such situation, Dorian’s concern lies on the stock prices. He is also afraid of the public who could easily recognize him from looking at his image in the television and chase him down. He has heard of such incident that had occurred in Texas.

Dorian Asher is a self-centered person who ignores ethical issues while dealing with profit implications. He owns seven ponds spread over 650 acres. The dams are not designed to hold liquids for a longer period. They are meant to be evaporation ponds. The water is pumped into the ponds to process the tar-sand oil. The concept is that once the pond is filled, the liquid is given space to evaporate and then the remaining toxic residue is removed and processed. But the production sector has kept pouring water to the ponds without giving any time for the evaporation process. “As soon as levels in a particular pond drop, we pump in more waste water” (King, “Turtle” 288). Dorian watches the toxic waste pour through the dams into the river. The spill has dumped about 242 million gallons of toxic sludge and the result is unbelievable. “The spill will kill everything in the river. In less

than a week, the toxins will reach Lake Athabasca. From there the toxins will join the Mackenzie River system and everything will wind up in the Beaufort Sea” (289). They assume that the spill will eventually reach Arctic Circle within a month.

Thomas King manifests the unscrupulous attitude of the capitalists who find loop holes in law to hide their inhumane practices. Soon the collapse of second dam becomes international news. Dorian’s response over the scandal about his company proves that he is an unethical capitalist.

Nothing to be done about the spills. Shit happens. It would happen again. The Athabasca would shove the toxins into the Mackenzie, and the Mackenzie would dump everything into the Arctic. The river wasn’t that pristine to begin with. For much of the last century, sawmills and farms along the way had been dumping furans, chlorinated dioxins, and phosphorus into the watershed. The river would eventually clean itself. That’s what rivers did. (King, “Turtle” 303).

The oil spill creates a nightmare for the public relations office at Domidion. All the misstep that Domidion had done in the past is dug up and dragged into the streets by the media. Before the lawyers think of a solution, a group of people rushed towards the company causing stampede. Dorian boosts his self-confidence at the dire situation. “Yes, Dorian agreed, it was unfortunate, but now was not the right time to panic” (King, “Turtle” 304). Dorian knows very well that this news would be forgotten within a week and until then he has to cast his eyes on the blaze in check till it burns itself out. Dorian remains stubborn in spite of Winter’s warning. Dorian said to Winter, “I don’t

want us running for cover on this. I don't want us looking guilty, because we're not”
(King, “Turtle” 305).

Dorian insists that they should not apologize but educate the public about the risks involved in running such processing units. Dorian narrates a recent incident where a man shoots at school and public instead of blaming the man, they blamed National Rifle Association for their policies on gun control. He knows that North America wants oil so this issue would eventually dissipate. He gives hope to Winter by saying, “That’s what we need now. Strength and firm resolve” (King, “Turtle” 308). He remembers John Wayne’s dialogue in a movie about never apologizing. “Why be a lamb when you could be a lion?” (King, “Turtle” 308).

Dorian is sure that Domidion would be mauled by the Media. Before he arrives at the television studio, Winter prepares all the possible questions along with the answer.

Athabasca River? Tragedy.

Oil extraction? National priority.

Safety protocols? The best in the industry.

Environmental damage? Minimal.

Legal liability? Unfortunate accident. (King, “Turtle” 410)

Dorian seems confident that people are not going to watch the interview instead they are going see his appearance. “Was he well dressed? Did he look honest? Did he sound trustworthy?” (King, “Turtle” 422). As the interview begins, he closes his eyes and reminds himself who he is. “A warrior. A scholar. The Regent of Domidion, Protector of the Realm” (King, “Turtle” 424). Manisha Kahn, the anchor of the show asks Dorian about the oil spill and Dorian says oil extraction is a tedious work. He answers through capitalist’s lens

by saying that his crew have already arrived on site to clean up the discharge. Manisha gives him an appropriate reply, “We’ve talked to experts in the field who say that the damage is already done, that the cleanup is simply for show” (King, “Turtle” 424). Dorian hooks up the terrorist group, Zebra into this issue in order to divert their accusation. Manisha shows a few video clips of the spills and she says that he is answerable to the public, but Dorian deflects her questions by saying, “The modern world runs on energy, Manisha. Domidion can’t change that. The spills are unfortunate, but our first priority has to be the security of the nation and the protection of our children’s future.” (King, “Turtle” 425).

At one point of time, Dorian gets bored as the question are not challenging but all of a sudden Manisha questions about Kali Creek. As soon as he hears the word, Dorian becomes alert. She gives each and every detail about the issue including the date. “The crew spraying the defoliant made a mistake with the concentration, and the result was a massive environmental disaster” (King, “Turtle” 426). Dorian manages to smile and tells that defoliants are used for different applications and he also diverts the topic into the cleanup process of Athabasca River. However Manisha continues to talk about the effect of Green Sweep and the list of causalities. “A storm put the defoliant into Kali Creek, and it was washed into the Smoke River and then into the ocean at Samaritan Bay. One hundred and thirty-seven people lost their lives. Over three hundred were hospitalized” (King, “Turtle” 426). Dorian leaves the studio without answering Manisha’s questions.

