

Implementation of Green Economy Through Integrated Urban Farming as Family Economic Resilience During The Pandemic: Maqasid Sharia Perspective

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ABSTRACT

Due to the corona virus's fall in different economic areas, many individuals have difficulties fulfilling their basic demands. Urban farming is one of the answers to food availability, and their primary concerns are food safety, food pricing, and stimulating the local economy. People cultivated short-lived crops in tiny pots or used the hydroponic method in their yards. Integrated urban farming is a type of green economic activity that adheres to maqasid sharia's maslahah aim. Field research is used to gather essential data. It is conducted on the site to be studied and supplemented with field data in the form of interviews. This study is descriptive, with an emphasis on analysis using a logical method. The green economy with integrated urban farming aims to improve the community's economic well-being and can help mitigate the risk of substantial environmental harm, including the pandemic's detrimental impact on macro and micro food security. It can be observed that the green economy concept can be integrated with the pure maqasid sharia values harmoniously.

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Abstrak: Karena jatuhnya virus corona di berbagai bidang ekonomi, banyak individu mengalami kesulitan memenuhi tuntutan dasar mereka. Pertanian perkotaan adalah salah satu jawaban untuk ketersediaan pangan, dan perhatian utama mereka adalah keamanan pangan, harga pangan, dan merangsang ekonomi lokal. Orang-orang membudidayakan tanaman berumur pendek dalam pot kecil atau menggunakan metode hidroponik di pekarangan mereka. Pertanian perkotaan terpadu adalah jenis kegiatan ekonomi hijau yang menganut tujuan maslahah syariah maqasid. Penelitian lapangan digunakan untuk mengumpulkan data penting. Hal ini dilakukan di situs untuk dipelajari dan dilengkapi dengan data lapangan dalam bentuk wawancara. Penelitian ini bersifat deskriptif, dengan

penekanan pada analisis menggunakan metode logis. Ekonomi hijau dengan urban farming terintegrasi bertujuan untuk meningkatkan kesejahteraan ekonomi masyarakat dan dapat membantu mengurangi risiko kerusakan lingkungan yang substansial, termasuk dampak merugikan pandemi terhadap ketahanan pangan makro dan mikro. Dapat diamati bahwa konsep ekonomi hijau dapat diintegrasikan dengan nilai-nilai syariah maqasid murni dengan cara yang harmonis.

Kata kunci: ekonomi hijau, maqasid syariah, pertanian perkotaan, pandemi, ketahanan pangan

INTRODUCTION

Covid-19 has developed into a dreadful breakout event for all nations¹. The World Health Organization proclaimed it a worldwide epidemic or pandemic on March 11, 2020, due to its rapid spread, including Indonesia. Since the WHO release, several nations have taken steps to avoid numerous people exposed to the Covid-19 virus, ranging from Social Distancing to lockdown. In Indonesia, remote working, social separation, large-scale social limitations, and even limits on communal activities have all been enforced².

The Covid-19 pandemic is a health problem and an unprecedented social and economic crisis³. Almost every day, many individuals lose their employment

and even their money, with no way of knowing when this state of affairs will end. Due to the corona virus's fall in different economic areas, many individuals have difficulties fulfilling their basic demands⁴.

Urban farming is one of the answers to food availability, and their primary concerns are food safety, food pricing, and stimulating the local economy. People cultivated short-lived crops in tiny pots or used the hydroponic method in their yards. As a result of these factors, their products do not reach the commercial market, despite the possibility of doing so⁵.

Urban vertical farms may serve a variety of tasks and provide a variety of advantages to city dwellers. They enable patchwork connections in a multi-scale system, stabilizing a specific city biome in vertical space⁶.

¹ Stephanie L. Morris et al., "Social Prescribing during the COVID-19 Pandemic: A Qualitative Study of Service Providers' and Clients' Experiences," *BMC Health Services Research* 22, no. 1 (December 25, 2022): 258, <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-022-07616-z>.

² Muhamad Subhi Apriantoro, "Penyelesaian Sengketa Kepailitan Ekonomi Syariah Perspektif Ibnu Rusyd Al-Qurthubi Dalam Bidayatul Mujtahid Wa Nihayatul Muqtashid," *Jurnal Ilmiah Ekonomi Islam* 7, no. 3 (2021).

³ Dwi Rahmayani, "The Impact of Covid-19 Pandemic on Inflation in Indonesia," *Jurnal Ekonomi Pembangunan* 22, no. 2 (2021): 117–128.

⁴ Mohammad Zen Nasrudin Fajri et al., "The Effect Covid-19 and Sectoral Financing on Islamic Bank Profitability in Indonesia," *Journal of Islamic Economic Laws* 5, no. 1 (March 11, 2022): 38–60, <https://journals.ums.ac.id/index.php/jisel/article/view/17181>.

