

DOI: 10.5281/zenodo.19949971

# STRENGTHENING FOOD SECURITY AMONG INDIGENOUS COMMUNITIES THROUGH LOCAL FOOD- BASED SUPPLY CHAINS: A BIBLIOMETRIC AND SYSTEMATIC REVIEW

Blasius Popylus<sup>1</sup>, Poppy Arsil<sup>2</sup>, Irene Kartika Eka Wijayanti<sup>3</sup>, Akhmad Rizqul Karim<sup>4</sup>,  
Nur Aini<sup>5</sup>, Dindy Darmawati Putri<sup>6</sup> and Totok Agung Dwi Haryanto<sup>7</sup>

<sup>1</sup>Agricultural Science Program, Faculty of Agriculture, Jenderal Soedirman University, Indonesia. Email: blasius.popylus@mhs.unsoed.ac.id, <https://orcid.org/0009-0004-9105-8167>

<sup>2</sup>Faculty of Agriculture, Jenderal Soedirman University, Indonesia. Email: poppy.arsil@unsoed.ac.id, Orcid ID <https://doi.org/0000-0001-6098-7546>

<sup>3</sup>Faculty of Agriculture, Jenderal Soedirman University, Indonesia. Email: irene.wijayanti@unsoed.ac.id, Orcid ID <https://orcid.org/0000-0002-8576-2826>

<sup>4</sup>Faculty of Agriculture, Jenderal Soedirman University, Indonesia. Email: akhmad.karim@unsoed.ac.id, Orcid ID <https://orcid.org/0000-0002-6427-9253>

<sup>5</sup> Faculty of Agriculture, Jenderal Soedirman University, Indonesia. Email: nur.aini@unsoed.ac.id, Orcid ID: <https://orcid.org/0000-0002-7076-4300>

<sup>6</sup>Faculty of Agriculture, Jenderal Soedirman University, Indonesia. Email: dindy.putri@unsoed.ac.id, Orcid ID <https://orcid.org/0000-0002-0018-5039>

<sup>7</sup>Faculty of Agriculture, Jenderal Soedirman University, Indonesia. Email: totok.haryanto@unsoed.ac.id, Orcid ID <https://orcid.org/0000-0002-2319-0594>

Received: 15/03/2026

Accepted: 18/04/2026

Corresponding Author:

(Blasius Popylus ([blsius.popylus@mhs.unsoed.ac.id](mailto:blsius.popylus@mhs.unsoed.ac.id)))

## ABSTRACT

Food security in the indigenous communities of Indonesia bears ecological, social, and cultural peculiarities, yet is challenged gravely by the issues of climate change, environmental degradation, and global chain disruption. The proposed study will assess bibliography, trends, research mapping, food security status, possible challenges, and supply chain implementation to enhance the food security of the indigenous populations relying on local food between 2015 and 2025. The approach will be a Systematic Literature Review (SLR) based on PRISMA guidelines that will include 62 articles in Scopus, which are relevant to the topic. Bibliometric findings indicate a dramatic expansion in the trends of publication, particularly in 202024, and a multidisciplinary biosis that incorporates the views on sustainability, logistics, health, and food anthropology. VOSviewer analysis revealed ten principal clusters that included policy, local production and distribution, food diversification, crisis response, social justice, food sovereignty, access, alternative food networks, household health, and regional comparisons. The results reveal that indigenous food systems are extremely strong due to agroecological practices, collective granaries, and mutual assistance-based distribution, but their infrastructure, knowledge regeneration, and market connectivity are weak aspects leading to their vulnerability to exogenous shocks. Among the major threats, one may single out the disappearance of native lands, ecological destruction, global warming, and the infiltration of industrialized

*food, which supplants traditional food. The researchers propose to empower the indigenous institution of supply chains and to integrate the local food system into the national policies without losing the cultural values and principles of sustainability.*

---

**KEYWORDS:** Food Security, Indigenous Communities, Local Food, Supply Chain, Sustainability.

---

## 1. INTRODUCTION

Food security is a national and global development strategic challenge. The complexity of this problem is further increased by the climate crisis, environmental destruction, and disruption of world distribution chains. Food security is about more than availability and accessibility, as it also focuses on stability of supply, nutritional content, and cultural suitability (Calloway et al., 2023; Hwalla et al., 2016; Simelane & Worth, 2020). Food security in indigenous communities carries a different meaning since it is also intertwined with ecological, spiritual, and social connections that determine the food system of the community (Delormier & Marquis, 2019; Swiderska et al., 2022; Torres-Vitolas et al., 2019; Young et al., 2024).

The food system of indigenous communities has developed over the years based on collective knowledge. National policies seldom consider these mechanisms because they tend to be founded on modern practices and mass production (Kapoor et al., 2024; Kuhnlein & Chotiboriboon, 2022; Miltenburg et al., 2022; Wehi et al., 2023). The role of indigenous food systems in the national strategies is still little, even though it is an essential element of sustainability and food self-sufficiency (Arotoma-Rojas et al., 2024; Huambachano, 2018; Lugo-Morin, 2020, 2022; Sakapaji et al., 2024).

The indigenous communities reside in high biodiversity areas like forests, mountains, or river basins. They are very reliant on the local resources since the availability of modern food systems is minimal. They are practicing traditional agroecology

in their farming, which is seasonally based, soil-type, and local social-structure (Daniel et al., 2022; Palita et al., 2023; Rendón-Sandoval et al., 2020; Suwarno et al., 2022). Pressure on ecosystems due to large-scale land clearing, infrastructure projects, and natural resource exploitation is triggering instability and threatening food production and distribution for indigenous communities (Syaban & Appiah-Opoku, 2024; Utami et al., 2022).

Road access, transportation, and formal markets often do not reach indigenous community areas (Duile, 2020; Langston et al., 2017; Sari & Rahman, 2021). Interaction with the national distribution system is very minimal (Fahmi et al., 2024; Max et al., 2025; Nerenberg, 2022). In times of crop failure, disaster, or climate change, communities are forced to drastically change their consumption and production patterns (Rafiqi, 2025; Sudomo et al., 2023; Widiono et al., 2024). Studies show that in times of crisis, indigenous communities are often the last groups to receive food logistics assistance (Jackson, 2020; Wahyudi et al., 2024).

Some indigenous communities in Indonesia have unique food systems. The Cirende community avoids rice and prefers cassava. The Kasepuhan Ciptagelar community cultivates local rice using dryland cultivation. The Kampung Naga community maintains cultural and food conservation through dryland rice cultivation. The Tobelo Dalam community in Halmahera still relies on sago and forest products as its staple foods. These systems demonstrate the diversity of local food practices that are robust and adaptive to the environment (Table 1).

**Table 1: Several Indigenous Communities in Indonesia and Their Characteristics.**

Name of Indigenous Community	Province / Location	Main Characteristics / Customary System / Food System
Cirende	Cimahi City, West Java	Don't eat rice, eat cassava; Sunda Wiwitan
Ciptagelar Village	Sukabumi, West Java	Indigenous agricultural systems based on dry land and forests; local rice consumption
Dragon Village	Tasikmalaya, West Java	Conservation of culture and food based on dry rice fields (huma)
Cicarucub Village	Lebak, Banten	Custom-based agriculture, preservation of local rice varieties
Samín (Sikep Brothers)	Blora, Pati, Kudus - Central Java	Anti-colonial values, simple farming, independent living
Osing (Kemiren)	Banyuwangi, East Java	Indigenous agrarian communities, harvest rituals and traditional foods
Kanayatn Dayak Indigenous Community	Porcupine, West Kalimantan	Rotating field farming system (huma), traditional longhouse
Wana Posangke Indigenous Community	North Morowali, Central Sulawesi	Live in mountain forest areas, farming systems and sacred forests
Tobelo Dalam Indigenous Community	North Halmahera, North Maluku	Semi-nomadic, forest-dwelling, sago and forest-based food system
Lundayeh Indigenous Community	Krayan, North Kalimantan	Living in the highlands of the Malaysian border, organic farming is based on fields.
Kajang Dalam Indigenous Community	Bulukumba, South Sulawesi	Rejecting modernity, still upholding high traditional values and sustainable agricultural systems
Rendu Indigenous Community	Nagekeo, East Nusa Tenggara	Traditional rituals of planting and harvesting dryland rice, management of traditional water sources

Source: Results Of Processed Online Site Analysis (2025).

The local food systems of indigenous communities don't rely solely on alternative foods like sago, local corn, and tubers. Biodiversity in consumption patterns is a key factor. Gardens and rivers provide protein sources that adjust to the seasons. (Hernawati et al., 2022; Rahayu et al., 2024; Sujarwo et al., 2025). The issue is that the indigenous communities are facing the disruption of their stability and food security due to environmental degradation and legal ambiguity in the land belonging to these communities.

