The Lifestyle of Health and Sustainability Framework in Agricultural Community

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ABSTRACT

Background: *The Lifestyle of Health and Sustainability (LOHAS) concept encourages life choices and adopting behaviors that prioritize both environmental sustainability and personal well-being. Lifestyle shifts and food consumption patterns are significant factors that often hinder the pursuit of a healthy and sustainable way of living. The purpose of this research is to explore the concept of LOHAS and its role in addressing the fundamental health needs of agricultural communities.*
Method: *This study employs a descriptive-analytic method with a cross-sectional design. A sample of 138 fish cage farmers was selected. Primary data were collected through interviews using questionnaires and direct observations, focusing on aspects such as physical fitness, mental and emotional health, spiritual well-being, environmental awareness, and social responsibility. The data were analyzed descriptively.*
Result: *The majority of fish cage farmers are males over the age of 50 years old. Aging farmers face physical and health challenges that can impact their productivity and long-term sustainability. Optimal physical health in agricultural communities can be supported through a balanced diet and regular exercise. Moreover, mental and emotional well-being can be enhanced through stress-relief activities, meditation, and fostering positive relationships. Adopting a holistic health approach enables communities to address physical, mental, emotional, and environmental aspects in alignment with the LOHAS framework.*

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INTRODUCTION

Sustainable living or sustainability is a socio-ecological process that promotes human and environmental well-being. Sustainable living involves products, behaviors, and activities that fulfill the needs of living creatures without compromising resources access for future generations.(1) Global social issues, shaped by phenomena such as globalization, immigration, and mass media, highlight the importance of understanding cultural dynamics to better comprehend individual behavior changes worldwide.(2) The growing significance of migration and the role of ethnic identity in modern society contribute to understanding sustainable lifestyle shifts, especially in the context of multicultural education. (3) Cultural factors, such as food preferences, preparation methods, and consumption choices, play a vital role in sustainability, with significant social and environmental implications.(4) Research on the relationship between humans and food in modern society is considered more for its symbolic value, related to individual, social, and collective self-development. (5)(6)

According to the World Health Organization (WHO), 1.13 billion people worldwide aged 30-79 suffer from hypertension, but only 20% have their condition well-managed.(7) In 2019, the International Diabetes Federation (IDF) reported that 463 million people globally had diabetes, a number projected to rise to 700 million by 2045. The Lumajang District Health Service's strategic plan for 2018-2023 indicates that healthcare coverage for hypertension is only 35.58%, and for diabetes mellitus, only 26.47%.(8) These low rates are exacerbated by pesticide-related illnesses in agricultural areas. (9) Thus, there is a need to enhance Clean and Healthy Living Behavior to 80% through disease control and environmental sanitation initiatives. (5) (10)

On a global scale, trends in the consumption of unhealthy and unsustainable food are evident and occurring across diverse cultural settings.(11) Food production and consumption systems have serious and interrelated implications for both public health and environmental quality, throughout the world.(12) (13) Food production systems have far-reaching implications for public health and the environment, (14) with animal

feed production being a significant contributor to greenhouse gas emissions. Although meat provides essential nutrients, it is also a major source of saturated fats, which increase the risk of cardiovascular disease.(15) (16) Understanding how food choices interact with cultural and sustainability processes is crucial, particularly regarding public health outcomes related to food habits. (17)

To reach the 80% target for clean and healthy lifestyle, strategies include bolstering public education, expanding access to healthcare, tightening pesticide regulations, and promoting community health initiatives. (18) WHO suggests interventions such as reducing salt intake, increasing fruit and vegetable consumption, and promoting physical activity to manage hypertension. (19) For diabetes, global management strategies focus on patient education, dietary control, physical activity, and appropriate medication. Type 2 diabetes, which is strongly associated with obesity and unhealthy lifestyles, (20) is the most common form of diabetes.