⁵ Purwanto et al., "Urban Farming and Food Security: Household's Adaptive Strategy to COVID-19 Crises," vol. 892, 2021.

⁶ Anna Zaręba, Alicja Krzemińska, and Renata Kozik, "Urban Vertical Farming as an Example of Nature-Based Solutions Supporting a Healthy Society Living in the Urban Environment," *Resources* 10, no. 11 (October 25, 2021): 109.

Another type of urban farming is seed planting, which is critical for human existence. Many individuals utilize their yards to sow various seedlings throughout the outbreak. Urban agricultural activities raise people's quality of living by promoting healthier, more environmentally conscious lives and contributing to food security⁷. The community engages in urban farming to support the family economy. The notion of integrated urban farming was developed from these planting methods.

While the national food supply is still safe, it is vital to plan. Food security has been improved at the household, neighborhood, and national levels. Moving yard usage from villages with integrated agriculture to urban agriculture has improved family food security. Farmers are planting corn, cassava, sago, and tubers to lessen reliance on food supplies from neighboring countries whose delivery was interrupted by the Covid-19 outbreak. Food Estates are being built by the government to promote food security and food availability⁸. Food security is attained by significant short-, medium, and long-

term changes in the agricultural sector⁹.

One approach to handle the issue of family economic welfare collaboratively is through a new creation, the green economy, which is a notion that promotes the maqasid sharia ideal of sharing wealth while also improving human life and the environment¹⁰. The economic activity that provides the community with the most opportunity is integrated urban farming.

While the recent outbreak of Covid-19 slowed down the economy and caused uncertainty in the prices of natural resources, academic research began to pay attention. This study looked at how China's economy and natural resource prices changed from 1990 to 2020. That's not all: This study also looks at the role of renewable energy investment and green financing before and after the pandemic of Covid-19. In addition, the results show that renewable energy investment, renewable electricity output, and green financing all have a positive effect on the economy, which is why they are essential¹¹.

⁷ R Oktafiani, T Widiatningrum, and A Retnoningsih, "Determination of Seed Plant in Jepara's Urban Farming during the Pandemic Covid 19," vol. 1918, 2021.

⁸ Collins C. Okolie and Abiodun A. Ogundeji, "Effect of COVID-19 on Agricultural Production and Food Security: A Scientometric Analysis," *Humanities and Social Sciences Communications* 9, no. 1 (December 28, 2022): 64.

⁹ Suwardi, "Indonesian Food Security during the Covid-19 Pandemic," vol. 756, 2021.

¹⁰ Ahmad Syafiq, Sandra Fikawati, and Syilga Cahya Gemily, "Household Food Security during the COVID-19 Pandemic in Urban and Semi-Urban Areas in Indonesia," *Journal of Health, Population and Nutrition* 41, no. 1 (December 21, 2022): 4.

¹¹ Zeyun Li et al., "Role of Green Finance, Volatility and Risk in Promoting the Investments in Renewable Energy Resources in the Post-Covid-19," *Resources Policy* 76 (June 2022): 102563.

The post-pandemic energy transition roadmap was drawn up based on the challenges and opportunities found. It includes more green financing instruments, international cooperation, and green recovery plans. It's important to have a global low-carbon energy transition framework so that green recovery schemes can work after a pandemic¹².

Integrated urban farming is a type of green economic activity that adheres to maqasid sharia's aim. Additionally, it may be utilized to create cash that can be used to satisfy the family's economic and food needs through integrated urban agricultural operations¹³.

Economic actions based on maqasid sharia aim to produce mutual advantages, both in the here and now. This study aims to determine whether or not integrated urban farming in the hydroponic vegetable crop program is permissible from a maqasid sharia standpoint. It is advantageous if it is used and offers benefits. There are three levels of urgency for requirements to attain benefit fulfillment: dharuriyat needs, also known as primary needs, hajiyat needs, also known as secondary needs, and tahsiniyat needs, also

known as equipment needs. In maqasid sharia, the priority in addressing necessities is dharuriyat, followed by hajiyat, and finally tahsiniyat. Financial operations aimed at addressing dharuriyat demands are currently encountering problems. It is vital to establish a new method of enhancing society's welfare that is consistent with the principles of maqasid sharia and aspires to increase human dignity¹⁴.

Maqasid sharia is utilized as a standard for achieving the purposes of Islamic law around it, including protecting religion (*hifdzu ad-din*), protecting the soul (*hifdzu an-nafs*), protecting intellect (*hifdzu al'Aql*), protecting offspring (*hifdzu an-Nasl*), and protecting property (*hifdzu al-Mal*)¹⁵.

METHODS

Field research is used to gather essential data. It is conducted on the site to be studied and supplemented with field data in the form of interviews. This study is descriptive, with an emphasis on analysis using a logical method.