Non-timber forest products, river fish, and wild plants are some of the environmental degradation products that diminish the supply of local foods. Alterations of the traditional landscapes cause depletion of agroecological spaces and undermine the local food management knowledge. The ecological and social stability are also destroyed (Daniel et al., 2022; Niko et al., 2025; Suminar, 2023; Utomo, 2023). It also leads to a loss of traditional production spaces and, consequently, to the lack of relevance of inherited knowledge in the community food cycle (Nagal, 2025; Sumarwati, 2022; Utami et al., 2022).

The fact that there is legal uncertainty regarding customary land contributes to vulnerability. A lot of regions that were under community management are not legally recognized. Outside claims are weak, unilateral, such as the conversion of land to industrial plants or mines. The loss of land also translates into the loss of identity among communities and control over the production and distribution of food (Dhiaulhaq & McCarthy, 2020; Fahmi et al., 2024; Maisa et al., 2024; Pelawi et al., 2025).

Other social practices that support the food systems of the indigenous communities include joint planting, joint harvesting, and sharing of harvests. The social ecosystem, which is based on values of mutual cooperation, collectivity, and respect for natural cycles, promotes food production and distribution in communities (Ahmadi et al., 2023; Daniel et al., 2022; Max et al., 2025; Niko et al., 2025). The mutual cooperation, collective nature, and respect for natural cycles create a social ecosystem that ensures food production and distribution among communities and is usually done through oral practice and direct experience in the fields (Dalyan et al., 2024; Suminar, 2023; Utomo, 2023). This renders their food system not only ecological but also founded on cultural education and social transmission. Their social system is organized, which enables them to produce endogenous and self-sustaining food security.

The local food systems of native populations have

been found to be many times resilient, but their presence is continuously being compromised by floods of industrialized cuisine and new eating habits. The traditional foods are already giving way to modern food products like instant noodles, commercial rice, and packaged foods. This shift is also fuelled by market accessibility as well as social perceptions that equate local food to poverty and underdevelopment. This has led to youths in most societies dropping the good old ways of consuming food in favor of purchasing it in the marketplace (Fibri & Frøst, 2019; McCarthy, 2020; Niko et al., 2025; Nurhasan et al., 2022).

This may result in loss of local knowledge and structural and cultural undermining of the food system in the community in the long run. A gradual erosion of the sustainability of the food supply chains in the local setting occurs due to the replacement of food items because raw materials, processing technologies, and distribution channels are no longer served (Rozi et al., 2023; Utomo, 2023; Wijaya & Sanubari, 2024; Yusriadi & Cahaya, 2022).

The processes of forming the local food supply chains in indigenous community food systems cannot be separated either by social or ecological systems. The given chains include production, post-harvest processing, storage, and distribution (Jarzebowski et al., 2020; Niko et al., 2025; Nurhasan et al., 2022; Wahyudi et al., 2024); however, these interactions are not driven by conventional market mechanisms because they are founded on the principles of mutual cooperation, mutual trust, and need-based distribution. As an illustration, most societies store harvests in common barns and utilize them to fulfill the needs of a community during lean periods.

This type of system simplifies the absence of formal supply chain participants like distributors, traders, or industrial logistics, but it is extremely dependent on social solidarity. It shows that not only supply chains that are founded on capital are possible, but also supply chains based on social relations and ecological sustainability (Daniel et al., 2022; Habiyaemye & Korina, 2021; A. Rossi et al., 2021).

The local food supply chains are also weak in terms of their resilience when confronted with external changes or systemic disruptions. In case of harvest failures or food shortages, there are no other available sources of distribution (Jarzebowski et al., 2020; Mahoney et al., 2022; McDougall & Davis, 2024; Munyoro, 2025; Rojas-Reyes et al., 2024). In addition, the lack of safe storage facilities, transportation, and post-harvest systems exposes this supply chain to

damage and loss of food.

This is the case that renders communities unable to receive external food assistance since they do not have the networks of distribution that are linked to the national food system. This failure of absorption of surplus production or external market also contributes to the inefficiencies of the utilization of harvests (Duvernoy et al., 2025; Enthoven & Van den Broeck, 2021; Muliadi et al., 2024; Rijanta, 2020; Watabe & Takano, 2025; Zerbian et al., 2022). This fact indicates the necessity to enhance the local supply chain institutions without neglecting the cultural values on which they are based.

Loss of key actors in the local food supply chain of indigenous communities is another issue in the local food supply chain. This has broken the knowledge and skills chain in the local food management due to the migration of younger generations to cities, and the loss of interest in traditional agriculture (Nagal, 2025; Niko et al., 2025; Sumarwati, 2022; Suminar, 2023). It also causes a loss of the quality and continuity of the supply chain, as the practice of knowledge regeneration cannot be established because of the absence of a generational gap in certain communities. In the absence of these skills, local food systems cannot have a solid enough base to be sustained in the long term.

With such problems, the urgent solution is to enhance and increase the local food supply chain within indigenous communities through approaches that are grounded in local knowledge and cultural values. Nonetheless, the literature on the relationship between supply chains and food security among indigenous communities is very scanty, both in terms of quantity and quality. The majority of the studies concentrate on agrarian problems, land entitlement, or environmental transformation, and do not look into the technical aspects of the supply chain system itself. However, to come up with specific interventions, one must have a comprehensive knowledge of the production, storage, distribution, and access to food in the native populations.

The existing literature is more likely to see indigenous communities as passive subjects that require help, as opposed to active subjects with intricate institutional and technical abilities. The absence of proper theoretical frameworks and data gaps creates a challenge in adjusting policy planning to real-life situations. Thus, a cross-disciplinary research method is required that would integrate the view of food security, anthropology, logistics, and local ecology.

Although the question of indigenous people and food security has become a topic of scholarly and

policy debate in Indonesia, there is a scarcity of studies that examine the specific supply chain of local food among indigenous people. The majority of the researches are concerned with food security in general households or specific food groups (rice and corn). This leaves an informational void as to how local food supply chains, and in particular the supply chain based on wild or semi-cultivated sources, are organized in the socio-ecological environment of indigenous peoples. Nevertheless, these supply chains have particular features, which are not available in formal food systems, including utilizing forest resources and non-monetary exchange systems and clan-based distribution.

The literature is missing a great deal on the connection between the supply chains and food security among indigenous communities relying on local food. The available literature has not discussed the distribution, institutional, and sustainability of the local food system in detail. This absence of study on the technical, social, and institutional features of the said supply chains has kept them mostly unstudied within regional and national food policy planning processes. This is a risk towards neglect in the development intervention design.

The need to carry out this research is based on the fact that indigenous communities have a significant role in ensuring biodiversity, local food security, and national food sovereignty. They have adaptive and sustainable food systems, but these are not resistant unless supported by the right policy and knowledge. This literature review shall discuss previously established study findings in developing a conceptual framework that incorporates both the lenses of logistics, anthropological, and sustainability approaches, and hence offer a strategic foundation on how to enhance equitable and inclusive food security.

Although the issues of food security of indigenous populations have deep roots in their knowledge and practices, they are currently experiencing multidimensional pressure that needs to be understood in a more comprehensive manner. Consequently, the shift in ecological landscape because of climate change, environmental harm, and the rise in natural resource-based economies has altered the production, distribution, and consumption of food by indigenous communities, particularly among the indigenous communities in Indonesia (Syaban & Appiah-Opoku, 2024; Utami et al., 2022). The local food supply chain in this context is in focus not only as a logistic mechanism, but as a socio-ecological network, which is able to help in maintaining food sustenance and autonomy (Daniel

et al., 2022; Habiyaemye & Korina, 2021). The article, however, demonstrates that this dimension of the supply chain is a relatively under-researched aspect in the academic literature, particularly in studies concerning the indigenous communities in Indonesia (Jarzebowski et al., 2020; McDougall & Davis, 2024).

Over the past 20 years, the scientific discussion of food security has increased at a pace, yet most research has addressed formal food systems, mass production, or key food products like rice and corn (Hwalla et al., 2016; Simelane & Worth, 2020). Discussion of technical aspects of supply chains, distribution institutions, and logistics adaptation decisions against indigenous communities has been overlooked (Lugo-Morin, 2022; Swiderska et al., 2022). Indeed, indigenous food systems are characterized in a very distinctive way, including using wild resources, non-monetary exchange, sharing by the clans, and this is very distinct from the established market models (Huambachano, 2018; Wehi et al., 2023).

The lack of such knowledge leads to a lack of local views in the food policy planning. The lack of knowledge on how supply chain functions on the level of the indigenous community means that the interventions will either be out of place or even harmful to current systems (Arotoma-Rojas et al., 2024; Max et al., 2025). Besides that, the global processes of disrupting international supply chains and food price changes also tend to underscore the significance of a local resource-based food security model (reliant on traditional wisdom) (Calloway et al., 2023; Kapoor et al., 2024).