[Although] the ultimate aim of humane education is ‘developing respect for all animals and people’...publications for schools tend to focus on animal-related topics and only rarely draw parallels and establish the links that would help achieve that aim. Within such materials, admirable as they

very often are, the realization of an unfractured compassion and seamless sense of justice...*remains largely a matter of faith, not strategy.* (Selby 5)

In the novel *The Back of the Turtle*, the author depicts the horror of the massive fish kill. The spill in the Athabasca River killed many species especially the fish. "The fish kill is massive. There are dead animals as well-fox, raccoon, deer, moose, bear, coyote-along the banks of the river for seventy kilometers downstream" (King, "Turtle" 383-384). Dorian is aware that the dam would give way at any time. He has been updated since the leakage started. Even though the amount of leakage was minimal, they witness the death of many ducks. Their negligence pays huge prize. "In 2008, more than 1,600 ducks had been killed when they landed on one of the tailing ponds. In 2010, another 350 ducks died in the same manner. These were the public figures. In actual fact, Dorian knew, the numbers were much higher" (King, "Turtle" 113). In Rachel Carson's *Silent Spring*, documents the aerial spray which eventually makes its way to the river, kills the fishes. "Water from a stream draining sprayed cotton fields remained lethal to fishes even after it had passed through a purifying plant, and in fifteen streams tributary to the Tennessee River in Alabama the runoff from the fields treated with toxaphene, a chlorinated hydrocarbon, killed all the fish inhabiting the streams" (Carson 26).

Nearly three fourth of our earth is surrounded by water which is considered as the most precious natural resource. Mankind has polluted water by various means. "Radioactive wastes from reactors, laboratories, and hospitals; fallout from nuclear explosions; domestic wastes from cities and towns; chemical wastes from factories. To these is added a new kind of fallout-the chemical sprays applied to croplands and gardens, forests and fields" (Carson 20). Some of the chemicals are hard to be broken as they are very stable. Even

the experts have no idea about the dispersal of those chemicals. The chemicals can enter our food chain and our metabolic system and the ensuing damage is far from imagination. Eradication of toxins is time consuming and even after years it can prevail. The toxins consumed by animals are passed on to the foetus and the toxins caused deformity to their off springs.

Thomas King exemplifies the chemical diplomacy of Genetically Modified crops and its ill effects. After investigation, the crew finds out that Gabriel had read the files on *Klebsiella Planticola* before leaving the company. Dorian turns to the monitor and finds the information about it. *Klebsiella Planticola* is otherwise called SDF 15 is a bacterium that naturally grows in the root system of each plant in the world. In 1990s, a German company modified the original bacterium genetically to speed up the decomposition process of plant debris and produce alcohol as a by-product, SDF 20. The first reports of this new variation have exhilarated the agribusiness community. SDF 15 is known to be beneficial bacterium but SDF 20 transpires to be an environmental nightmare. Before it is approved for general use, a team of scientists at Oregon State University runs various tests in which SDF 20 kills all the plant life. “Had it been sprayed on fields and then sprayed by the wind and birds and irrigation runoff, it could have meant the eventual destruction of all plant life on the planet” (King, “Turtle” 42). SDF 20 is one of the faults made by the corporate which turned against their business motives. Only through this incident, public knew about the genetically modified organism and they started to protest against it. But they do not know that these products had already entered the food industry. “What the average family didn’t know was the extent to which genetic modifications were already a part of the products that they found on grocery shelves” (King, “Turtle” 43).

The term Green Revolution was first introduced in Latin America in the middle of the twentieth century to spread new agricultural technology in order to increase production. “The crops that were developed as a part of this effort were superior to other locally planted crops in yield increase, yield stability, wide-scale adaptability, short growing season duration, resistance to biotic stresses (diseases and insects), tolerance to abiotic stresses (drought and flooding) and grain quality” (Wu 31). Waterways and lands have been contaminated by using large amount of fertilizers and pesticides on Green Revolution farmlands. From mid 1980s the researchers in biotechnology have focused on transplanting genes from one species to another to withstand resistance from pests and weeds.

