

SOIL, FOOD AND HUMAN HEALTH IN DIANE WILSON'S *THE SEED KEEPER* : A STUDY ON AGROECOLOGICAL PARADIGMS

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Abstract

Food is an intangible concept. At present, in the world food is produced to feed more than 10 billion people. Still there is an increase in hunger, malnutrition in recent years and all those diets and fats come and go in past ten years. People are witnessing the climate crisis, land and environmental degradation, water scarcity and persistent poverty. Agroecological paradigms study in Diane Wilson's The Seed Keeper aims to create sustainable food systems that respect people and environment. It assist to transformative boundaries from ready to use to better nutrient food assessable to people ensuring the interplay of soil, food and human health as its main focus. The relevance of agroecology mainly lays on environmental sustainability, food safety and health benefits, as there is an urgent need to global transition to agricultural practices and food systems that ensure food and nutrient security for all. The study focuses on soil health, bio-diversity, diversification, efficiency, responsible governance, sustainability, economic development, pest control, food security and climate change mitigation.

Keywords: agroecology, sustainability, food security, soil health, food production and environmental preservation.

Agroecology began in the year 1920s, which incorporates many disciplines, social, political factors. It was coined and used by the American Agronomist Basil Bensen in 1928, to describe the application of ecological methods of agriculture. Afterwards Mexican scientists and practitioners advocated an ecological approach to food production in 1926. In the 1930s, agroecology became a scientific field that combined agronomy and ecology.

Agroecology is the term used to understand and define the entire food system, including agricultural, economic, and environmental and social sciences. It aims to improve human health and the environment by minimizing the use of synthetic chemicals, localizing diets, reducing the contamination of groundwater and reducing the population of harmful soil microorganisms. Mainly it aims to create sustainable food systems that respect people and the environment. Its main principles advocate promoting biodiversity, nutrient recycling, integration between the elements of the agricultural ecosystem,

respecting natural cycles, valuing traditional knowledge, environmental sustainability, social equity, and strengthening family farming.

Agroecology is a part of ecology that studies artificial ecosystems established in agricultural areas, it is also a comprehensive concept that encompasses environmental, political, cultural and ethical issues. It prioritizes an organic farming system where the environment is the greatest ally and beneficiary, it integrates scientific knowledge, honoring ancestral practices. It has been growing as a fundamental approach to promoting food production and environmental preservation.

Organic agriculture focuses on producing food without the usage of pesticides and chemical additives, following specific standards to obtain a certification of organic practices but agroecology goes beyond food production itself. It seeks a broader and holistic approach considering environmental, social, cultural, and economic aspects. The relevance of agroecology mainly dominates the betterment

in farming, food and health of the people, it creates environmental sustainability, food safety, and health benefits.

The growing global concern highlights that the global food system is not delivering as needed, there is an urgent need for a global transition to agricultural practices and food systems that ensure food and nutrient security for all the people in the world. While reversing environmental degradation and adapting to climate change.

Sustainable agriculture and food systems simultaneously opt for multiple benefits for society. The agriculture and food system needs to adapt to different concepts from transforming field practices and day to day farm management operations, to enhancing farm diversity and links to markets. It represents ready-to-use to custom made production systems to assist countries to be transformative. In addition, there is also soil degradation, water and food pollution with nitrates and pesticides and rising global emissions. Industrial agriculture contributes between 12 to 20% of greenhouse gases, which becomes 37% if we include the food system, thus compromising the ability to produce food in the future. Changes in temperature and rainfall as well as extreme weather conditions are affecting crop yields and livestock productivity. The current situation clearly indicates that major changes are needed to develop sustainable agriculture and food systems in Europe and worldwide.

Agroecology is one approach to achieve this goal, as it designs, develops and promotes the transition to socially and politically sustainable agriculture and food systems. It can be interpreted as scientific discipline and as a socio-political movement but also as a series of practices. But to feed 10 billion people in the world with fewer resources like land, biodiversity, water and energy is going to be a difficult task. In 1961, an average of 0.45 ha of cultivated area was needed to feed one person. but, today they are about 0.22 ha. of land.

The world currently produces enough food for everyone, but many people don't have access to it. Despite the total cultivated area, it still continues to expand, every year 250 Mha of forest and natural vegetation are converted to cultivated land in Africa, South east Asia and South America. And people have to remember that 30-40% of food is lost or thrown away and corresponds to a high

amount of social and economic cost. There are suggestions claiming, if there is a reduction in meat consumption and food waste, it would be possible to convert entire agricultural production into organic farming without consuming more land.

Diane Wilson's *The Seed Keeper*, the novel in itself carries the agroecological paradigms. It highlights themes like seed sovereignty, food sovereignty, biodiversity conservation, indigenous knowledge systems, sustainable agriculture, traditional ecological knowledge, and community-led initiatives. In particular this novel explores the intersection of agriculture, ecology, social justice through the lens of sustainable food systems which enumerates the importance of the indigenous knowledge, community led initiatives and regenerative practices. It explores indigenous ways of being, knowing, and understanding through multigenerational narratives of Dakota women and they are inherently connected to the lands and waters of the Minnesota River. Each generation of women faces the challenges and tries to find balance between holding on and letting go by dealing with complex issues brought about by settler colonialism and the effects of intergenerational social, political and cultural transformations.