Primary data is gathered through direct field study from information supplied during

¹² Jinfang Tian et al., "Global Low-Carbon Energy Transition in the Post-COVID-19 Era," *Applied Energy* 307 (February 2022): 118205.

¹³ Colleen Hammelman et al., "Assembling Agroecological Socio-Natures: A Political Ecology Analysis of Urban and Peri-Urban Agriculture in Rosario, Argentina," *Agriculture and Human Values* 39, no. 1 (March 24, 2022): 371–383.

¹⁴ Mazroatus Saadah and Uswatun Hasanah, "The Common Goals of BAZNAS' Zakat and Sustainable Development Goals (SDGs) According to Maqasid Al-Sharia Perspective," *AL-IHKAM: Jurnal Hukum & Pranata Sosial* 16, no. 2 (December 31, 2021): 302–326.

¹⁵ Salman Syed Ali, *Towards a Maqāsid Al-Sharī'ah Index of Socio-Economic Development: Theory and Application* (Cham, SWITZERLAND: Springer International Publishing AG, 2019).

interviews, which can supply researchers with information directly, in this instance the Solo Raya Hydroponic Community is an urban farming actor using a hydroponic farming methodology. Interviews were conducted with the community center management and product users in the form of vegetable traders and the community. Information retrieval is based on the fact that the Solo Raya Hydroponic Community is a community that accommodates the majority of hydroponic farmers in the city of Solo, Indonesia.

Secondary data is information obtained from non-primary sources, such as books and journals. Because this data contains items that are not included in the primary data, it is utilized as a supplement.

The documentation technique is the data collection technique for secondary data sources. Internal data validity is achieved through increasing vigilance in data collection, selection, and processing. Meanwhile, the transferability pattern is used to perform external validity or extrapolation.

This research will evaluate the data using qualitative data analysis techniques and a case study methodology. The objective of using qualitative data is to acquire a deeper knowledge of the social phenomena and the subject's point of view.

RESULT AND DISCUSSION

While the globe is attempting to recover economically following the epidemic, the world is still confronted with the same

catastrophic threat, namely the threat of climate change¹⁶. According to the World Health Organization (WHO), climate change is responsible for more than 150,000 fatalities per year. Indeed, a new study has established a link between climate change and the development of the Covid-19 epidemic¹⁷.

In January 2021, research published in the journal *Science of the Total Environment* identified the first evidence of a process by which climate change might directly contribute to the formation of SARS-CoV-2, the virus responsible for Covid-19. Furthermore, researchers noted that Covid-19 is not the only infectious illness linked to climate change. WHO has been emphasizing the relationship between changing environmental conditions and pandemic illness for years¹⁸.

Many countries are facing growing levels of acute food insecurity, reversing years of development gains¹⁹. Even before

¹⁶ Hojat Rezaei Soufi, Akbar Esfahanipour, and Mohsen Akbarpour Shirazi, "A Quantitative Approach for Analysis of Macroeconomic Resilience Due to Socio-Economic Shocks," *Socio-Economic Planning Sciences* 79 (February 2022): 101101.

¹⁷ Ellen McHarg et al., "Valuing the Contribution of Blue Carbon to Small Island Developing States' Climate Change Commitments and Covid-19 Recovery," *Environmental Science & Policy* 132 (June 2022): 13-23.

¹⁸ Donatella Marazziti et al., "Climate Change, Environment Pollution, COVID-19 Pandemic and Mental Health," *Science of The Total Environment* 773 (June 2021): 145182, <https://linkinghub.elsevier.com/retrieve/pii/S0048969721002485>.

¹⁹ Janetta Azarieva, Elliot M. Berry, and Aron M. Troen, "Child Food Insecurity in

COVID-19 reduced incomes and disrupted supply chains, chronic and acute hunger was on the rise due to various factors including conflict, socio-economic conditions, natural hazards, climate change, and pests²⁰. COVID-19 impacts led to severe and widespread increases in global food insecurity, affecting vulnerable households in almost every country, with impacts expected to continue into 2022 and possibly beyond.

The primary risks to food security are at the country level: Higher retail prices, combined with reduced incomes, mean more and more households are having to cut down on the quantity and quality of their food consumption.

Numerous nations are suffering substantial retail food price inflation due to manpower shortages, a dramatic increase in fertilizer prices, currency devaluations, and other causes. Food inflation has a bigger impact on people in low- and middle-income nations, as they spend a greater proportion of their income on food than individuals in high-income countries²¹.

the Wake of the COVID-19 Pandemic: Urgent Need for Policy Evaluation and Reform in Israel's School Feeding Programs," *Israel Journal of Health Policy Research* 11, no. 1 (December 15, 2022): 13.