One effective approach to addressing public health challenges is the Lifestyle of Health and Sustainability (LOHAS) framework. LOHAS emphasizes the importance of individual well-being through healthy living practices, such as a balanced diet, regular physical activity, and stress management, while considering the environmental impact of everyday life choices.(21) LOHAS promotes a lifestyle that supports personal health and environmental sustainability, which can play a key role in reducing the incidence of non-communicable diseases (NCDs) like hypertension (22) and diabetes.(23) By adopting a diet rich in fruits, vegetables, and whole grains while limiting sugar and salt intake, individuals can help prevent and manage these conditions. Additionally, regular exercise enhances physical fitness, reduces weight, and improves insulin sensitivity, crucial for managing diabetes and hypertension. Public awareness campaigns on the importance of healthy eating and active living can further support these goals. Given this background, this research aims to explore the concept and implications of LOHAS as a means of meeting the basic health needs of agricultural communities.

METHOD

This descriptive quantitative study employed an explanatory survey design. This research aimed to explore the concept of LOHAS and its role in addressing the fundamental health needs of agricultural communities. The population of this study consisted of farmer fish cages in Ditorunan Lumajang with a total sample of 138 people. Purposive sampling was used to select respondents according to the criteria: society farmer Karamba in Ditotrunan Lumajang, who regularly participates in Posyandu activities at the Rogotrunan Lumajang Health Center. The research was conducted in 2023 with a data collection stage of 7 months starting from socialization to the observation stage.

The research variables were: physical fitness, mental health, emotional health, spiritual health, environmental health, and social consciousness. This research includes a questionnaire section and an observation checklist. Respondents rated each statement using a 5-point Likert scale: 1 (Strongly Disagree) to 5 (Strongly Agree). Data collection techniques included questionnaires and observations regarding physical fitness, mental health, emotional health, spiritual health, environmental awareness, and social consciousness.

Data analysis was carried out using descriptive statistics, including frequency, mean, and standard deviation of demographic data. The research findings served as the basis for identifying strategic issues and formulating recommendations. Ethical approval for this study was obtained from the Research Ethics Commission of the Faculty of Nursing, Jember University (Approval No. 058/UN25.1.14/KEPK/2023, February 15, 2023).

RESULT AND DISCUSSION

Demographic data on the agricultural area of Karamba Ditotrunan Village, Lumajang District (n=138) based on Table 1 shows that the characteristics of the majority of respondents (68.1%) are male and 39.1% are Data shows that 39.1% of cage farmers are the age range of 50 – 59 years old. Table 1 provides detailed information on respondents' characteristics.

Table 1. Distribution of respondents' characteristics

Characteristics	f	%
Gender		
Men	94	68.1
Woman	44	31.9
Age		
< 40 years	11	7.9
40 – 49 years old	21	15.2
50 – 59 years old	54	39.1
60 – 69 years old	46	33.3
>70 years	6	4.3
Total	138	100

Based on the data collected, 68.1% of fish cage farmers were men, revealing a significant gender imbalance in this sector. Several factors may contribute to this disparity, including cultural and social norms. In many societies, traditional gender roles dictate that women are more involved in household duties and child-rearing, while men are expected to provide financial support through external labor.(24) Such stereotypes and social norms can influence women's career choices and participation in the

agricultural sector. Such stereotypes and societal expectations can affect women's career choices, limiting their participation in sectors like cage farming.

Moreover, access to essential resources such as land, capital, technology, and training may pose barriers for women entering cage farming, preventing their full engagement in the sector. Additionally, the division of labor based on physical demands may explain why men are more involved in physically intensive tasks such as cage maintenance and fieldwork, while women may participate in post-harvest activities, like processing and marketing. However, encouraging women's participation in cage farming holds the potential for improving the sector's sustainability and overall well-being. Women possess unique knowledge and skills, especially in natural resource management and environmental stewardship. By providing better access to resources, training, and support policies, women's contributions to agricultural communities can be enhanced.(25) An inclusive approach that promotes gender equality and raises awareness about the role of women in cage farming is vital. Collaborative efforts involving the government, community organizations, and educational institutions are necessary to support and empower women in overcoming these barriers.