Thus, the literature review is aimed at mapping, analyzing, and synthesizing the literature published during the last 10 years (2015-2025) on supply chains and food security in indigenous food-based communities. The purpose of the study is not only to present the current research environment but also to find the tendencies of the results, gaps in the studies, and directions of their future development. In this manner, the study will construct a conceptual framework that takes into consideration the perspective of logistics, anthropology, and sustainability studies of indigenous peoples in Indonesia, and at the same time, offer strategic implications to the development of equitable, sustainable, and inclusive food security policies.

**It is against this that the following research questions were developed:**

- a. What are the bibliographic and research trends on the theme of supply chains and food security in local food-based indigenous commodities between the years 2015 and 2025?
- b. What is the mapping of the research on the theme of supply chains and food security of the local food-based indigenous commodities in the period 2015 to 2025?
- c. What is the food security situation of the local food-based indigenous communities in Indonesia?
- d. What is the possible risk of food insecurity to the indigenous people of Indonesia?
- e. Applicability of supply chains in solving food security challenges of indigenous people in Indonesia.

## 2. THEORETICAL FRAMEWORK

A local food system is a system of food production, distribution, and consumption based on local resources, local knowledge, and local distribution networks. In the context of modern logistics (including the National Logistics Ecosystem), this system is strengthened through distribution integration, supply chain efficiency, and broader market access (Chrisendo et al., 2026; Enthoven & Van den Broeck, 2021; Yani et al., 2025).

The theory of food security is based on the concept developed by the Food and Agriculture Organization (FAO), which encompasses four key dimensions: availability, access, utilization, and stability. Local food systems play a direct role in all four of these dimensions (Gallegos et al., 2023; Guiné et al., 2021; Pérez-Escamilla et al., 2017).

The theoretical connection between supply chain theory and local food systems is part of the food supply chain. NLE aims to improve distribution efficiency and connectivity between regions. As a result, food availability increases and post-harvest losses are reduced. Additionally, sustainable food system theory emphasizes environmental sustainability, economic efficiency, and social well-being. Furthermore, local food systems help reduce distribution costs, support the local economy, and are more environmentally friendly (Adeagbo et al., 2026; Garima et al., 2024; Péra, et al., 2023).

The NLE serves as a bridge between local food systems and food security through national logistics integration, the digitization of food distribution, and supply chain efficiency. As a result, local products are easier to distribute, prices are more stable, and market access (both domestic and export) has improved (Bugiman et al., 2025; Utama et al., 2024; Yuda, 2025;).

## 3. RESEARCH METHOD

This paper employs a systematic literature review (SLR) methodology that will attempt to gather,

categorize, and interpret scientific evidence about the supply chains and food security in indigenous food-based communities. The scope of this review is restricted to the publications that examine the interconnection between the supply chain systems, food security, and the socio-ecological life of the indigenous people.

The SLR method was selected as it is capable of providing a synthesis of the evidence-based knowledge in a comprehensive manner, and can reduce the source selection bias characteristic of more conventional narrative research (Snyder, 2019). Moreover, through this approach, cross-study analysis over different places and settings of indigenous people can be conducted, which enables one to build a unified conceptual framework. The review process was conducted under PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which are the global standard for other systematic reviews compiling (Page et al., 2021; Rethlefsen et al., 2021).

The steps of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method for conducting a Systematic Literature Review (SLR), aimed at improving transparency, consistency, and reproducibility in the literature review process. (1) Literature review aimed at identifying all relevant literature from various databases through a process of selecting keywords and identifying databases sourced from journals such as Scopus, Web of Science (WoS), ScienceDirect, and others. The literature search was then conducted using Publish or Perish (PoP). The searching the literature in the Scopus database based on the following keywords: "food security," "community," "supply chain," "indigenous community," "food," "local food," and "food system". The second step is screening, which removes the duplicates and irrelevant articles using the title, abstract, and keywords.

(2) Screening aimed at filtering articles based on initial criteria through a process of removing duplicates, reviewing titles and abstracts, and applying initial inclusion and exclusion criteria.

(3) The eligibility criteria serve to determine which articles are truly relevant to the process of reading the full text, to evaluate the quality of the studies, and to ensure alignment with the research objectives.

Then, the eligibility was determined by reviewing the articles that survived through the screening process, provided by fully reading them, and checking by the established inclusion criteria, i.e., the year of publication was within 2015–2025, the article

was a journal article indexed in Scopus, and the article was relevant to the research area of interest, i. e. food security, anthropology, logistics, or development studies. Inclusion was the last phase, and it entailed the selection of really appropriate articles to undergo further analysis.

Data extraction was done in a systematic manner to acquire the information about the structure of the local food supply chain, actors, the adaptation strategies to the disruption of supply, the role of the indigenous institutions, and the role of the local food systems in food security. Through this strategy, it is anticipated that the research will give a holistic view of the evolution of research on supply chains and food security in the indigenous community founded on local food, as well as come up with trends, topic maps, and research gaps that could be utilized to formulate the necessary and contextual policies.

Bibliometric analysis can be used to identify publication trends (2015–2025) that reveal dominant topics, analyze co-authorship, co-citation, and keyword co-occurrence. The results provide a quantitative overview of the structure, trend mapping, and big data related to publications, contributing to the advancement of science—including theories, concepts, methods, and research findings.

The SLR, utilizing the PRISMA framework, serves to select relevant and high-quality literature, conduct an in-depth review of existing studies on the logistical impacts of NLE on agricultural exports, and critically, thoroughly, and systematically synthesize the findings of qualitative analyses from relevant articles, thereby providing conceptual and theoretical insights.

## 4. RESULTS AND DISCUSSION

### 4.1. Bibliography And Research Trends On Supply Chain And Food Security In Local Food-Based Indigenous Communities (2015 – 2025)

The issue of relevance and accuracy in gathering scientific literature is key; the choice of keywords is a very important step in the initial identification phase. Hence, the first part of the analysis in this paper involved the Publish or Perish application in order to determine the best keyword combinations in retrieving the publications on the theme of food security among local food-based indigenous communities. The results of the identification process, selection process, feasibility, and the number of publications used in the study based on the h-index value of a particular combination of keywords are shown in the following table.

**Table 2: Keywords and Search Results with the Publish or Perish (Pop) Application, With the Search Period Of 2015 - 2025.**

Keywords	Search Results			
	Identification	Selection	Eligibility	Inclusion (h-index)
"food security" AND "community"	99	70	70	20
"supply chain" AND "local food" AND "community"	162	130	130	24
"local food" AND "indigenous community"	54	48	41	13
"food system" AND "indigenous community"	7	7	3	1
"supply chain" AND "food" AND "indigenous communities"	9	6	6	4
<b>Amount</b>	331	261	250	62

Source: Processed Publish Or Perish (Pop) Results (2025).

Table 2 displays five keyword combinations that were employed to identify scientific articles concerning the issue of food security, local food, supply chains, and indigenous communities. The search was completed in a number of steps. The first step was initial identification, then an initial filtering step to separate the relevant articles, then an eligibility step in which the inclusion criteria were used, before finally a stage where consideration was made on the quality of the publications based on h-index.

Among the five keyword combinations, the first combination, which was based on food security and community, resulted in the identification of 99 articles. After the selection and eligibility process, 70 articles were considered relevant and eligible, and out of these, 20 have been included. It proves that this combination is very efficient in finding the relevant and high-quality literature. The most active combination, in terms of the number of hits, was the second one, supply chain AND local food AND community. One hundred and sixty-two articles were located, 130 of which were selected and met the eligibility criteria, and twenty-four articles were considered to be of high quality. This means that this subject is well developed and is extensively covered in scientific literature, and is a good keyword to be applied in future research.