²⁰ Sagan Friant et al., "Life on the Rainforest Edge: Food Security in the Agricultural-Forest Frontier of Cross River State, Nigeria," *Frontiers in Sustainable Food Systems* 3 (December 20, 2019).

²¹ Zhilu Sun and Defeng Zhang, "Impact of Trade Openness on Food Security: Evidence from Panel Data for Central Asian

The World Bank's rapid phone polls in 72 countries reveal that a large proportion of individuals are running out of food or limiting their intake. Reduced calorie intake and impaired nutrition jeopardize poverty reduction and health benefits and may have a lasting effect on young children's cognitive development²².

According to the UN report on the State of Food Security and Nutrition in the World, between 720 and 811 million people worldwide would go hungry in 2020. Using the anticipated median (768 million), almost 118 million more people faced chronic hunger in 2020 than in 2019. Using a separate indicator that measures year-round access to enough food, approximately 2.37 billion people (or 30% of the world population) would face food insecurity in 2020 – a 320 million increase in only one year²³.

COVID-19 is expected to have raised the number of individuals experiencing severe food insecurity considerably between 2020 and 2021. According to the WFP, 272 million people in the countries where it operates are presently or are in danger of becoming acutely food insecure. Acute food insecurity is described as a situation in which a person's life or livelihood is

Countries," *Foods* 10, no. 12 (December 5, 2021): 3012.

²² World Bank, *Covid-19 High Frequency Monitoring Dashboard* (Washington DC, 2021).

²³ WFP and WHO FAO, IFAD, UNICEF, *The State of Food Security and Nutrition in the World* (Rome, 2021).

jeopardized due to a shortage of food.

The green economy with integrated urban farming aims to improve the community's economic well-being and can help mitigate the risk of substantial environmental harm, including the pandemic's detrimental impact on macro and micro food security.

The green economy is not only about economic development; it also encompasses a variety of ecological concerns²⁴. The green economy is founded on three fundamental principles: economic growth, efficiency, and the quality of economic growth. The primary goal of developing and implementing a green economy is to adhere to the first principle, which is economic development²⁵.

There is a need for a green economy because it is a low carbon, resource-efficient, and socially inclusive, does not emit or pollute the environment, promotes energy and resource efficiency, and prevents the loss of biodiversity and ecosystem services. Natural resource efficiency (resource efficiency) and social fairness about per capita

income and poverty (social inclusive)²⁶.

The green economy's established definition contains the following keywords:

²⁴ Luigi Aldieri, Teemu Makkonen, and Concetto Paolo Vinci, "Do Research and Development and Environmental Knowledge Spillovers Facilitate Meeting Sustainable Development Goals for Resource Efficiency?," *Resources Policy* 76 (June 2022): 102603.

²⁵ Pangarso Astadi et al., "The Long Path to Achieving Green Economy Performance for Micro Small Medium Enterprise," *Journal of Innovation and Entrepreneurship* 11, no. 1 (December 15, 2022): 16.

²⁶ Ibid.

Tabel 1 Keywords in the Green Economy Definition

Dimensions	Green Economy
Social	Human will; social justice; social inclusion; decreased inequalities; improved quality of life; equitable access; addressing the needs of women and youth.
Economic	Earnings and employment growth; public and private investment; a resilient economy; economic growth; and new economic activity.
Environmental	Environmental danger and ecological scarcities are reduced; carbon emissions and pollution are reduced, and energy and resource efficiency are increased.

In light of Indonesia's commitment to the international community, which includes a 26% reduction in carbon emissions from 14% in the land use and forestry sector, a 6% reduction in carbon emissions from the energy sector, and another 6% reduction in carbon emissions from the waste sector, there is no other way for Indonesia to be more serious about implementing green economy. In this manner, Indonesia can create a complete green economy that is backed up by government policy.

The population continues to grow, but agricultural land, particularly in cities, is becoming increasingly scarce, making urban farming approaches an attractive option for addressing this issue. Urban farming is a type of industrial chain in which food and energy are produced, processed, and sold to suit the requirements of urban communities.

This type of urban farming may be done in a yard or on a small plot of land using hydroponic planting techniques. One of the benefits of this integrated urban farming is that food is available to the community, which may help enhance people's economic income. Additionally, urban farming can help alleviate the city's land shortage by providing green space.

Apart from bringing people closer to the natural environment, integrated urban farming may also help to improve social bonds amongst members of the community

who engage in integrated urban farming. Integrated urban farming is not only a community-building activity; it also has the potential to enhance the community's economic status via the sale of the products produced.

Integrated urban farming operations are conducted by combining one agricultural model with another on a restricted amount of land. This agricultural activity is carried out efficiently with the use of appropriate media. Water recycling in hydroponic systems, the use of waste from animal manure as plant fertilizer and fish feed, and the use of solar panels for energy generation are all examples of agricultural enterprises that adhere to the green economy philosophy.