Several large multinational corporations that combine seed industries with chemical industries currently dominate agricultural bio-technology. These profit-driven companies have seen little reason to invest in expensive research and regulatory costs to produce crops that are grown on relatively few acres and must be heavily subsidized for poor farmers to afford. Inevitably, private research focuses on needs of capital-intensive farming; research to feed the poor is less attractive, as it involves long lead times, risk related to unpredictable agricultural conditions and disregard of intellectual property rights, and beneficiaries with little capacity to pay. (Wu 44)

Dorian has immense knowledge about genetically modified organisms. He knows that most of the soil in the world has lost its fertility due to the continuous usage of pesticides. Those pesticides have stripped all the nutrients along with the bacteria, fungi, protozoa and nematodes which prevent the land from diseases. Eventually the only way of cultivating

crops in that barren soil is by using excessive artificial fertilizers. Dorian proudly says, “Like or not, without the initiative and vision of companies such as Domidion, the world would starve” (King, “Turtle” 43).

Numerous health issues began since the emergence of genetically modified plants. The American Academy of Environmental Medicine, warns all the doctors to prescribe non-genetically modified foods for their patients. Studies have proven that genetically modified food has the capacity to penetrate into the body cells and cause health issues. Genetically modified corn or soy or any other grain is capable of transferring its harmful strains into the bacteria living inside human body. In *My Years of Meat* Ruth Ozeki mentions about DES, an artificial hormone used in meat production to fatten up the meat. She has clearly written about the side effects of consuming DES meat.

In 1971, a team of Boston doctors discovered that DES caused a rare form of cancer, called clear cell adenocarcinoma, in the vaginas of young women whose mothers had consumed during pregnancy...A university of Chicago study showed a significant increase not only in miscarriages but also in premature births and infant due to DES. (Ozeki 126)

In the novel *The Back of the Turtle*, Nicholas Crisp, Mara and Sonny who are Native Americans, long for their community people to return to their native land, the Smoke River reserve. Thomas King in *The Inconvenient Indian* writes about the importance of land to First Nations people. “Land has always been a defining element of Aboriginal culture. Land contains the languages, the stories, and the histories of a people. It provides water, air, shelter, and food. Land participates in the ceremonies and songs. And land is home” (King 288). Mara, Nicolas and Sonny are the only people waiting in the reserve

after the Green Sweep catastrophe with hope that nature would revive itself. Mara shows her grievance through her painting. She paints two inspiring people, Thelma Walker and Elvin Grunes who lost their lives on the day of 'The Ruin' when Green Sweep swept away all life and vegetation. Thelma was an elderly woman on the reserve who provided shelter for poor women and helped the children study at the elementary school in town. Elvin had saved many lives. "Elvin had saved over a dozen of his neighbours, piling everyone into his pickup and driving like hell to the hospital in Kimi, two hundred kilometers and three mountains passes away" (King, "Turtle" 208). Mara does not have any photos of the two figures but she paints them through her memory. The painting is to pay tribute to both of them. She often stands on the edge of the entrance of the reserve which has been blocked by the school bus and sees the reserve. She longs for the community people to return. Only after meeting Gabriel, she gains her courage to go to the reserve and live there.

Nicolas Crisp owns Beatrice Hot Springs which consist of nine pools with varying temperature. After the ruin, Nicholas becomes helpless that he wanders on the empty streets which were once filled with crowded people. Each time he decorates the pools, he hopes that people would return to the reserve. He wants Sonny, his nephew to accompany him. "Before he had gone to the motel, Crisp has been hopeful that he and Sonny could put the past behind them, that they could sit down and talk, forge a new beginning" (King, "Turtle" 202). He is hopeful that one day everything would fall into place. "Eventually, the town would come back from the dead. Crisp was sure it would. He just didn't know when. It would depend on the turtles. Crisp was sure of this. If the turtles returned, so would the people" (King, "Turtle" 159). Everybody wondered the reason for the turtles to come so far north for nesting. Crisp is very sure that normal breeding places are Florida, Puerto Rico, Costa

Rica and Mexico. Many scientists had researched the reason behind turtles having chosen that particular beach and came up with several answers such as; "...the usually warm currents, the temperature of the sand, the slope of the beach, and the deep water just off shore duplicated the necessary conditions for a breeding habitat" (King, "Turtle" 159).

Sonny, a little boy whose father died during the Ruin, collects salvage from the beach. He is the most distressed person who wants his father and the turtles back. One day he finds an Indian Drum near the beach and he completely believes that Indians would return. Whenever he loses hope he thinks of his father's advice. "In the face of uncertainty, have faith. That's what Dad always says. Have faith" (King, "Turtle" 55). He even builds a lighthouse using copper wire, shells and skeletons hoping that the turtles would return after lighting the beacon on the tower. "A beacon, A tower beacon, A lighthouse. More or less. A symbol of hope. A guiding light. A monument of perseverance. That's what Sonny will build. Right here on the beach. A tower. A bright tower that will stand against the dark sky and bring the turtles home" (King, "Turtle" 268).