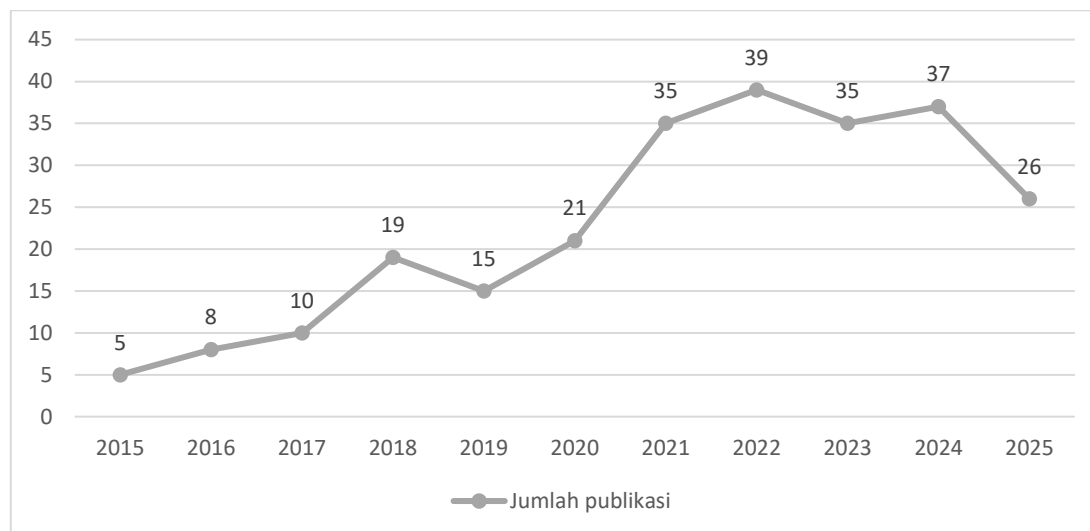
The third search, local food AND indigenous community, resulted in 54 articles, 48 articles met the selection process, and 41 were eligible. Out of these, 13 articles were classified under the inclusion category. It means that the problem of food locality within the framework of indigenous communities is thoroughly studied and of high quality to be analyzed further. Conversely, the fourth combination, which was the food system AND the indigenous community, resulted in only 7 articles,

which were all included in the initial selection process, but only 3 met the eligibility criteria, and only 1 was of high quality. This is an indication that there is a lot of limited or under-exposure to research on food systems regarding indigenous communities in the Scopus scientific literature.

The last search, which included the query terms supply chain AND food AND indigenous community, resulted in nine articles, out of which six articles met the selection and eligibility criteria, with four articles passing through to the inclusion phase. The number is also not high, but the eligibility and inclusion ratios are rather high, which means that these keywords can find enough relevant and high-quality literature in a given sphere.

In total, 331 articles were identified, 261 of them were screened, but only 250 were eligible, and 62 articles were selected on quality parameters (h-index). The findings suggest that the process of literature search relies greatly on the choice of keywords. The Publish or Perish application has proven to be very helpful in identifying and filtering relevant and high-quality scientific literature, especially in systematic studies or thematic literature reviews that require a rigorous methodological approach.

Attention to food security in indigenous communities continues to evolve, in line with growing global awareness of the importance of sustainable, local food systems based on traditional wisdom. One important indicator of this growing discourse is the growth of scientific publications in reputable databases like Scopus. To illustrate this trend more concretely, Figure 2 below presents the number of Scopus publications addressing the topic of food security in indigenous communities based on local food from 2015 to mid-2025.



**Figure 1: Number of Scopus Publications on the Theme of Supply Chains and Food Security in Local Food-Based Indigenous Communities.**  
(Source: Processed Pop Data, 2025).

Figure 1 displays the number of Scopus journal publications on the topic of supply chains and food security in indigenous food-based communities from 2015 to 2025, with a trend that shows fluctuations but an overall increase over the past decade. In 2015, only five publications were identified, indicating that this issue had not yet attracted much attention. Nonetheless, it has been increasing by a relatively steady margin, with 19 publications in 2018. This has shown and is a growing realization that there are advantages of utilizing local and traditional wisdom-based methods of food security, particularly in the difficulties of sustainable development.

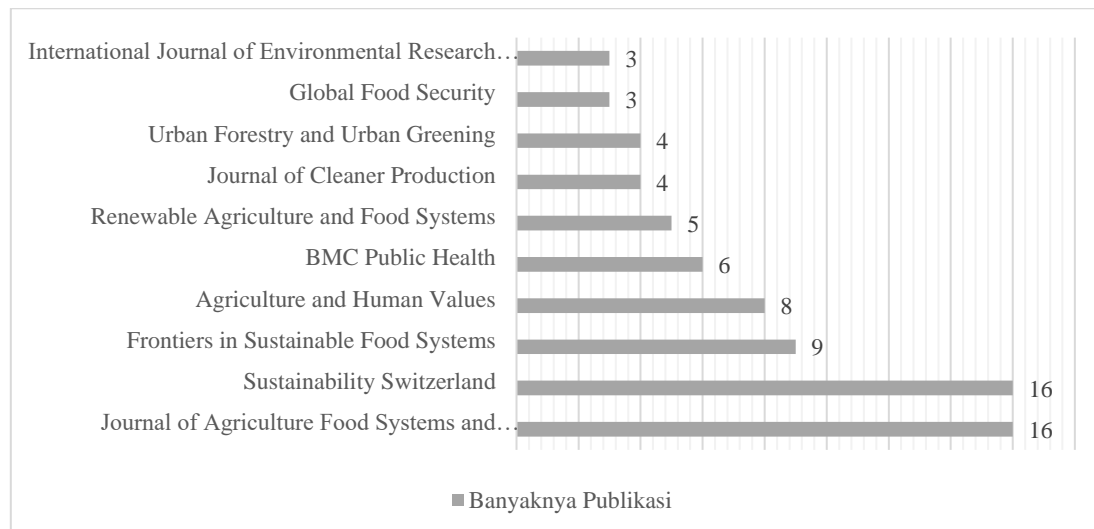
There were changes in 2019 as it saw a decline, but later in the year, the number of publications went back to 21 in 2020. The sharp increases in 2021 and 2022 reached 35 and 39 publications, respectively. It was also during this time that the COVID-19 pandemic made the weakness of the global food system apparent to a large number of researchers and led to the development of alternative solutions, such as local food systems that were under the control of indigenous communities. The fact that many publications are made proves the fact that the scientific community is very interested in traditional and local ways of ensuring food security in the context of the crisis.

The trend is slightly but significantly decreasing (1.5 in 2022), followed by 35 and 37 publications in 2023 and 2024, respectively. The further drop happened in 2025, and the number of publications

was only 26. It should be mentioned, though, that these 2025 figures only reflect information up to June; there is still a risk that the number of publications might rise until the end of the year. That is why it cannot be firmly stated that the trend is declining in 2025 and is not a decline in interest; instead, it is better to consider it as incomplete data that has to be refreshed at the end of the year in order to have a more precise evaluation.

On the whole, this graph indicates a growing interest in the aspects of locally based food security among indigenous populations in academia, which rose during the pandemic and was stable in several years later. The short-term decrease in 2025 must be seen with caution and must not be seen as a negative blow. Instead, it offers an appraisal possibility in order to enhance research that sustains food in terms of cultural stance and local insight that is more and more pertinent in the backdrop of climate change and international food geopolitical insecurities.

Along with monitoring the tendencies of publications over time, it is also necessary to understand where the research on food security among the indigenous population with references to local food is the most popular. Selecting the right journal not only reflects the direction of scientific discourse but also indicates the channels most open to interdisciplinary approaches and local perspectives. Figure 3 below presents the top ten Scopus journals with the most articles published on this topic through 2025.



**Figure 2: Scopus Journal Sources Have Published the Most Articles on the Theme of Supply Chains and Food Security in Local Food-Based Indigenous Communities.**  
(Source: Processed Pop Data, 2025)

Figure 2 presents a list of the ten Scopus journals that published the most articles on the theme of supply chains and food security in indigenous communities based on local food until 2025. From this graph, it is clear that two journals stand out as the main channels for the dissemination of this discourse: Sustainability (Switzerland) and the Journal of Agriculture, Food Systems, and Community Development, each with 16 publications. These two journals are known as important forums for studies of sustainability and locally oriented community development, so they are highly relevant for publishing research that addresses the dimensions of customs, traditional food, and food systems based on local wisdom.

The journals *Frontiers in Sustainable Food Systems* (9 publications) and *Agriculture and Human Values* (8 publications) also show significant contributions. Both carry an interdisciplinary approach that combines agricultural aspects with social, ethical, and cultural values, making it very suitable for the approach to food security based on indigenous communities that is not only technical, but also includes spiritual, ecological, and social dimensions. The presence of the journal *BMC Public Health* with 6 publications and the *Journal of Cleaner Production* (4 publications) indicates that the topics of public health and environmental efficiency are also addressed in the local food security studies, especially with regard to the correlation of the quality of traditional foods and the health of the populations consuming them.

In the meantime, other journals, including *Renewable Agriculture and Food Systems* (5

publications) and *Urban Forestry and Urban Greening* (4 publications), demonstrate the interest in the ability of indigenous food systems to be supported when the system is situated in a sustainable agricultural framework, in urban spaces or land use pressured by land-use change. With 3 publications each, *Global Food Security* and the *International Journal of Environmental Research and Public Health* indicate that the problem of indigenous food security has already gained ground on the global level and in the general environmental policy.

On the whole, this graph indicates that food security among indigenous communities is not a limited concept that belongs to a single scientific study but has permeated different scientific disciplines like health, environment, sustainability, sociology, and the production of clean food. What this trend shows is the increasing appreciation of the role of local solutions in dealing with the task of food security on a global scale. The information contained in this graph can be used by researchers who want to incorporate their work in this field to choose journals that have been found to be accommodating to their subjects of interest. These results also illustrate that it is essential to establish multidisciplinary partnerships to make the scientific arguments and reach of the studies about local food and indigenous communities more powerful.