In addition to the gender imbalance, the data also show that 39.1% of fish cage farmers are between the ages of 50 and 59, indicating that the farming population is aging. Several factors could explain this trend. Younger generations may be moving to other jobs or professions that offer greater financial security or more promising career prospects. The complexities of cage farming, such as climate change, fluctuating agricultural policies, and market challenges, may discourage younger individuals from pursuing this occupation. Older individuals in rural areas often have strong ties to their land and traditions, continuing the work of previous generations. Economic factors also play a role; younger farmers may struggle to access capital and resources needed to establish or expand their businesses, while older farmers may have accumulated assets over time, allowing them to maintain their operations.

Nevertheless, the predominance of older farmers presents challenges. This demographic may face physical and health limitations, which could affect productivity and long-term sustainability. To address this, efforts should focus on strengthening the sector and encouraging younger farmers to get involved. Government agencies and organizations can provide support in the form of training, access to capital and technology, and policies aimed at sustaining the cage farming industry. Raising awareness about the benefits and opportunities of cage farming can also help attract younger generations to the field. In conclusion, the dominance of male and older farmers in the fish cage farming sector highlights the need for policies and initiatives aimed at achieving gender balance and ensuring generational renewal. By supporting women's participation and encouraging younger farmers to enter the sector, agricultural communities can benefit from increased sustainability, productivity, and economic stability.

In this study, the concept of a "Sustainable Lifestyle" is characterized by six core components: physical fitness, mental health, emotional well-being, spiritual health, environmental health, and social consciousness. These six components are interrelated and influence each other in creating balance and sustainability in everyday life. Fulfilling the basic health needs of agrarian communities through a "Sustainable Lifestyle" is very important because their lives are very dependent on the natural environment and natural resources.(3) By adopting a "Sustainable Lifestyle", agricultural communities can achieve optimal physical health through a balanced diet and regular physical activity. Additionally, mental and emotional health can be improved through the practice of meditation, activities that reduce stress, and healthy relationships with others. Overall, this research emphasizes the significance of a "Sustainable Lifestyle" in addressing the fundamental health requirements of agricultural communities. By engaging in Problem-Based Learning, these communities can acquire the necessary knowledge and skills to adopt sustainable practices that benefit their overall health and well-being.

The LOHAS scale consists of six attitudinal components: physical fitness, mental health, emotional health, spiritual health, environmental health, and social awareness. The following are the results of LOHAS identification in the Karamba agricultural area community Ditotrunan Village, Lumajang District in Table 2.

The LOHAS (Lifestyles of Health and Sustainability) questionnaire is used to measure individual attitudes and behavior regarding health and sustainability. Table 2 shows the distribution of the LOHAS scale based on six main components: physical fitness, mental, emotional, spirituality, environmentalism, and social consciousness. Each statement was assessed using a Likert scale with the average (mean) shown in Table 2. The data reveal that respondents generally demonstrate high social awareness about health in their daily lives, with several statements having a mean close to 4.8. However, there was a slight decline in reading food labels (Mean = 3.3), suggesting that this may be an area that requires more attention.