By implementing integrated urban farming, environmental pollution, including soil pollution, water pollution, and air pollution, may be alleviated. What was formerly unoccupied land that was neglected even as a rubbish dump may now be utilized as productive and valuable property.

All of these acts will be judged against Islam's fundamental ideals, referred to as the sharia's noble purposes, or *maqasid sharia*. These principles are meant to promote the welfare and benefit of the family in this world and the next, namely by obeying and carrying out directives according to the Qur'an and Hadith and avoiding any prohibitions and ugliness that may affect the family, community, and environment.

The Green Economy Implementation Mechanism using Integrated Urban Farming as a Means of Economic Resilience for Families During a Pandemic

Hydroponic vegetable or fruit production requires a little amount of land, for example, only 100m². The benefit is that crops may be grown in the city, where temperatures are extremely high and humidity is extremely low since it utilizes the NFT (Nutrient Film Technique), DFT (Deep Flow Technique), and hydroponic drip system or irrigation water installation system. Apart from the efficiency of the hydroponic technique system in management, management is also highly efficient; unlike traditional methods, it can be done with only one person and does not require a lot of labor²⁷.

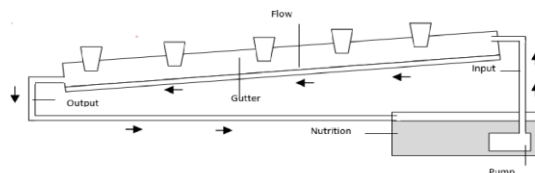


Figure 1. NFT (Nutrient Film Technique)

There are obstacles that farmers must overcome in their first year of urban farming activities; the land area is small, the supply of products produced is also small, and market demand is increasing automatically. To overcome these obstacles, he seeks coaching

²⁷ Jung Eek Son, Hak Jin Kim, and Tae In Ahn, "Hydroponic Systems," in *Plant Factory* (Elsevier, 2020), 273–283.

partners, then collaborates with university alumni, and the funding program obtained eventually allows for the construction of a large area of land.

Additionally, because the information they possess is self-taught, producing it sustainably is impossible. After harvesting, everything runs out, and there is no stock, even though all clients continually want it. Respondents paid Rp. 500,000 to begin producing hydroponic plants in 2018 and then developed until 2019 when he received an Rp. 35,000,000 infusion of funding from the Ministry of Agriculture, in addition to his investment of Rp. 15,000,000.

Hydroponics-based integrated urban farming may also benefit the surrounding environment, one of which is the restoration of oxygen that has been depleted owing to the impact of dense urban development. The city's growth is accelerating. As a result, the air quality deteriorates, which can be harmful to humans.

On the other hand, pollutants or components of air pollution have a substantial influence on the health of humans, animals, and plants in our immediate environment. As a result of this circumstance, air pollution has developed, and the present air quality has degraded to the point that it cannot operate normally. Assist the authorities in addressing the city's air pollution problem by implementing a hydroponics program.

Maximum treatment efficiency and plant cleanliness can be ensured. The harvest time is not

governed by the season, but rather by market need. With regards to chemicals, many individuals fear that utilizing hydroponic material that contains a high concentration of chemicals might be harmful to their health. However, the offenders' actions are not justified, as hydroponics does not rely on a large number of chemicals.

The nutrients utilized are 1000 PPM and the nutritional pH is 6, and the amount has been controlled and dissolved in water to make it safe for plants to consume. Excess nutrients cause plants to wilt and die, allowing them to accurately determine the number of nutrients to add to the water. Additionally, it is not suggested to use pesticides to exterminate pests that damage plants. This often occurs during the rainy season, when the leaves develop huge holes as a result of an invading bug, destroying several vegetables.

By planting hydroponic vegetables in the yard of the house, the harvest may fulfill the nutritional requirements of the family daily. Additionally, it can help reduce household spending that was initially intended to purchase a wing but can now be used to fulfill other home requirements. Plants cultivated for family use can also be offered in the neighboring neighborhood and beyond; as a consequence, numerous requests are always flowing in.

Integrated Urban Farming and the Application of Maqasid Sharia

Maqasid sharia upholds critical principles such as life and livelihood, as demonstrated by the acceptability of urban farming operations as a means of human sustenance.

The concept of maqasid sharia has a purpose, which is to achieve human welfare following the Qur'an and Hadith. All things that incorporate human life are intended to benefit. For instance, in terms of basic human needs such as sustenance and other necessities. This benefit is realized in maqasid sharia through the aspects that must be preserved, which include religious elements, soul elements, rational elements, descent elements, and property elements. Thus, the needs that are utilized for advantage will continue to evolve, and as time passes, they must be consistent with current conditions. Islam takes into account all human requirements, regulating them completely and fully through Islamic principles, particularly the Qur'an, Hadith, and the *ijtihad* of the scholars, both individually and collectively.