Moreover, to assess the direction and power of scientific conversation on food security by indigenous food-based communities, it would be necessary to analyze the pieces of writing that are the most common reference points of other researchers. The list of articles cited the most in the period between 2015 and 2025 is in Table 2 below. Using this

information, we are able to track the thematic change in direction and emphasis of research in this theme over the years, as the emphasis has shifted to include the traditional

knowledge and local practices to the modern-day concerns of public policy, the food crisis in the world, and the sustainability of the diet.

**Table 3: The Most Cited Articles on the Theme of Food Security in Indigenous Communities Based on Local Food Per Year (2015 – 2025).**

Year	Author Name	Title	Journal Name	Number of Citations
2015	Söukand et al., 2015	An Ethnobotanical Perspective on Traditional Food Uses in Estonia And the Balkans	Journal of Ethnopharmacology	115
2016	Mundler & Laughrea, 2016	The Contribution of Short Food Supply Chains to Sustainability: A Review	Journal of Rural Studies	150
2017	Brinkley, 2017	Visualizing the Social and Geographical Embeddedness of Local Food Systems	Journal of Rural Studies	72
2018	Pérez-Neira & Grollmus-Venegas, 2018	Life-Cycle Energy Assessment and Carbon Footprint of Peri-Urban Horticulture in Spain	Landscape and Urban Planning	71
2019	Zasada et al., 2019	Food Beyond the City – Analyzing Foodsheds and Self-Sufficiency for Different Scenarios	City Culture and Society	92
2020	Lal, 2020	Home Gardening and Urban Agriculture for Advancing Food and Nutritional Security	Food Security	341
2021	O'Hara & Toussaint, 2021	Food Access in Crisis: Food Security and COVID-19	Ecological Economics	236
2022	Wickramasuriya et al., 2022	Role of Physiology, Immunity, Microbiota, and Nutrition in COVID-19	Vaccines	108
2023	Basurko et al., 2023	Hunger in French Guiana's Vulnerable Urban Neighborhoods	Food and Nutrition Bulletin	13
2024	Jia et al., 2024	Promoting Resilient and Sustainable Food Systems in Urban Areas through Policy Support	Journal of Cleaner Production	33
2025	Lanham & Van Der Pols, 2025	Toward Sustainable Diets - Interventions and Policy Priorities	Nutrition Reviews	5

Source: Publish Or Perish Data Processed, 2025.

Table 3 presents a list of the most cited articles each year between 2015 and 2025, which discuss the theme of food security in indigenous communities based on local food. Based on this search, we can observe the various trends of scientific research development throughout history, according to world social, ecological, and political processes. The most noticeable article in 2015 was “An Ethnobotanical Perspective on Traditional Food Uses in Estonia and the Balkans” by Söukand et al. (2015) in the Journal of Ethnopharmacology, and had 115 citations. This article is vital in bringing to light cultural values in traditional food practices and how local knowledge can be used as a source of food security in an indigenous community.

The next year, 2016, the article “The Contributions of Short Food Supply Chains to Sustainability: A Review” by Mundler & Laughrea (2016) in the Journal of Rural Studies, with 150 citations. The article supports the role of local solutions in the food supply chain and highlights shorter distribution channels as a way of ensuring sustainability and efficiency, which is relevant to the context of the indigenous communities that tend to be dependent on the local resources. The article Visualizing the social and geographical embeddedness of local food

systems by Brinkley (2017) was published in the Journal of Rural Studies in 2017 and has 72 citations. This paper presents a spatial approach to local food systems, demonstrating how they get into the social and geographical framework of communities.

In 2018, the article “Life-cycle Energy Assessment and Carbon Footprint of Peri-Urban Horticulture in Spain” by Pérez-Neira & Grollmus-Venegas (2018) in the journal Landscape and Urban Planning was the most cited article of the year with 71 citations. This study broadened the area of concern on food security to environmental factors, i.e., energy efficiency and carbon emission in urban agricultural activities. Moreover, in 2019, "Food Beyond the City - Analyzing Foodsheds and Self-Sufficiency under Various Circumstances" by Zasada et al. (2019) in City Culture and Society had 92 references. In this article, it is shown that local food systems can be an extension of sustainable urban planning, even in attempts to advance the food self-sufficiency of the community.

In 2020, a turning point was reached in the work on this study. “Home Gardening and Urban Agriculture to Further Food and Nutritional Security” by Lal (2020) appeared in the publication Food Security and was cited 341 times, which is the

largest on the list. This article is very timely given the current situation during the COVID-19 pandemic, since it talks about the strategic value of household farming and urban farming to sustain food security, particularly among vulnerable groups. In 2021, the article "Food Access in Crisis: Food Security and COVID-19" by O'Hara & Toussaint (2021) was published in the *Ecological Economics* journal and received 236 citations. This piece emphasizes how unfair food allocation at crisis times provokes and supports the necessity to establish equitable and resilient local food systems.

The article "Role of Physiology, Immunity, Microbiota, and Nutrition in COVID-19" by Wickramasuriya *et al.* (2022) in the journal *Vaccines* received 108 citations in 2022. It was the first step to change the focus to biomedicine and associate food security with bodily wellness and the immune system, which gains more and more significance during the pandemic. The article titled "Hunger in Vulnerable Urban Neighborhoods in French Guiana" by Basurko *et al.* (2023) was published in the *Food and Nutrition Bulletin* in 2023 and had 13 citations. The particular problem that this paper will solve is the hunger among urban indigenous populations in French Guiana, which expands the geography of the area and illustrates the impact of structural marginalization on food security.

One of the articles with 33 citations that was published in 2024 in the *Journal of Cleaner Production* is titled "Promoting Resilient and Sustainable Food Systems in Urban Areas through Policy Support" by Jia *et al.* (2024). The article has highlighted the need to adopt policy interventions to promote local food systems in the face of rapid urbanization. Lastly, the article by Lanham & Van Der Pols (2025) in *Nutrition Reviews* titled "Toward Sustainable Diets- Interventions and Policy" was the most referenced article of the year, although it received five citations. The paper also emphasizes the significance of nutrition policies and sustainable diets as an inclusive food security agenda, and applies to the ideals of sustainable indigenous consumption.

All in all, Table 1 indicates that over the years, the thematic aspects of studies regarding food security among the indigenous community, when guided by local food, have had considerable changes. In the early part of the decade (2015-2017), the trend of the research was more oriented around the elements of culture, locality, and the structure of local food systems, as was observed in the articles "An Ethnobotanical Perspective on Traditional Food Uses in Estonia and the Balkans (2015)," "The Contributions

of Short Food Supply Chains to Sustainability" (2016), and "Visualizing the Social and Geographical Embeddedness of Local Food Systems" (2017). These articles highlight the significance of geographic connectivity and local knowledge in addition to community-based systems of food provisions.

It has been noted that as the middle of the decade (2018-2021) has come by, the focus has changed towards environmental issues, urban planning, and the pandemic crisis. The articles like "Life-Cycle Energy Assessment and Carbon Footprint of Peri-Urban Horticulture in Spain" (2018) and "Food Beyond the City" (2019) and an avalanche of articles on the topic of the food crisis during the pandemic like "Home Gardening and Urban Agriculture for Advancing Food and Nutritional Security" (2020) and "Food Access in Crisis: Food Security and COVID-19" (2021) show how the theme of the food crisis is expanding in the context of a local and more global and systemic perspective.

Towards the conclusion of the decade (2022-2025), methods of research were also becoming multidisciplinary, such as including public policy, microbial health, and sustainable diets. It was captured in articles like "The Role of Physiology, Immunity, Microbiota, and Nutrition in COVID-19" (2022), "Promoting Resilient and Sustainable Food Systems in Urban Areas through Policy Support" (2024), and "Toward Sustainable Diets - Interventions and Policy" (2025). These researchers focused on food production and distribution, and also on the role of policy interventions, poor health, and food consumption cultures in determining food systems of indigenous populations.

Therefore, these trends can be attributed to the fact that indigenous community food security is part of a complex problem that is closely connected to the dynamics of social, ecological, health, and governance. This implies that it is necessary to collaborate with other sectors and take a holistic approach in coming up with sustainable and equitable solutions to this problem.

#### **4.2. Research Mapping With The Theme Of Supply Chain And Food Security In Local Food-Based Indigenous Communities (2015 - 2025)**

The results of the Publish or Perish (PoP) data search in this study were analyzed using VOSviewer, a bibliometric analysis tool for mapping and identifying the structure of scientific discourse on food security in local food-based indigenous communities during the 2015-2025 period. VOSviewer allows visualization of keyword networks (terms) that frequently appear together in

the literature, and groups them into thematic clusters based on conceptual relationships. The analysis results show that there are 75 interconnected items (key terms) in the analyzed corpus of articles, which are automatically grouped into 10 main clusters (presented in Table 4).