The author explores the responsibility and connectivity carried through generations and also focuses on the difficulty of the indigenous people in the settler landscape facing various struggles. It weaves together three generations of people like, one generation of people hiding from the U.S. Dakota War, the second generation is identified with dark hair and blue eyes navigating people to their land, introduction of boarding school systems and the traumas came with the transformations. The third generation was occupied by non-indigenous people. The land and the water at certain conditions describe the people living there and become a maker of their identity. People are marred by transformative political, social conditions, like the legacies of war and capitalism, land cessions and broken treaties, forced removal and genocidal policies, assimilationist agricultural practices, education systems, disruption of family structures and languages and so on, but the relationship between the people, land and water mark the indigeness, the sense of originality and nativity.

The novel encircles the life and thoughts of the main protagonist namely, Rosalie Iron Wing, she is a Dakota woman marrying a white farmer, a settler man whose family occupied the Dakota lands during the war, "he hadn't lived long enough to see me marry a white farmer, a descendent of the German immigrants that he ranted against for stealing Dakota land" (TSK 3). She carries the knowledge of the Dakota land, plants, animals with her, sometimes in contradiction with her husband's capitalistic mindset like, she has a garden, nourishes the land with her songs, greets the bird relatives, returns to water and wonders its health. But he has a farm, feeds it chemical concoctions, he continues his ways, even it hurts the water we are all dependent on, his church community, and these differences continue to shape the lands for generations. The settler colonial policies shaped the land and the indigenous people were shaped by these colonial policies too.

Rosalie walks through hard snow into the woods and finds the loss happened to the vegetation as, "Where are the red cedars that my father loved? In the place where I thought the trees must be, I found nothing" (TSK 21). The memories bound to those long standing life, and the loss she matched with the time, "Beneath the snow I knew that I would find stumps, my trees chopped down for their valuable wood. In their place, a dense thicket of buckthorn, a scrubby European tree whose aggressive spread often pushed out the native trees" (TSK 21). She feels the loss of her nativity as,

"I sank to my knees in the snow. I wept then, tears I had never shed for my father or John. Where these old trees once stood was another reminder that what was valuable would be taken; what was not protected would be stolen. I was helpless to stop it. An unlike, pitiful woman. (TSK 21)

Rosalie meets a woman in the woods with her dog named Digger, an old Milton acquaintance. She anticipates being like that woman and finds her as, "She moved like a woman who was born in the shelter of an oak tree, who bathed in the river and enjoyed every meal of wild game, knowing that one day her own turn would come." (TSK 23). After having a short break, Ida Johnson with Digger left for her business to bring back venison on the meet up of theirs next time.. Rosalie feels the contentment in the life

of the character Ida, which is the life she always aspired to live. She is happy to find her old acquaintance as, "In that moment, I felt a deep sense of gratitude. Ida knew me, my family, my cabin, these woods. She would come back." (TSK 24). The time she spends in the woods feels like, "Nothing was required; no one needed my help. I was once again taking inventory, this time of my own life." (TSK25)

The next meet up of the old acquaintance was brushed with wild gifts like, "I gathered in Ida's gifts: dried berries, cedar for tea, and a container of soup, as well as packages of venison steaks, sausages, chops. Enough meat to keep me through the winter." (TSK 25). Rosalie also gives importance to the Minnesota River, as a long standing visualize which has come across so many generations, seen so many people, felt and undergone various changes, filled many lands with its living giving source of water, this river becomes an identity marker, "Every empty bottle and broken branch carried a story from the north, news from a world that I had been taken from as a child. This water was my only connection to the land where I was born." (TSK 30). Rosalie finds a man who buys her bread for lunch while she forgets to bring money on her running time to school, he is farmer expressively, "A John Deere seed cap pushed up on a high white forehead marked him a farmer. No wonder he looked strong, with broad, hay-baling shoulders, and ropy forearms - a man used to working with his hands" (TSK 33).