As a result, academics will continue to improve the concept to make it more applicable to certain situations. Because Islamic law does not have to be strictly enforced, this can create complications for those responsible in the future. With the emergence of a more modern era, it is feasible that formerly unenforced regulations may now be applied contextually but within the confines of Islamic law, particularly the Qur'an and Hadith. The concept of

maqasid sharia has the potential to provide solutions to contemporary issues that are not addressed in the revelations.

This study examines the suitability of implementing a green economy as a solution to family food security through the lens of maqasid ideals. Among these values are the following:

1. Protecting Religion (*Hifdzu ad-Din*)

According to the maqasid sharia concept, one of its goals is to preserve religion, as religion must take precedence over all other considerations when enacting legislation. There is no coercion or pressure in religion under Islamic sharia; believers and worshipers are free to believe and worship as they like. Maintaining religion entails a commitment to religious rituals such as prayer, *dhikr*, and so forth. Following God's mandates and prohibitions are necessary, and humans also have a responsibility to properly cultivate nature, which is a religious commitment. According to the hydroponic program's analysis, religious protection takes the following form: Humans are the earth's caliphs, and farmers can benefit from nature without destroying it, as Allah commands in the Qur'an.

2. Protecting The Soul (*Hifdzu an-Nafs*)

The necessity of soul maintenance is classified into three categories, the first of which is to preserve the soul at the *dharuriyyat* level, for example, by supplying fundamental

necessities for survival. The second is to preserve the soul at the hajiyat level; for example, it is acceptable to hunt animals for the sake of consuming delectable and halal food, provided that this activity does not jeopardize human survival. The third objective is to foster enthusiasm at the tahsiniyyat level, where protocols for eating and drinking have been established. These actions are just for the sake of civility and ethics, and will not jeopardize the existence of the human spirit or complicate human life.

Protecting the soul entails defending the human soul against hazards that risk or may result in death. When this hydroponic program is implemented, it also affects the protection of the human spirit, as the presence of a garden can contribute to a clean atmosphere, which benefits human health and survival. However, protecting the soul entails not just preventing human annihilation, but also defending daily life. This is evident in the implementation and administration of the hydroponic program. Thus, using hydroponics, agricultural operations can be simplified to the point that they can be performed by anyone and mental health can be preserved.

Naturally, being in a hydroponic garden will be healthy for the body, as it will provide a natural, cool environment amid a densely crowded city. Without recognizing it, the surrounding community delivers numerous benefits. Apart from reducing the

threat of air pollution, the plantation's green atmosphere promotes local inhabitants' health without costing a fortune. By implementing a hydroponic program, farmers may expand their activities and focus on agriculture, which benefits their health by putting them in an environment with clean air. Cultivated vegetable plants do not require chemicals because hydroponic plant growth utilizes 1000 PPM nutrients and a pH of 6 throughout the growing phase until harvest, where the quantities of these nutrients have been regulated and can dissolve in water, making them safe for veggies to consume.

3. Protecting Intellect (*Hifdzu al-'Aql*)

There are three phases to preserving reason in terms of importance. The first is to maintain a dharuriyyat state of mind, which entails abstaining from alcohol and other prohibitions. The second is to maintain a hajiyat-level intellect, as pursuing knowledge is encouraged. It will have no adverse effect on the mind if it is not done. The third preserves the tahsiniyyat rational level. Avoid useless activities, such as imagining or fantasizing, or listening to useless music. The objective of keeping the human mind is to protect it from the damage that occurs within it and has a negative effect if it is not employed in the community.

When it comes to running a business, the perfection of reason or thought is critical, since it is directly tied to the quality of the outcomes

obtained. Human reason is the source of enjoyment in this world and the next. Humans are wonderful beings who are honorable and unique among species due to their capacity for reasoning. Keeping it is thus an expression of gratitude for Allah SWT's gift. In the form of ongoing education and knowledge expansion. Farmers' participation in training and seminars affects boosting knowledge and fosters innovation in the hydroponic program implementation.

4. Protecting Offspring (*Hifdzu An-Nasl*)

In maqasid sharia theory, one of the goals is to preserve generation, which demands it to increase the quality of offspring to prevent extinction by efforts directed towards righteousness in this world and the hereafter. For instance, it is envisaged that those responsible for offspring would be able to contribute even more. Things that must be avoided to protect progeny by prohibiting adultery and inbreeding, as they are both abominable and harmful.

Because these farmers' hydroponic plants are pesticide-free, they are less inclined to use pesticides. This helps sustain offspring productivity because consuming an excessive amount of pesticide-treated food can result in severe conditions such as kidney failure, uterine disease, and obesity.

