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Abstract

Purpose: The purpose of this study was to evaluate the contribution of urban agriculture to households' livelihoods in Netherlands.

Methodology: The study used a desktop literature review methodology (desk study). This required a thorough analysis of research on the contribution of urban agriculture to households' livelihoods in Netherlands. The subject of the study underwent three phases of sorting in order to assess its suitability for further study.

Findings: The study concludes that the relation of urban agriculture to state governance is very critical since agriculture in Netherlands is intricately bound up with use and competition for resources.

Unique Contribution to Theory Policy and Practice: This study recommends that agricultural areas in Netherlands should be designated so that they are easily controlled. Investments should be done in the state waste management to allow use of treated liquid and solid waste, while building capacity of farmers on its utilization. This may involve integration of urban agriculture in the state land use planning.

Keywords: *Urban Agriculture, Household Livelihood, Netherland, Food Security, Environment.*

INTRODUCTION

The raising of animals and the growth of plants in and near cities can be summed up as urban agriculture. Urban and peri-urban agriculture (UPA) involves the cultivation of crops, cattle, fish, and trees, as well as the provision of ecological services, within and adjacent to urban areas around the world. In and around a single city, many farming and gardening techniques are frequently present. According to estimates, 800 million urban inhabitants globally participate in UPAs that generate revenue or help to produce food. Up to two-thirds of urban and peri-urban households may be engaged in agriculture, according to data from national censuses, household surveys, and research initiatives. The majority of the food produced is for personal consumption, with sporadic surpluses being sold to neighborhood markets. In the center of cities, in enclaves and corridors outside of cities, and on the outskirts, farming is practiced. According to a study on urban agriculture in the Netherlands, 32% of the land was on private residential property, 29% was on a road, 16% was by a river, and 16% was in other publicly held locations. In many emerging nations, vegetable cultivation has increased in and around urban areas. Numerous horticultural crop species' wide diversity enables year-round production, employment, and income. Growers have discovered that intense horticulture may be done on little plots, effectively utilizing the limited water and land resources available (FAO, 2019)

Urban agriculture's most notable characteristic that sets it apart from rural agriculture is that it is incorporated into the urban economic and ecological system. Urban agriculture is intertwined with the urban ecology. Indirect links with urban consumers, direct impacts on urban ecology (both positive and negative), participation in the urban food system, competition with other urban functions for space, influence by urban policies and plans, and use of typical urban resources (such as organic waste as compost and urban wastewater for irrigation) are a few examples of these linkages. For people at various income levels, urban agriculture is an easy-in, easy-out entrepreneurial venture. It offers good access to food for the most marginalized members of society. It offers stable impoverished people an income stream and high-quality, reasonably priced food from urban agriculture. It provides the potential for savings and a return on their investment in urban real estate for families with middle-class incomes. It is a successful enterprise for both small and large business owners (Smit, 2021).

Statement of the Problem

In the Netherlands, some households are seeing a sharp drop in their purchasing power, and poverty rates are rising. People have reacted in a variety of ways, chief among them broadening their sources of income to include urban agriculture. Due to their improved understanding of the health concerns connected with the majority of farm products sold in markets, some households, particularly those in the middle-income band, prefer growing their own veggies. To augment their revenues, these farmers also engage in intensive agriculture employing contemporary technologies like greenhouses, drip irrigation, hydroponics, etc. They also keep other animals, such as chickens and dairy cattle.

Objectives of the Study

The general objective of the study is to assess the urban agriculture's impact on household livelihoods in the Netherlands.

Significance of the Study

The purpose of the project is to evaluate how urban agriculture affects Dutch households' ability to support themselves. It makes recommendations and offers actions that can result in sustainable urban agriculture that can be replicated in other areas of the Netherlands and elsewhere that have comparable characteristics. The study's findings are also helpful to the locals since they will encourage the government and other institutions to recognize how urban agriculture affects Dutch households' livelihoods more generally. The discoveries' documentation expands the body of knowledge, which is essential for growth and for use by present and future academics.

LITERATURE REVIEW

The Trend of Urban Agriculture

Diverse agricultural production systems have sprung up in and around cities as a result of rising food prices and growing poverty. These systems frequently target perishable goods like green leafy vegetables, milk, eggs, and meat and take advantage of bare, unoccupied places. This new construction has significant promise and addresses some of the major problems that communities are currently facing. However, if certain associated hazards are not taken into account and appropriate preventative and guiding measures are not taken, urban agriculture may also have adverse effects (Veenhuizen, 2017)

According to surveys conducted in Moscow in 1970 and 1991, the percentage of families that worked in agriculture increased from 20% to 65%. In surveys conducted in Dar es Salaam, Tanzania, in 1967 and 1991, family agriculture increased from 18 to 67 percent. There have been significant conversions of urban land from institutional and transportation usage to agricultural production, according to reports from Kinshasa, Kampala, and Maputo. Food for the poor was grown on highway shoulders, sections of streets, electrical utility rights-of-way, golf courses, hospital grounds, and airport land beyond the runway. Three out of every five families in towns and cities in Kenya and Tanzania, according to studies, are involved in urban agriculture.