The trickle of water in winter near the river remind Rosalie of her home, she remembers her to be placed in the lands of Dakota once it was her father's and her belonging, she collecting the watercress and wild onions, they drink from cupped palms, he making a pot of coffee, squirrel stew with wild potatoes for his daughter. She commemorates, "He would have told me stories, the old ones, that can be shared only when there is snow on the ground" (TSK 69). The process of patience, timing, waiting and energy consuming way of bearing fruits of apple trees are claimed as,

Clearly these trees had not been pruned in years, with branches growing every which way. After spending a morning observing them, I saw how much energy was pulled away by the little sprouts that grew at the joints of larger branches, how the trees needed to be shaped to hold the weight of ripe apples in late

summer...In the spring, the trees would use that freed-up energy to make fruit. Maybe I would even learn to make pie. (TSK 69)

The early May indicated the arrival of new life on land, "In every corner of the farm, new life was sprouting"(TSK 70). Rosalie started naming her chickens with favorite names, the bond of love as Curly girl, Snowpants, Big Red. She defines the condition of farm necessary as,

The barn seemed enormous, built to hold everything a farm needed and other things that might come in handy. A tractor was parked at the back, near a pile of used boards waiting to have their nails removed. A mouse-eaten wool blanket and a cracked leather saddle sat on the top rail of an empty stall. Hanging from a nail in the wall was an old saw, its dull teeth aching with rust (TSK 70)

John's father used horses to plow the land, the people of their foster generations connected to livestock as their own family members, "he grew up using horses to plow the fields. Only time I ever saw the old man cry was when we had to sell those horses."(TSK 71). His father didn't like farming after they have sold the horses in place of exchange they bought the tractor, which has high maintenance of gases and repairs, but the horse was just the another mouth to feed, "We couldn't afford to keep them on, not after we bought a tractor that needed repairs and gas. Horses were another mouth to feed. I don't think my father liked farming so much after they gone. Said he didn't like the way things were changing" (TSK 71). The concept of agroecology is represented through the words of John's father natural cycle of farming which ensures the soil health, food health, and in time enhances the good health for the people, it is intrinsic in nature that to ensure the better health of people, concentration over the food and soil health has the overarching importance.

He used to say that farming was about taking care of your family. If you had figured right, everything worked together. Horses pulled the plow and their manure was used to fertilize the fields. A good farmer rotated his crops, took care of his soil. That's how my daddy learned it, and that's what he taught me and Eddie. But things started changing after World War II. Hybrid seeds, chemical fertilizers, new equipment. Farmers like my father are left behind. (TSK 71)

Gaby warns about the Meister family, they were a line of hard drinkers and who are fast with their fists, and she asked Rosalie to enquire how Meister got their land that they are living now. Gaby puts forth that she will become a lawyer and get the land back to Rosalie, "You watch someday I'm going to be a lawyer, and then I'll get the land back, howah!" (TSK 73). After hearing from Gaby, Rosalie feels happy and starts cleaning the house and finds, John's mother had left a tiny box of seeds, "I studied the jars, wondering if it had been John's mother, Edna, who canned all this food...I spotted a shoebox with "Edna's Seeds" written on it in shaky letters" (TSK 73). Rosalie forgets about all the cleaning stuff and curious about the box, she found there were neat rows of small envelopes, "I carefully removed a few envelopes, starting with "Edna's German Tomatoes" and "Judith's early beans" (TSK 73), she pours few seeds into her hand to identify what's unique in it, "The smooth white teardrop of the squash, the dark oval of the bean. We spent the morning together, the seeds and me, and by noon I felt we were well on our way to becoming acquainted" (TSK 73).

Rosalie discusses with John and initiates her plan of starting a garden and planting all the seeds, she acquires the seeds having the warmth for life, "Everything even in my casual inventory that morning, I had felt the quickening in the seeds when they were exposed to the light, when they felt the warmth of my hand."(TSK 74). John admires the freshly titled land and feels proud for his land being the best in his soil health, "admiring a large rectangle of freshly turned earth, black and moist from the spring rain" (TSK 74), remembers the hard work of his father that has kept the better condition of soil for years.

This has got to be some of the best in the country. My daddy worked hard to keep these fields and this garden in good shape. He made sure Eddie and me spread plenty of manure. He used to watch us work, and whenever we slow down, he'd say, 'The nation that destroys its soil destroys itself.' Franklin D. Roosevelt."(TSK 74). Rosalie distracts from the words of John, and admires, "distracted by the fertile smell of the earthworms, old manure, and damp soil...I admired the cleared garden plot."(TSK 74). She wonders how to plant the seeds, as she has not come across this work or learned from any family members. She puts forth,

My foster family ate canned corn as their one vegetable, and my father had taught me to gather wild plants, not grow them. I could go to the library, but I didn't want to take the time. The seeds are ready. And the day seemed just right for planting, the morning's cool air turned warm by afternoon sun. The chickens roamed the yard, scratching, clucking, and occasionally fighting. I could hear the faint rumble of John's tractor in the distance.

The specific reference from the novel, *The Seed Keeper*, mark us to find the importance of land and soil health, which is direct proportionate to the development in food and human health. All the three parameters are

interconnected to each other. The initial stage in producing and developing the soil health is more important, as to improve the health of humans, and to consume nutrient rich foods. Thus, agroecology through the novel *The Seed Keeper* states the importance in improving and noticing the soil health, by recognizing the traditional knowledge that our ancestors worked on, believed and successfully nourished the soil through natural means.

Works Cited

1. Wilson, Diane. *The Seed Keeper*. Milkweed Editions, 2021.