The strength of the interconnectedness between these items is reflected in the formation of 347 links, indicating how frequently two terms appear together in the same document. Furthermore, the total link strength of 446 indicates the intensity of the relationship between the terms as a whole, indicating that the terms analyzed have a sufficiently strong conceptual linkage in forming a map of scientific discourse. Thus, this analysis not only displays keywords separately but also reveals the conceptual structure and dynamics of research in this field, while

also showing thematic focuses that have developed over the past decade. Through this approach, it can be understood that food security in indigenous communities is a complex and multidimensional field of study, encompassing aspects of production, distribution, consumption, food sovereignty, policy interventions, and crisis responses.

To understand how the scientific discourse on food security in indigenous food-based communities is structured, bibliometric analysis can provide a more systematic and comprehensive picture. Through this approach, we can identify key terms that frequently appear together in the literature and group them into specific thematic clusters. Table 3 below presents the results of term clustering using VOSviewer, reflecting a conceptual map of research on this theme for the period 2015–2025.

**Table 4: Grouping Terms in Vosviewer Result Clusters.**

Cluster	Term	Journal Source
1	<i>behavior, cost, development, farm, food insecurity, implementation, intervention, perception, procurement, scoping review, sustainability, trade off</i>	Bizikova et al., 2020; Domingo et al., 2021; Doustmohammadian et al., 2022; Garrity et al., 2024; Gorecki et al., 2024; Gupta et al., 2022; Hedin et al., 2019; Linda et al., 2025; Marjanovic et al., 2023; Muliadi et al., 2024; Nisbet et al., 2022; Palmeira et al., 2020; Sacca et al., 2023; Stluka et al., 2018; Sutrisno et al., 2024; Yusriadi & Cahaya, 2022
2	<i>consumer, contribution, experience, farmer, food, nutritional security, producer, sustainable food system, urban agriculture</i>	Abdoellah et al., 2023; Chandra & Diehl, 2019; Deller et al., 2017; Diehl, 2020; Diekmann et al., 2020; Garrity et al., 2024; Grebitus et al., 2017; Keefe & Lee, 2025; Ochoa et al., 2020; Rossi & Woods, 2024; Selfa & Qazi, 2005; Tay et al., 2024
3	<i>agriculture, application, diversity, food waste, future direction, importance, local food system, nutrition, strategy</i>	Borelli et al., 2024; Dou et al., 2018; Galford et al., 2020; Garske et al., 2020; Ishangulyyev et al., 2019; Jamaludin et al., 2022; Lopez Barrera & Hertel, 2021; Martin-Rios et al., 2021; Rao & Rathod, 2019; Rozaki, 2020; Sarangi et al., 2024; Sudomo et al., 2023
4	<i>center, community resilience, country, covid, crisis, focus, response, short food supply chain</i>	Duffy et al., 2021; Hecht et al., 2019; Liu et al., 2023; Marusak et al., 2021; Michel-Villarreal et al., 2021; Mu et al., 2021; Nuryartono et al., 2021; Reuters, 2019; Smith et al., 2016; Stone & Rahimifard, 2018; Ušča & Tisenkopfs, 2023; Xu et al., 2021
5	<i>adaptation, equity, food system, framework, land, resilience, value</i>	Alam et al., 2018; Campbell et al., 2022; Estiningtyas et al., 2024; Hawkins et al., 2022; Hellin et al., 2023; Muliadi et al., 2024; Rahman et al., 2021; Shikuku et al., 2017; Tirado et al., 2022; Yagaso et al., 2024; Yusriadi & Cahaya, 2022
6	<i>action, effect, food sovereignty, indigenous community, knowledge, lessons, pandemic</i>	Cote, 2016; Domingo et al., 2021; Gutierrez et al., 2023; Jernigan et al., 2021; Maudrie et al., 2023; Nguyen et al., 2023; Niko et al., 2025; Poirier & Neufeld, 2023; Young et al., 2024
7	<i>barrier, evidence, facilitator, food access, insight, perspective</i>	Crowe et al., 2018; Garrity et al., 2024; Godrich et al., 2025; Hazzard et al., 2024; Katre & Raddatz, 2023; Madlala et al., 2023; O'Hara & Toussaint, 2021; Saediman et al., 2021; Stluka et al., 2018; Suri, 2025
8	<i>alternative food network, person, place, rural community, transformation</i>	Black, 2024; Cerrada-Serra et al., 2018; Gori & Castellini, 2023; Goszczyński & Wróblewski, 2020; Perdana et al., 2022; Yusriadi & Cahaya, 2022; Zhang, 2024
9	<i>community, consumption, health, household food security, impact</i>	Akbar et al., 2023; Gibson et al., 2021; Khaenamkhaew, 2024; Muliadi et al., 2024; Skhephu et al., 2025
10	<i>comparison, food security, role, rural area, sovereignty</i>	Abdoellah et al., 2020; Byaruhanga & Isgren, 2023; Mbajiorgu, 2020; Niko et al., 2025; Robinson, 2021; Yudono et al., 2022

Source: Processed Vosviewer Data, 2025.

Table 4 presents the results of a bibliometric analysis using VOSviewer software on articles on the theme of supply chains and food security in local food-based indigenous communities published between 2015 and 2025. This analysis produced ten main clusters that group key terms that frequently appear together in the literature. The clusters, as well as depicting the most dominant subtopics, help to see

how scholarly texts on this theme create a multifaceted and interdependent conceptual map.

The former cluster demonstrates the concern of the policy and implementation strategy facet of food security, where the terms used are behavior, implementation, intervention, and sustainability. This cluster emphasizes the role of intervention effectiveness, food decision-making behavior

dynamics, and the relevance of the sustainable and evidence-based approach to policy formulation (Bizikova et al., 2020; Domingo et al., 2021; Doustmohammadian et al., 2022; Garrity et al., 2024; Gorecki et al., 2024; Gupta et al., 2022; Hedin et al., 2019; Linda et al., 2025; Marjanovic et al., 2023; Muliadi et al., 2024; Nisbet et al., 2022).

The second cluster, in turn, is more related to local food production and distribution, the terms of which include consumer, farmer, urban agriculture, and sustainable food system. It underscores the significance of the indigenous communities being core producers of local food systems especially with the urbanization process that is increasingly driving out traditional space of production (Abdoellah et al., 2023; Chandra & Diehl, 2019; Deller et al., 2017; Diehl, 2020; Diekmann et al., 2020; Garrity et al., 2024; Grebitus et al., 2017; Keefe & Lee, 2025; Ochoa et al., 2020; J. Rossi & Woods, 2024; Selfa & Qazi, 2005; Tay et al., 2024).

The third cluster is more expansive as it deals with factors of diversification of food systems and agricultural practices. Such concepts as agriculture, diversity, food waste, and future direction suggest that the research in this cluster aims at new strategies to decrease waste, food security by local means, and predict future issues (Borelli et al., 2024; Dou et al., 2018; Galford et al., 2020; Garske et al., 2020; Ishangulyyev et al., 2019; Jamaludin et al., 2022; Lopez Barrera & Hertel, 2021; Martin-Rios et al., 2021; Rao & Rathod, 2019; Rozaki, 2020; Sarangi et al., 2024).

The fourth cluster is very contextualized to the world dynamics, especially at the time of the COVID-19 pandemic. Community resilience, crisis, response, and short food supply chain are the terms that are used to reflect the emphasis on how indigenous communities exhibit resilience and flexibility during the systemic disruptions that endanger their further access to food (Duffy et al., 2021; Hecht et al., 2019; Liu et al., 2023; Marusak et al., 2021; Michel-Villarreal et al., 2021; Mu et al., 2021; Nuryartono et al., 2021; Reuter, 2019; Smith et al., 2016; Stone & Rahimifard, 2018; Ušča & Tisenkopfs, 2023).

The fifth cluster reflects issues of social justice and community values and involves such terms as adaptation, equity, resilience, and value. This is an important way of considering food security as not just a technical problem but one that is closely connected to rights, equal access, and shared values of the indigenous communities (Alam et al., 2018; Campbell et al., 2022; Estiningtyas et al., 2024; P. Hawkins et al., 2022; Hellin et al., 2023; Muliadi et al., 2024; Rahman et al., 2021; Shikuku et al., 2017; Tirado

et al., 2022; Yagaso et al., 2024; Yusriadi & Cahaya, 2022).