While the hydroponic program does not harm the natural environment, it may influence sustaining offspring because the natural environment can be used in

the future or the future by keeping it sustainable.

5. Protecting Property (*Hifdzu al-Mal*)

In the concept of maqasid sharia, one of the goals is to preserve the assets one owns by ensuring that the assets one owns are not the result of an unlawful act²⁸. Assuring that wealth is acquired in a manner that is acceptable to Allah SWT. Protecting property entails not only safeguarding property in the case of its loss but also ensuring that the process of acquiring and using the property is conducted properly and does not deviate from the intended course. For instance, when someone needs something and then snatches or robs the property of another, cheats, or commits other undesirable acts.

The hydroponic program's primary goal is to protect property, as this hydroponic program strives to meet the family's economic demands by converting empty house yards that previously provided no benefits into yards that now provide several benefits.

Farmers who previously purchased food for their households can now sell the produce from their gardens. The money from the sale can be used to supplement his family's income and can be used to purchase vegetable seeds, nutrition, and vegetable maintenance.

²⁸ Hanudin Amin, "Maqasid-Based Consumer Preference Index for Islamic Home Financing," *International Journal of Ethics and Systems* 38, no. 1 (January 12, 2022): 47-67.

Farmers' marketing has been carried out continuously to the point that there is no longer a shortage of vegetable stock following harvest. He collaborates closely with cottage soup kitchens, restaurants, hotels, caterers, and supermarkets, among others, and donates 25% of each product sold to charitable causes.

When cultivating hydroponic plants in the yard, all vegetable plants are cared for only by the family; he does not have the personnel to assist him, which reduces household expenses.

CONCLUSION

It can be observed from the discussion that the green economy concept can be integrated with the

pure maqasid sharia values harmoniously. When it comes to protecting religion, life, property, and progeny, especially in its role as a means of food security during a pandemic. Consequently, the universal ideals of the fundamental purposes of shariah will almost certainly be employed as references in other sustainable economic models shortly. Moreover, these values can be used to demonstrate that economic operations can be conducted without regard to religious beliefs and that religious beliefs themselves play an important role in directing human economic acts to keep them on the proper track.

REFERENCES

- Aldieri, Luigi, Teemu Makkonen, and Concetto Paolo Vinci. "Do Research and Development and Environmental Knowledge Spillovers Facilitate Meeting Sustainable Development Goals for Resource Efficiency?" *Resources Policy* 76 (June 2022): 102603.
- Ali, Salman Syed. *Towards a Maqāṣid Al-Sharī'ah Index of Socio-Economic Development: Theory and Application*. Cham, SWITZERLAND: Springer International Publishing AG, 2019.
- Amin, Hanudin. "Maqasid-Based Consumer Preference Index for Islamic Home Financing." *International Journal of Ethics and Systems* 38, no. 1 (January 12, 2022): 47–67.
- Aprianoro, Muhamad Subhi. "Penyelesaian Sengketa Kepailitan Ekonomi Syariah Perspektif Ibnu Rusyd Al-Qurthubi Dalam Bidayatul Mujtahid Wa Nihayatul Muqtashid." *Jurnal Ilmiah Ekonomi Islam* 7, no. 3 (2021).
- Astadi, Pangarso, Sisilia Kristina, Setyorini Retno, Peranginangin Yahya, and Awirya Agni Alam. "The Long Path to Achieving Green Economy Performance for Micro Small Medium Enterprise." *Journal of Innovation and Entrepreneurship* 11, no. 1 (December 15, 2022): 16.
- Azarieva, Janetta, Elliot M. Berry, and Aron M. Troen. "Child Food Insecurity in the Wake of the COVID-19 Pandemic: Urgent Need for Policy Evaluation and Reform in Israel's School Feeding Programs." *Israel Journal of Health*

Policy Research 11, no. 1 (December 15, 2022): 13.

Fajri, Mohammad Zen Nasrudin, Adamu Abubakar Muhammad, Khoirul Umam, Lila Prisilia Putri, and Mohammad Ali Ramadhan. "The Effect Covid-19 and Sectoral Financing on Islamic Bank Profitability in Indonesia." *Journal of Islamic Economic Laws* 5, no. 1 (March 11, 2022): 38–60.

FAO, IFAD, UNICEF, WFP and WHO. *The State of Food Security and Nutrition in the World*. Rome, 2021.

Friant, Sagan, Wilfred A. Ayambem, Alobi O. Alobi, Nzube M. Ifebueme, Oshama M. Otukpa, David A. Ogar, Clement B. I. Alawa, Tony L. Goldberg, Jerry K. Jacka, and Jessica M. Rothman. "Life on the Rainforest Edge: Food Security in the Agricultural-Forest Frontier of Cross River State, Nigeria." *Frontiers in Sustainable Food Systems* 3 (December 20, 2019).

