Exploring Health–Nutrition–Ecology Relationships and Resilience through Food-Farming Practices in Thailand

23 July 2024
Explorations

Combining livestock and an orchard on hilly forestland in Pang Mapha, Maehongson, Thailand. © Judith Bopp. All rights reserved.

by Judith Bopp

Food–Health Relationships

The word *Lebensmittel*, one of several words for food in German, translates as “means to life” in English. This concept illustrates that supplying the body with nutritional and suitable foods is the key to maintaining vitality and overall well-being. Food–health linkages have already been recognized within scientific communities.[1] But the food-security concept, which is commonly used to measure sustained access to sufficient, safe, and nutritious food intake in the Global South, does not properly explain how food relates to better health.[2] The nutrition-security concept, which considers the nutritional quality of food intake beyond quantity and is integral to the prevention of health conditions borne to malnutrition, could serve as a more adequate measure of the food–health paradigm.[3]

Equally important are our own senses. If not clouded by continuous adverse eating habits or addictive substances that suppress selective body instincts, our senses can help choose foods before eating them.[4] The intake of substances that are difficult to metabolize can manifest on both the physical and mental level, resulting in maldigestion, metabolic diseases, and stress.[5] What we eat influences our mood and hormonal status, our intrinsic drive, and our social interactions with others. Studies even allude to links between diet and depression and cognitive decline.[6] As such, eating in agreement with our individual metabolism plays a role in preventive care for one’s health. A healthy

relationship to food matters not only to our bodily functions but also to our nurturing of a sound and robust mind, both assets necessary for resilient, individual health.

Food Provenance and the Ecological Basis for Human Health

Relationships between healthy food and human health unfold along several axes, such as food–body–mind, soil–food–health, or biodiversity–health. All of these axes are rooted in food production. Food that is produced in accordance with natural growing conditions, seasonal cycles, and soil capacities is likely to resonate with the body's nutritional needs. One way of explaining these relationships is by analyzing the microbiomes in agricultural soils and the human gut.[7] In fact, root and gut microorganisms operate under similar conditions and their host plants—food crops—source microorganisms from soils.[8] A healthy gut system contains higher bacterial diversity generating essential vitamins and hormones from food. Similarly, a healthy soil ecosystem means high microbial diversity, which helps in processing biomass more easily and in improving the resistance to disturbances.[9] Agrochemicals contribute to the depletion of the microbial diversity of soils. Metabolized by the human organism, their residues in foods can then affect the human biogeochemical cycles[10] and have adverse effects on dermatological, neurological, and respiratory health.[11]

Food and nutrition, individual health, and ecological factors are deeply entangled, calling for recognition of the "broader ecological basis for health."[12] This relationship demonstrates how the food–health nexus extends to the quality of agricultural soils as the environment in which food is grown.

The literal translation of the Thai-language term *kaset thammachard* is "agriculture according to the law of nature" and is often used instead of "organic agriculture." Organic agriculture is a holistic approach to agricultural production: it seeks to sustain ecological and human health and to protect biodiversity while adhering to ecological cycles.[13]

Organic Small-Scale Farming and the Myth of Good Food Having to Be Expensive

Small-scale farmers around the world are making a great contribution to nutritional security in their regions. In a February 2024 interview I conducted with the manager of a social enterprise in the organic food industry in Bangkok, Thailand, I discovered that most people assume eating any vegetable is beneficial to their health, no matter where and how

it was grown. However, vegetables from commercial food production in Thailand are often susceptible to contamination. For this reason, many small-scale farmers who are aware of the residues from the continuous use of agrochemicals in their produce, cultivate personal vegetable and rice crops separately from their commercial fields. My interviewee divulged to me that chemical residues in food being a key cause for increased cancer rates is a widely accepted belief in Thailand.