Table 2. Distribution of the LOHAS scale

Statement	Score	Mean	Median	Modus	SD
Physical fitness					
1. I buy and eat food with my health in mind.	546	3.9	4	5	1.01
2. I limit foods such as sugar, coffee, fat, etc.	531	3.9	4	5	1.33
3. I choose a diet low in fat, saturated fat, or cholesterol.	504	3.6	4	3	1.16
4. I avoid foods with high additives.	562	4.1	5	5	1.18
5. I usually read the ingredients on food labels.	450	3.3	4	5	1.46
Mental					
1. I try to control stress.	583	4.2	5	5	1.09
2. I reduce stress and anxiety.	575	4.2	5	5	1.19
3. I use special methods to control my stress.	541	3.9	4	5	1.38
Emotional					
1. I try to take a positive view of things.	618	4.5	5	5	0.80
2. I think positively about life.	623	4.5	5	5	0.78
3. I try to deal with failure and frustration positively.	609	4.4	5	5	0.95
4. I can talk openly about how I feel when I'm angry or worried.	607	4.4	5	5	1.00
Spirituality					
1. I feel connected to a power greater than myself.	651	4.7	5	5	0.66
2. I nurture the spiritual aspect of myself	661	4.8	5	5	0.53
3. I spend part of each day in prayer, meditation, or personal reflection.	653	4.8	5	5	0.56
Environmentalism					
1. I protect the environment.	650	4.7	5	5	0.66
2. I choose environmentally friendly products.	604	4.4	5	5	1.08
3. I choose sustainably sourced products over conventional ones.	569	4.1	5	5	1.20
4. I am interested in renewable energy sources.	536	3.9	4.5	5	1.41
5. I prefer sustainable farming practices.	521	3.8	5	5	1.48
6. I prefer products that are produced sustainably.	517	3.8	4	5	1.34
7. I prefer products made from recycled materials.	541	4.0	5	5	1.45
8. My purchasing decisions are based on their impact on the world.	550	4.0	5	5	1.36
9. I teach the benefits of environmentally friendly products to family or friends.	577	4.2	5	5	1.26
10. I am willing to reduce my consumption to help protect the environment.	594	4.3	5	5	1.13
Social Consciousness					
1. I am socially aware.	662	4.8	5	5	0.45
2. I consider the local community and its members in my daily life.	664	4.8	5	5	0.39
3. I consider the entire world and population in my daily life.	651	4.7	5	5	0.59

Respondents generally expressed high awareness of stress management with a mean of 4.2 for the first statement. However, there is a decrease in the mean in the method control stress (Mean = 3.9) indicating the need for more effective stress management techniques. A positive attitude towards life and the ability to overcome failure was notable (Mean = 4.5 and 4.4, respectively), reflecting respondents' good health and emotional well-being. However, the willingness to open up when angry or worried (Mean = 4.2) could be improved. The data also indicated a high level of spiritual connectedness, with a mean of 4.7 for the first statement, emphasizing the importance of spirituality in respondents' lives. Environmental awareness and behavior were moderate in some areas, such as protecting the environment (Mean = 3.8). However, there was a decline in public transport use (Mean = 4.0), suggesting areas for improvement in sustainability practices. Social awareness was notably high, with a mean close to 4.8 across all statements, demonstrating respondents' concern for social welfare.

The LOHAS (Lifestyle of Health and Sustainability) concept promotes choices and behaviors that focus on personal health and environmental sustainability. This lifestyle encompasses a healthy diet, consistent physical activity, stress management, and the avoidance of harmful habits. LOHAS is seen as both a perceptual and behavioral approach that prioritizes personal well-being alongside environmental and social responsibility, aiming for balanced prosperity among individuals, nature, and society.(26) Consumers who are aligned with LOHAS principles tend to make decisions based on their commitment to health and sustainability. The LOHAS framework was developed by the Natural Marketing Institute (NMI) to identify a growing global

trend, which first gained traction in Asia and has now sparked discussions in U.S. literature.(27) While some studies have explored the interests and behaviors of LOHAS consumers in business contexts, the findings remain inconsistent.

As discussed earlier, LOHAS is recognized as a multidimensional construct encompassing six key beliefs and attitudes: physical fitness, personal development, philosophical values, psychological values, ecological orientation, and social responsibility.(3) Each of these components is measurable through a multi-item scale, developed through a comprehensive literature review. Agricultural communities face distinct health challenges due to occupational hazards, limited access to healthcare, and typically lower socio-economic status. Meeting the basic health needs of these communities is essential for improving their overall well-being and productivity.(28) The LOHAS framework, which highlights physical, mental, emotional, spiritual, environmental, and social health, (29) can serve as an effective model for designing interventions in these communities.