Effects of Urban Agriculture 0n Urban Livelihoods

Urban agriculture and the environment are related in a number of ways. It calls for resources that can be in short supply, including a supply of purified drinking water. Serious resource conflicts and the usage of contaminated water for crops could result from this. Due to a lack of sufficient land, different types of urban farmers may be forced to grow on dangerous places, which could have major health effects. Wastes produced by urban agriculture must be effectively handled to protect both urban agriculture and urban dwellers' lives. Zoonotic disease incidences are increased when livestock is kept close to people. Unpleasant scents, noise pollution, traffic delays, and dangers are additional concerns for animals in densely populated areas (Mireri, 2017).

The majority of cities now have a big issue with waste disposal. By converting urban wastes into useful resources, urban agriculture can help to solve these and other issues (Bell, 2022), as mentioned in (Veenhuizen, 2017) for instance, wastewater irrigation or composting.

Empirical Review

Azunre, Amponsah, Peprah, Takyi, and Braimah, (2019) conducted a review of the role of urban agriculture in the sustainable city discourse. The debate on the role of urban agriculture in the sustainable city discourse remains unresolved in the conventional literature. Therefore, the purpose of this study was to review relevant literature to clarify the role of urban agriculture in sustainable cities. The study was based on a systematic review of secondary data. The term secondary data is used in this study to refer to data that are used to address research questions that are different from the ones the original collector sought to answer (Vartanian, 2011). The search for the secondary data was guided by phrases such as: a) urban agricultural practices, b) indicators for the measurement of sustainable cities, c) economic, social and environmental benefits of urban agriculture, and d) negative effects of urban agriculture on the city. The results from a synthesis of the literature indicate that urban agriculture supports the economic, social and environmental sustainability of cities. However, if the discussion gives credence to only the economic dimension of sustainability, then urban agriculture loses the debate. This is because the economic benefits of prime city land that is used used for non-agricultural purposes (such as commercial or industrial) is profound. However, the social and environmental functions of responsible urban agriculture, particularly in reducing the rift between urbanisation and nature, may be difficult to quantify. These social and environmental functions underscore the importance of urban agriculture in the city landscape. The paper concludes by arguing that focussing on only economic sustainability in the urban agriculture-sustainable city discourse is a travesty of the idea of sustainable development. The paper presents practical steps that can be taken to preserve agriculture in cities towards their sustainability.

Rezai, Shamsudin, and Mohamed, (2016) conducted a study on urban agriculture and a way forward to food and nutrition security in Malaysia. The practice of urban agriculture has gained importance due to the rising rate of urban poverty and population in the developing regions. In countries such as Malaysia, it also addresses food security by providing the urban dwellers with access to adequately nutritious, safe, acceptable and cost-effective food. While there are some skepticisms toward urban agricultural activities in providing food for the urban markets, this study has nevertheless explored the existing evidence of its effectiveness in providing food security among urban dwellers and consequently reducing a large share of their food bills. Interviews of 360 households shown a positive statistical association between obtaining a sufficient quantity of food and adequate diet through engagement in urban agriculture. The results from this study indicate that food security can be derived from urban agriculture since it provides sufficient quantities of food, appropriate nutrition, cost-effective food supplies and reduction in food bills. This highlights the need for the Malaysian urban authorities to give more appropriate recognition and contribution to city dwellers and encourage them to expand the practice of urban agriculture.

Lwasa, Mugagga, Wahab, Simon, Connors and Griffith (2015) conducted a study on meta-analysis of urban and peri-urban agriculture and forestry in mediating climate change. This paper systematically reviewed literature on urban and peri-urban agriculture and forestry (UPAF) in mediating climate change. The study included both peer-reviewed and grey literature (274 literature sources), and synthesized evidence and agreement on both UPAF's potential and limitations for mitigating and adapting to climate change. Eight East and West African cities were

included in the review: Accra, Addis Ababa, Dakar, Dar es Salaam, Douala, Kampala, Ibadan and Nairobi. The review focused on urban livelihoods, ecosystem services and urban policy responses as pathways to mediating climate change. Literature on UPAF indicates emerging consensus on the potential of UPAF in adaptation, but less agreement with respect to mitigation of climate change. African cities are implementing several measures including UPAF to address issues of development, reduce inequality and move towards low emissions development strategies. This calls for integrated urban development that supports green growth to harness economic opportunities with social and environmental benefits. The review reveals that through UPAF, the potential for mitigation and adaptation of climate change can address some development deficit issues and transform institutions at the city-regional level by leveraging good UPAF practices.