Though not all Thai farmers are able to exclusively produce chemical-free commercial crops, those farmers who embrace organic farming and similar local, chemical-free methods do take measures to foster food–health relationships and provide wholesome, nutritious foods to their own families and consumers. My fieldwork with organic farmers in Thailand between 2014 and 2024 shows that, among these farmers, many actually follow the mindset that producing good food for themselves consistently entails producing good food for others as well. The fieldwork not only showed farmers' own considerations of the health risks caused by the use of agrochemicals, but also how organic farming can go beyond mere methods and embrace an approach to life.[14]

Three farmers cultivating edible forest gardens: mushrooms for home use; beekeeping for fruit-tree fertilization; flowers and herbs to promote farm biodiversity. © Judith Bopp. All rights reserved.

In turn, consumers can also function as vital supporters of organic farming, validating farmers' valuable services to society. In Thailand, however, instead of being accessible to all, organic products often become exclusive to consumers able or willing to spend more money. This is because organic supermarkets tend to significantly mark up organic products.[15] Meanwhile, alternative marketing initiatives operating on the basis of direct consumer–producer links (e.g., farmers markets, self-organized consumer circles sourcing from groups of farmers, or delivery schemes) or through social enterprises have emerged to enable fair prices for both organic farmers and consumers. These schemes often skip the organic certification process, which usually drives the product price up, and thus allow organic products to be sold without a significant markup compared to nonorganic foods,[16] thereby disproving the persistent myth that organic food is inherently expensive.

Changing Farming Narratives for New Agricultural Discourses

Considering the precarious situation of small-scale farmers around the world, one cannot avoid finding answers in current hegemonic productivist farming narratives, which seem to fuel the crises that the small-scale farmers face. To elevate alternative farming mindsets based on holistic agricultural practices that show responsibility to human and ecosystem health, there is urgent need for a change in the agricultural discourses at both the local and the global level. The way food is produced and how it is consumed matters to ecology, health, and nutrition. When considered against the background of insecure livelihoods, indebtedness, and the increase in illness among Thai farmers resulting from the use of agrochemicals and degraded farmland, organic farming practices have the potential to ensure safe foods without jeopardizing the economic well-being of small-scale farmers while still maintaining ecological integrity. Ultimately, there is a way to support the resilience of small-scale farmers as well as the resilience of biodiversity-rich ecological systems.

To achieve broadscale change and realize this support, the discourses surrounding agricultural practices demand a shift in mindset among actors on all levels, from global and regional agro-industrial players, agricultural institutions, decision-makers, and the food sector, to farmers and consumers. This change concerns the redistribution of agricultural subsidies toward more ecologically and socially oriented ways of farming. Agricultural subsidies, such as for land or farm inputs, originally aimed at improving food security and increasing agricultural production, have been distorting agricultural realities for decades worldwide. One reality is that large-scale farmers often draw more benefits from the subsidies than small-scale farmers.[17] Also, subsidy cuts and redistributions are difficult to enact against the opposition of influential farmer lobbies.

In January 2024, a weeklong protest gathered tens of thousands of farmers to block roads with their tractors in several cities across Germany. Their protest targeted a recent government proposal to cut tax rebates for the use of diesel fuel in agricultural production.[18] The proposal is a measure toward the use of renewable fuels in agriculture. It is highly supported by the German Greens' approach to the sustainable transformation of agriculture,[19] (Bündnis 90/Die Grünen 2024), but has led to anti-Green sentiments, especially among conventional farmers. The protests also reflect how competing, often vested, interests among diverse actors presently still bar the way to greater momentum for organic farming on the small scale.

Understanding the status quo of agriculture and designing future paths for agriculture requires holistic perspectives. This implies new discourses that move away from traditional, productivist narratives and acknowledge the value of organically grown foods by local, small-scale farmers. Rethinking food production as the linking of sound ecological environments, human health, and nutrition as a new **health–nutrition–ecology nexus** and stimulating human and ecosystem resilience might help promote new agricultural narratives and address current gaps in global agricultural discourses.

A version of this **article** was first published by Heinrich Böll Stiftung Southeast Asia Regional Office.

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