The first essential health need in agricultural communities is physical health, often compromised by occupational risks. Farmers face dangers such as heavy machinery, chemicals, and physically demanding work, leading to higher rates of injuries and chronic conditions like musculoskeletal disorders. (30) Additionally, rural healthcare is often inadequate, with limited facilities resulting in delayed treatment and poor management of chronic illnesses. Mental health issues, such as stress and anxiety, are prevalent due to the unpredictable nature of farming, financial pressures, and social isolation, contributing to high levels of stress and mental health disorders among farmers.(31) Emotional well-being, or community support, is also vital; while strong social ties are essential for emotional health, many agricultural workers experience isolation.(32) Spiritual health is integrating cultural and spiritual practices into health interventions that can increase acceptance and effectiveness.

Exposure to Pesticides in Environmental Health about long-term exposure to pesticides poses significant health risks, including respiratory issues, skin disorders, and cancer.(33) Social awareness is education and empowerment about providing education on health practices and empowering community members to take charge of their health can lead to sustainable improvements.(5)(34) Implementing a LOHAS intervention framework in agricultural communities can holistically address their basic health needs. (32) By focusing on physical, mental, emotional, spiritual, environmental, and social health, such interventions can lead to sustainable improvements in the well-being of these communities. Increased consumption of fruits and vegetables has been linked to various health benefits, including reduced risks of diabetes, (35) metabolic syndrome, heart disease, and cancer, while also having a lower carbon footprint.(12) Increased consumption of fruits and vegetables has been linked to various health benefits, including reduced risks of diabetes, metabolic syndrome, heart disease, and cancer, while also having a lower carbon footprint.(4) Studies have also examined the role of ethnicity in shaping food choices, focusing on the process of acculturation, which can sometimes lead to a decrease in fiber-rich food consumption and an increase in high-sugar foods.(36)

Sustainability is another critical aspect of this lifestyle, encouraging the wise use of resources, reduction of waste, adoption of renewable energy, and protection of natural ecosystems.(37) The LOHAS lifestyle also advocates for considering the long-term health and environmental impacts of everyday decisions, such as the use of personal care products and household cleaners. By adopting healthy and sustainable habits, individuals can positively impact their well-being and safeguard the environment. Even small changes in daily habits can make a significant difference. Supporting women's empowerment through education and skill-building activities in areas such as poultry farming can enhance their capabilities. Raising awareness about gender equality in agriculture, along with educational initiatives to challenge gender stereotypes, can encourage greater participation of women in this field.

CONCLUSION

A sustainable healthy lifestyle can be understood as a way of living aimed at raising awareness in society about adopting habits that promote both personal health and environmental sustainability. Agricultural communities face distinct challenges such as occupational hazards, limited healthcare access, and socioeconomic disparities, which significantly affect their physical and mental health. The LOHAS framework provides a holistic approach to addressing these challenges by integrating physical, mental, emotional, spiritual, environmental, and social health dimensions.

Some effective strategies to implement include increasing access to health services, promoting stress management techniques, raising awareness about the risks of pesticide exposure, and fostering community support systems. Communities can also introduce exercise programs tailored to different age groups, helping older adults improve mobility and reduce physical limitations. Additionally, government initiatives can support educational programs that focus on balanced, nutrient-rich diets, particularly for aging farmers. These programs

should aim to enhance energy levels and manage common conditions, such as hypertension or diabetes. A holistic approach to health, which addresses the interconnectedness of physical, mental, emotional, and environmental factors, aligns with the principles of the LOHAS framework. Health and environmental challenges related to dietary habits and lifestyle choices continue to be growing concerns, particularly in developing nations.

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Conflict of Interest

The authors declare that there's no conflict of interest.

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