Hammelman, Colleen, Elizabeth Shoffner, Maria Cruzat, and Samantha Lee. "Assembling Agroecological Socio-Natures: A Political Ecology Analysis of Urban and Peri-Urban Agriculture in Rosario, Argentina." *Agriculture and Human Values* 39, no. 1 (March 24, 2022): 371–383.

Li, Zeyun, Tsung-Hsien Kuo, Wei Siao-Yun, and Luu The Vinh. "Role of Green Finance, Volatility and Risk in Promoting the Investments in Renewable Energy Resources in the Post-Covid-19." *Resources Policy* 76 (June 2022): 102563.

Marazziti, Donatella, Paolo Cianconi, Federico Mucci, Lara Foresi, Ilaria Chiarantini, and Alessandra Della Vecchia. "Climate Change, Environment Pollution, COVID-19 Pandemic, and Mental Health." *Science of The Total Environment* 773 (June 2021): 145182.

Mazroatus Saadah, and Uswatun Hasanah. "The Common Goals of BAZNAS' Zakat and Sustainable Development Goals (SDGs) According to Maqasid Al-Sharia Perspective." *AL-IHKAM: Jurnal Hukum & Pranata Sosial* 16, no. 2 (December 31, 2021): 302–326.

McHarg, Ellen, Elena Mengo, Lisa Benson, Jody Daniel, Andre Joseph-Witzig, Paulette Posen, and Tiziana Luisetti. "Valuing the Contribution of Blue Carbon to Small Island Developing States' Climate Change Commitments and Covid-19 Recovery." *Environmental Science & Policy* 132 (June 2022): 13–23.

Morris, Stephanie L., Kate Gibson, Josephine M. Wildman, Bethan Griffith, Suzanne Moffatt, and Tessa M. Pollard. "Social Prescribing during the COVID-19 Pandemic: A Qualitative Study of Service Providers' and Clients' Experiences." *BMC Health Services Research* 22, no. 1 (December 25, 2022): 258. 022-07616-z.

Okolie, Collins C., and Abiodun A. Ogundeji. "Effect of COVID-19 on

- Agricultural Production and Food Security: A Scientometric Analysis." *Humanities and Social Sciences Communications* 9, no. 1 (December 28, 2022): 64.
- Oktafiani, R, T Widiatningrum, and A Retnoningsih. "Determination of Seed Plant in Jepara's Urban Farming during the Pandemic Covid 19." Vol. 1918, 2021.
- Purwanto, U K Yaumidin, C I Yuliana, E Nurjati, A Z Rahmayanti, B D Cahyono, and R Novandra. "Urban Farming and Food Security: Household's Adaptive Strategy to COVID-19 Crises." Vol. 892, 2021.
- Rahmayani, Dwi. "The Impact of Covid-19 Pandemic on Inflation in Indonesia." *Jurnal Ekonomi Pembangunan* 22, no. 2 (2021): 117-128.
- Rezaei Soufi, Hojat, Akbar Esfahanipour, and Mohsen Akbarpour Shirazi. "A Quantitative Approach for Analysis of Macroeconomic Resilience Due to Socio-Economic Shocks." *Socio-Economic Planning Sciences* 79 (February 2022): 101101.
- Son, Jung Eek, Hak Jin Kim, and Tae In Ahn. "Hydroponic Systems." *In-Plant Factory*, 273-283. Elsevier, 2020.
- Sun, Zhilu, and Defeng Zhang. "Impact of Trade Openness on Food Security: Evidence from Panel Data for Central Asian Countries." *Foods* 10, no. 12 (December 5, 2021): 3012. <https://www.mdpi.com/2304-8158/10/12/3012>.
- Suwardi. "Indonesian Food Security during the Covid-19 Pandemic." Vol. 756, 2021.
- Syafiq, Ahmad, Sandra Fikawati, and Syilga Cahya Gemily. "Household Food Security during the COVID-19 Pandemic in Urban and Semi-Urban Areas in Indonesia." *Journal of Health, Population and Nutrition* 41, no. 1 (December 21, 2022): 4.
- Tian, Jinfang, Longguang Yu, Rui Xue, Shan Zhuang, and Yuli Shan. "Global Low-Carbon Energy Transition in the Post-COVID-19 Era." *Applied Energy* 307 (February 2022): 118205.
- Word Bank. *Covid-19 High Frequency Monitoring Dashboar*. Wasington DC, 2021.
- Zareba, Anna, Alicja Krzemińska, and Renata Kozik. "Urban Vertical Farming as an Example of Nature-Based Solutions Supporting a Healthy Society Living in the Urban Environment." *Resources* 10, no. 11 (October 25, 2021): 109.