Smart, Nel and Binns (2015) conducted a study on the economic crisis and food security in Africa exploring the significance of urban agriculture in Zambia. Urban agriculture is gaining increasing recognition as a key urban survival strategy in the rapidly growing, but food insecure, cities of the South, and in Africa in particular. The overall significance of the activity has been the subject of considerable academic debate. This paper contributes to this debate through the presentation of the findings from recent field-based research in the Copperbelt province of Zambia, a region where the practice of urban agriculture and the role it plays in urban livelihoods appears to be more significant than in many other urban contexts. The region was characterized by a historical dependence on copper mining and associated industries which experienced a severe economic downturn from the late 1980s. In this context, urban agriculture has become a key livelihood strategy and a means to assure food security. Participation rates in urban agriculture in the region are much higher than in other African urban centers and experiences in the Copperbelt province could inform policy and practice in other areas which are experiencing economic crises.

Poulsen, McNab, Clayton and Neff (2015) carried out a systematic review of urban agriculture and food security impacts in low-income countries. With increasing global urbanization and environmental threats, ensuring food security for poor city residents is a critical challenge. An ongoing debate is whether urban agriculture (UA) may serve as a pathway to food security for poor urban households. To assess this potential within low-income countries, we used standard systematic review procedures to synthesize findings from 35 peer-reviewed journal articles from 1980 to 2013 that presented data on UA and food security indicators. Though data quality was often lacking, several key findings emerged. Many of the reviewed studies found subsistence to be the primary motivation for practicing UA, followed by financial benefit, with UA substantially contributing to farming households' food availability in some settings. Results regarding UA's impact on dietary diversity reveal that in some farming systems UA may provide households with greater access to specific foods. Evidence also indicates that UA can be a key source of household income, though actual returns were low. Furthermore, results show that UA can facilitate women's contribution to household food availability amid other household responsibilities, and can provide distinct benefits such as economic and social advancement. Although UA participation does not appear to fully eliminate pressure urban household face in obtaining food, a lack of supportive policies may constrain its potential. Municipal planning and agricultural policies that more effectively incorporate UA—and that integrate gender—may diminish barriers to productive UA practice. More rigorous research on UA's contribution to food security in settings where supportive policies have been enacted would more clearly elucidate these linkages.

Warren, Hawkesworth, and Knai (2015) investigated the association between urban agriculture and food security, dietary, diversity, and nutritional status. This literature review seeks to examine the evidence for the association between urban agriculture (UA) and food security, dietary diversity, and nutritional status and clarify the evidence base for its effectiveness at ameliorating some food security challenges faced by urban residents. In data collection the study used five databases, five grey literature libraries, and hand-searched reference lists to identify all potentially relevant sources. To be included a paper needed to quantify the impact of UA on food security, dietary diversity, or nutrition status. Papers were screened and quality assessed and data were extracted in duplicate. It was identified that 11,192 potentially relevant studies and included 13 papers from 12 unique studies. Studies identified both positive and no associations with UA and food security, and in one study's sub-analysis, negative associations were detected. Weak study designs and methods, incomparable measures, compounded with the finding that food insecure households are more likely to engage in UA, all make interpretations difficult. All studies that measured dietary diversity found a positive association. Most studies found a positive association between engagement in UA and food consumption. Findings for nutritional status were mixed, some showing positive associations for stunting. The study concluded that, Poor quality and weak study designs made interpretation difficult and the assignment of causation impossible. The evidence base for UA needs to be strengthened before it can be confidently recommended as a strategy to improve urban food security. We did not however, find any evidence to discourage its use.

METHODOLOGY

The study adopted a desktop methodology. Desk research refers to secondary data or that which can be collected without fieldwork. Desk research is basically involved in collecting data from existing resources hence it is often considered a low-cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics. This secondary data was easily accessed through the online journals and library.

FINDINGS

The results were grouped into a conceptual gap.

The study's objective was to evaluate how urban farming affected urban farmers' social sustainability and means of subsistence. In order to make urban agriculture sustainable, it was necessary to link data on the possibilities given by human potential, social capacity, and access to resources, participation, and poverty. To investigate manufacturing methods that would result in food safety requirements based on urban food systems' developed human capital.

The sustainability of urban agriculture depended heavily on human capabilities, social capacity, resource accessibility, and urban farmers' involvement. Similar to this, their social standing, such as poverty, determines how much they participate in a particular activity. If these variables are institutionalized and supported by local level institutions, social change will be effected in developing nations. As a result, the potential of social capital and human capital among the general population is never completely realized.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The relationship of urban agriculture to State governance is extremely important because agriculture in the Netherlands is inextricably linked to resource usage and competition, as well as rules on public health and other sectors. The stakeholders' platform should be used to determine the best way to recognize agriculture in law and policy, especially when it comes to resolving any inconsistencies between laws and policies. The few rules that have already been passed should serve as a broad framework for urban agriculture in the Netherlands going forward. It will be necessary to take advantage of this opportunity and incorporate agriculture into the socio-economic and environmental planning of the Netherlands as the urban components of the food crisis and climate change become more obvious.

Recommendations

In order to optimize synergies and build on the advancements previously made, there is a need for coordination and relationship building among the enforcing authorities with regard to policy and legal framework. This necessitates consultative forums for all parties to identify any legal and policy gaps and to identify any laws that clash with one another creation of a framework to facilitate farmers' access to and use of idle and underutilized land for agricultural output.

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