The sixth cluster is highly specific in the discussion of the right to food and community sovereignty, containing such keywords as food sovereignty, indigenous community, and knowledge. This is a reflection of the developing debate concerning the right of indigenous communities to their own food systems in terms of traditions, local knowledge, and cultural identity (Coté, 2016; Domingo et al., 2021; Gutierrez et al., 2023; Jernigan et al., 2021; Maudrie et al., 2023; Nguyen et al., 2023; Niko et al., 2025; Poirier & Neufeld, 2023; Young et al., 2024).

The seventh cluster focuses on access to food, structural issues, and the facilitator. Such terms as barrier, facilitator, food access, and insight reveal that the problems of food security cannot be discussed without reference to systemic barriers that should be identified and dealt with contextually (Crowe et al., 2018; Garrity et al., 2024; Godrich et al., 2025; Hazzard et al., 2024; Katre & Raddatz, 2023; Madlala et al., 2023; O'Hara & Toussaint, 2021; Saediman et al., 2021; Stluka et al., 2018; Suri, 2025).

The eighth cluster that contains terms like alternative food network, rural community, transformation deals with local response and alternative food networks as a means of resistance against the dominant food system that can be unfair or exclusive to indigenous people (Black, 2024; Cerrada-Serra et al., 2018; Gori & Castellini, 2023; Goszczyński & Wróblewski, 2020; Perdana et al., 2022; Yusriadi & Cahaya, 2022; Zhang, 2024).

On the other hand, the ninth cluster brings out the dimensions of household consumption and public health, where the terms used are community, consumption, health, and household food security. This indicates the relevance of a micro-viewpoint to the explanation of food security directly at the level of experience by individuals and families in indigenous populations (Akbar et al., 2023; Gibson et al., 2021; Khaenamkhaew, 2024; Muliadi et al., 2024; Skhephu et al., 2025).

The tenth cluster, the last cluster, brings into light the terms like comparison, role, rural area, and sovereignty that serve to make comparative analysis between the regions, in addition to bringing up whether communities have a role to play in the fate of their own food systems (Abdoellah et al., 2020; Byaruhanga & Isgren, 2023; Mbajjorgu, 2020; Niko et al., 2025; Robinson, 2021; Yudono et al., 2022).

Altogether, the findings of this clustering prove that the problem of food security among indigenous people is extremely multidimensional and







### *on Local Food.*

(Source: Vosviewer Analysis Results, 2025).

Figure 5 displays the results of a density visualization analysis using VOSviewer software, based on publications on the theme of food security in local food-based indigenous communities during the period 2015–2025. Unlike network or overlay visualization, density visualization focuses on the density of the frequency of occurrence and the interconnectedness of key terms in the scientific literature. This visualization uses a color gradient from dark blue (low) to bright yellow (high) to depict the intensity of a term in the conceptual network. The brighter the color of an area, the more frequently the terms in that area appear and are linked in various publications.

The figure shows that the terms "community," "food system," "local food system," "COVID," and "food" occupy the brightest positions (bright yellow), indicating that these terms have the highest density. This indicates that the discourse on community-based food systems, particularly in the context of indigenous communities, has been a major focus in the scientific literature over the past decade (Ammons et al., 2021; Béné, 2020; Bezerra et al., 2025; Cunningham et al., 2022; Haynes-Maslow et al., 2020; Liang & Zhong, 2023; O'Hara & Toussaint, 2021; Schanbacher & Cavendish, 2023; Sharma, 2024; Turcu & Rotolo, 2022). In addition, terms such as pandemic, farmer, food insecurity, and food sovereignty also appeared in the brightly lit zone, indicating that the issues of crisis, local production, and the right to food were also important components that were widely discussed and connected to other terms (Ahmed et al., 2024; Durano et al., 2024; Gatson et al., 2022; Ghosh-Jerath et al., 2024; Johnson et al., 2025; Kapadia, 2022; Schanbacher & Cavendish, 2023; Singh et al., 2021).

On the other hand, terms such as implementation, comparison, application, cost, and center are in the green to light blue zones, indicating lower levels of occurrence and less strong thematic relationships than the terms in the center of the map (Garner et al., 2023; Lee et al., 2023; Robitaille et al., 2022; Stluka et al., 2018). However, the presence of these terms remains important because they provide analytical depth to the main study. As an example, implementation and strategy imply the attempts to measure the effectiveness and practical methods of fortifying the local food security, though they are not the major concern of the scientific discussion yet.

Thematic-wise, this density visualization exposes a hardcore discourse of communities as central participants in the food system, especially under the

disruption of the pandemic. Covering this discussion are the adjoining words that define the context of sustainability, policy, social, and economic responses. Such a visual representation also highlights that the local food systems are not only addressed in the context of production and distribution, but also include the rights, resilience, social change, and consumption based on values.

Therefore, this density visualization is important to comprehend prevailing focuses, the power of connections between discourses, and gaps in themes that can be underresearched. This information allows the researchers to understand in what areas there has been extensive research that may be further developed, or in what areas it is possible to conduct new research. The strategic use of such density visualization can guide the direction of research, create evidence-based policies, or create community-based interventions based on local specifics.

### **4.3. Food Security In Indigenous Communities Based On Local Food In Indonesia**

Indigenous Indonesian society has food security that indicates an interdependent and independent socio-ecological system. The indigenous communities build their food production and consumption systems on the spiritual and ecological relationship with natural environments (Ghosh-Jerath et al., 2021; Hernawati et al., 2022; Huambachano, 2018; Miltenburg et al., 2022; Mohd Salim et al., 2023; Niko et al., 2025; Sujarwo et al., 2025; Swiderska et al., 2022). Food security in this case has more to do with the physical presence of food, but also the incorporation of local knowledge and value systems, as well as access to natural resources into the everyday lives of people in a sustainable way (Muliadi et al., 2024; Schipanski et al., 2016; Sumarwati, 2022; Yudono et al., 2022; Yusriadi & Cahaya, 2022).

Practically, indigenous communities are very resilient to food crises due to the local biodiversity used. To illustrate, Papua and Maluku communities continue to use traditional food processing methods that are based on forests, including sago and tubers, which enable them to be food self-sufficient without dependence on the world markets (Girsang et al., 2023; Muhammad et al., 2024; Nerenberg, 2022; Nurhasan et al., 2022; Persulesy et al., 2020). High ecological flexibility of such food systems and the possibility of living in the most extreme conditions, such as global pandemics or climate change.

Nevertheless, even though indigenous food systems have been resilient, there are still high pressures attributed to political and economic marginalization. The indigenous lands traditionally used to produce food have been displaced by development projects and the spread of extractive industries that include mining and palm oil plantations (Buana, 2020; Chao, 2024; Csevár & Rugarli, 2025; Suwardi et al., 2020; Toumbourou & Dressler, 2024). Through land loss, indigenous people do not just lose the farm to produce on the land; they have also disrupted the value chains and identities associated with food.

The fact that indigenous territories are not legally recognized aggravates this problem. In the absence of a legal definition, indigenous populations are susceptible to eviction, which has a direct effect on their food security systems (Abdullah et al., 2024; Arizona et al., 2019; Duile, 2020; Fahmi & Armia, 2022). The separation between food security and land rights is impossible, since without adequate resource control, the local food production will always be placed in the secondary role, in front of the external economic forces (Faoziyah et al., 2024; Hajati et al., 2023; Kholik et al., 2024; Mulyani et al., 2023; Ngongo et al., 2023).

Even though most indigenous societies preserve local knowledge on food management, external interventions frequently cause a systemic disturbance. The programs of agricultural modernization that focus on efficiency and technology frequently disregard the agroecological methods that the indigenous people have been practicing (Imang, 2020; Limpo et al., 2022; Melash et al., 2023; Sukayat et al., 2023; Susanti et al., 2024). This has contributed to the disappearance of the local seeds, the death of the traditional manner of planting, and the use of chemical fertilizers and hybrid seeds.

Indigenous women are at the heart of upholding food security in a social context. They are seed stores, food processors, and distributors of family food (Antriyandarti et al., 2024; Ferreira et al., 2022; Niko et al., 2024). Such a role usually is not visible in the official policy, but the role of women in community food systems directly affects the food vulnerability of families and communities (Akbar et al., 2023; Bhanbhro et al., 2020; Charles et al., 2023; Vaezghasemi et al., 2020).

Moreover, indigenous food systems also enhance social cohesion as the systems rely on community-oriented processes like sharing and ritualizing harvests. These systems can be described as not only the system of production efficiency but also values, identity, and spirituality (Daniel et al., 2022;

Hernawati et al., 2022; Indow et al., 2021; Niko et al., 2025). Thus, the disregard of the local food systems is the disregard of the whole cultural ecosystem in which it is integrated.

It is ironic that the majority of national policies continue to consider indigenous food systems as being "traditional" or "ineffective." However, these systems have long been effective in ensuring the balance of production and conservation (Faoziyah et al., 2024; Nurhasan et al., 2022; Purnamasari et al., 2023; Suwardi et al., 2020). Quite the contrary, the industrial food system, which may be viewed as a modern one, has been the cause of an ecological crisis and overall inequality regarding access to foodstuffs.