Gabriel's sense of guilt is seen throughout the novel. At first he feels shattered by looking at the ghost like deserted village due to the Kali Greek incident. As the days passed by, he got acquainted with Mara and Nicolas. One day he found a photograph of his sister Lily and her son Riel at Mara's house. His sister had named his son, Riel after him. "Lilly named him after you" (King, "Turtle" 359). From that day onwards his guilt increased as he did not know that his sister had a son. He wanted to ask about his mother but he felt that was irrelevant. "There was no purpose in asking that question, no salvation in knowing the answer. There were only so many things his mother could have said. That she had a son. That she had a son who had run off. That she had a son who never came home"

(King, "Turtle" 363). Apart from that he wanted to tell Mara that he was responsible for the Kali Creek incident. Instead he confessed to his dog, Soldier. "Hi, I'm Gabriel Quinn. I killed your family and friends. I killed my sister and her child. I destroyed the river and forest and all life in the ocean for as far as you can see. Surprise, I'm the author of all that destruction" (King, "Turtle" 337). However towards the end, he told the truth to both Mara and Nicolas. They forgave his mistake and accepted him.

Man is paying prize for the ecological crisis caused by him as it affects the very mankind by causing serious health issues. Rachel Carson, in her book *The Silent Spring* has stated, "They have immense power not merely to poison but to enter into the most vital processes of the body and change them in sinister and often deadly ways. Thus, as we shall see, they destroy the very enzymes whose function is to protect the body from harm" (Carson 8).

It is up to educators and responsible citizens to envision the significance of education through which the impending ecological devastation can be brought to an end. As Kellner states, "Realization of nature through the realization of man as 'species being'" (132). Richard Kahn suggests adding nature of environmental science across the curriculum at the learning levels would promote the public to conserve our natural resources. "Greening the academy" (Kahn 20). Kahn believes that by including environmental studies as a part of the curriculum, students can acquire better understanding of nature. His first suggestion is to teach Traditional Ecological Knowledge (TEK) to students and Indigenous people are experts in TEK. By allowing children to grow along with nature, they tend to gain knowledge on their own and understand how nature and other species including human beings are interdependent. Corbin Harney during a peace camp, states, "We are one people. We cannot

separate ourselves now. There are many good things to be done for our people and for the world. It is important to let things be good and it is important to teach the younger generation, so that things are not lost” (7). Paulo Freire aptly says, “We haven’t come to the Department of Education to watch the death of schools and education, but to push them into the future. We are preparing the third millennium, which will demand a shorter distance between the knowledge of the rich and that of the poor” (93).

The Back of the Turtle is filled with emotionally broken characters who try to patch up with reality to accept their loss after encountering an environmental disaster. Gabriel meets the few remaining members of the uprooted community. Most of the characters are waiting for renewal of life in the Samaritan Bay; be it Sonny, Mara or Nicholas, each of them is waiting for their community people to return. They are waiting for their environment to revive so that turtles, birds and other living beings will return. Thomas King throws light on ungovernable problems that our environment undergoes due to the ever increasing greed of humanity. In the book *The Back of the Turtle*, Thomas King brings in the issues such as polluting the environment due to corporate greed by promoting seeds, manufacturing genetically modified defoliant to kill weeds and other forms of human enterprise that are destroying the planet.

The author ends the novel optimistically by showing that the ocean comes back to life in spite of polluting it beyond the limits of sustainability. “And echoing him, all is becoming better in the world. Indians and turtles and birds and otters have returned. Even ravens have “returned in force, forever unsympathetic” (King, “Turtle” 517). The sea turtle that escaped from aquarium at the Domidion office appears in Samaritan Bay as

soon as Sonny completes building his light house. Sonny is unable to believe his own eyes at first but his constant hope has turned into reality. He screams as soon as he sees the first turtle on the bay.

It's a sea turtle, just like the turtles who used to arrive on Sonny's beach during tourist season. A ragged turtle with worn flippers and a wide indentation in its shell, as though it has been carrying a heavy weight for a long time. At first, it appears that this turtle has cut its head, but when Sonny looks more closely, he can see that it's just a colourful marking.
(King, "Turtle" 429)

Thomas King brings back the turtle to symbolically convey the message that the earth would revive itself. He has not only provided hope but also created awareness about the toxins created by human that could kill mankind himself. As Kahn says, "The ecopedagogy movement additionally incorporates more typically northern ecological ideas such as the intrinsic value of all species" (Kahn, "Critical" 19). Thomas King educates people about the value of all species through the characters who are First Nations descendents in his novel. First Nations Community people consider that the relationship between nature and man are inseparable. Characters in the novel long for the turtles, fishes, birds and other living organisms to return to their reserve. This shows that they give importance to the other living organisms and are not anthropocentric. There are people like Dorian in the society and there should be some sort of resistance to walk past them and protect our mother earth. Thomas King educates the readers about our responsibility in protecting our mother earth and reminds the readers that change has to start from every single person.