Indigenous communities must be placed in the center of strategies in the country to provide a wider approach to food security. They are not just the beneficiaries of the help, but the possessors of adjustable, sustainable, and situational food structures. It is essential to learn how to create food security that is locally based but globally applicable by emulating them (Daniel et al., 2022; Niko et al., 2025; Utomo, 2023; Widiono et al., 2024).

Local food is central to the food security systems of the indigenous communities. Not only is it a source of calories, but it also bears good cultural, spiritual, and ecological values (Duffy et al., 2021; Muliadi et al., 2024; Nelly et al., 2024; Nurhasan et al., 2022; Yusriadi & Cahaya, 2022). As a part of the ecosystems in which they reside, indigenous people have historically cultivated and nurtured local food crops like sago, sweet potatoes, corn, and bananas as staple food products (Hernawati et al., 2022; Indow et al., 2021; Kadir et al., 2024; Suwardi et al., 2020). It is an intricate and sustainable type of ecological and cultural adjustment.

Even in contemporary times, indigenous people in Papua and the Maluku use sago as a food product that is derived in the swamp forests. Sago is not just a source of high energy but also grows without fertilizers, which are chemicals, and this has a significant ecological role in water and soil conservation. Equally, the Flores and Timor people have their traditional eating habits of consuming corn and tubers as part of the agricultural cycle and as a traditional ceremony.

Such utilization of local foods generates a food system not based on international markets and distribution. Natives do not have to buy seeds or fertilizers, but grow their own seeds that they adapt to the seasons and the climate of the area. This indicates the notion of food sovereignty formed in the global literature (Huambachano, 2018; Schipanski et al., 2016), where individuals are in

control of the food systems around them.

Nevertheless, the local food diversity has been destroyed in most of the indigenous societies due to national policies that have advanced rice as the only source of food. Food aid schemes, including Raskin or BPNT (National Food Security), give out large amounts of rice, including to those communities not historically dependent on rice. This has upset the consumption pattern, production, and even value systems that revolve around food. The local foods, however, have major nutritional benefits. Taro and yams contain high amounts of fiber and minerals, and local sorghum and corn are not only drought-resistant but also do not consume a lot of water. A number of studies have revealed that food diversification locally has been demonstrated to enhance the nutritional security and economic resilience of agrarian communities in many regions of the world (Douyon et al., 2022; Haile et al., 2025; Huang et al., 2024; Mulwa & Visser, 2020).

Local food processing is also an expression of advanced traditional innovations. As an illustration, Baduy people keep leuit (traditional rice barns) which they use to predict when they may run out of food. This method is not only effective but also includes the social aspect, which focuses on actively controlling food consumption and collectivity (Dzikunoo et al., 2021; Gonçalves et al., 2021; Habiyaemye & Korina, 2021; Heaney et al., 2024; Iskandar et al., 2018; Joseph & Turner, 2020).

Moreover, most of the local foods are only eaten in special rituals or festive settings. This proves that food is a financial object, not only, but also a spiritual and social symbol. Traditional foods are consumed

during the rituals of ancestral connection in Aboriginal groups, a signifier of the planting period, or a social reconciliation process (Priyadi et al., 2021; Septhia et al., 2024; Sukenti et al., 2016; Sumarwati, 2022). The advent of processed food into the native villages has, however, altered the consumption scenario. The youth are now on instant foods, contemporary snacks, and sweetened drinks. This transforms the definition of food, which is based on the ecological relations, to the definition based on the market consumption (Anyanwu et al., 2023; Briawan et al., 2023; Nurhasan et al., 2022; Taslim et al., 2023). These modifications not only affect the health trends, but they also erode the local food knowledge.

Marginalization of local crops has also been caused by agricultural modernization and food intensification campaigns. Seeds grown locally are falling behind because they are not entitled to government subsidies and programs. These local crops, however, have high ecological adaptability and can grow on marginal land. When farmers lose the motivation to grow local foods, the sustainability of indigenous food systems is threatened (Maftuchah et al., 2021; Ngongo et al., 2022; Sulaiman et al., 2024; Zulfa et al., 2025).

Therefore, reinvigorating the use of local foods as staple foods in indigenous communities is a strategic step towards building sustainable national food security. This is not only a matter of agricultural techniques, but also of restoring cultural relations, strengthening local economies, and respecting traditional knowledge that has proven resilient to various crises (Muliadi et al., 2024; Perdana et al., 2022; Sutardi et al., 2023).

**Table 5: Several Studies That Discuss Food Security in Local Food-Based Indigenous Communities in Indonesia (2015 – 2025).**

Researcher Name & Year	Research Focus and Main Results
Ghosh-Jerath et al., 2021; Hernawati et al., 2022; Huambachano, 2018; Miltenburg et al., 2022; Sujarwo et al., 2025; Swiderska et al., 2022	Demonstrates that indigenous community food systems are spiritually and ecologically connected to the surrounding environment, forming a resilient and sustainable food system.
Muliadi et al., 2024; Schipanski et al., 2016; Sumarwati, 2022; Yudono et al., 2022; Yusriadi & Cahaya, 2022	Food security for indigenous communities is not just about food availability, but rather the integration of local knowledge, cultural values, and access to natural resources into daily practices.
Girsang et al., 2023; Muhammad et al., 2024; Nurhasan et al., 2022; Persulesy et al., 2020; Nerenberg, 2022	Communities in Papua and Maluku remain food self-sufficient through the use of sago and tubers, demonstrating high ecological flexibility and resilience to crises.
Buana, 2020; Chao, 2024; Csevár & Rugarli, 2025; Suwardi et al., 2020; Toumbourou & Dressler, 2024	The expansion of extractive industries and infrastructure development is grabbing indigenous lands, destroying local food systems and breaking value chains and community food identities.
Abdullah et al., 2024; Arizona et al., 2019; Duile, 2020; Fahmi & Armia, 2022; Faoziyah et al., 2024; Hajati et al., 2023; Kholik et al., 2024; Mulyani et al., 2023; Ngongo et al., 2023	Weak legal recognition of customary land increases communities' vulnerability to eviction, which has a direct impact on food security and control over resources.
Imang, 2020; Limpo et al., 2022; Melash et al., 2023; Sukaayat et al., 2023; Susanti et al., 2024	Agricultural modernization has led to the loss of agroecological practices, local seeds, and increased dependence on external inputs such as chemical fertilizers and hybrid seeds.

Antriyandarti et al., 2024; Ferreira et al., 2022; Niko et al., 2024; Akbar et al., 2023; Bhanbhro et al., 2020; Charles et al., 2023; Vaezghasemi et al., 2020	Indigenous women play a crucial role in maintaining food security as seed keepers, food processors, and distribution organizers, yet these roles are often overlooked in formal policies.
Daniel et al., 2022; Indow et al., 2021; Niko et al., 2025	Indigenous food systems strengthen social cohesion through mutual cooperation, harvest rituals, and spiritual values, which are inseparable from cultural and ecological sustainability.
Nurhasan et al., 2022; Purnamasari et al., 2023; Suwardi et al., 2020; Faoziyah et al., 2024	Indigenous food systems are considered "unproductive" in national policies, even though they demonstrate a balance between conservation and production that has proven historically effective.
Duffy et al., 2021; Nelly et al., 2024; Haile et al., 2025; Huang et al., 2024; Mulwa & Visser, 2020	Local foods have nutritional advantages and adaptability to local climates, and contribute significantly to the nutritional security and economic resilience of indigenous communities.
Dzikunoo et al., 2021; Gonçalves et al., 2021; Habiyaremye & Korina, 2021; Heaney et al., 2024; Iskandar et al., 2018; Joseph & Turner, 2020	Indigenous communities use traditional food storage systems (such as leuit) as a strategy to anticipate food crises and maintain collectivity.
Pribadi et al., 2021; Septhia et al., 2024; Sukenti et al., 2016	Local foods are used in traditional rituals as a means of spiritual communication, a marker of the planting season, and a social unifier.
Anyanwu et al., 2023; Briawan et al., 2023; Taslim et al., 2023	The entry of modern processed foods into traditional villages has shifted consumption patterns and weakened local food knowledge and values.
Maftuchah et al., 2021; Ngongo et al., 2022; Zulfa et al., 2025	The marginal seeds are marginalized since they are not under the subsidies scheme, though they are very adapted to the marginal ecosystems.
Perdana et al., 2022; Sutardi et al., 2023	The process not only of technical reinforcement of local food, but also cultural recovery and celebration of traditional wisdom, which has been found to weather the storm, is part of local economies and local cultures.

Source: Various Scopus Journal Articles Processed (2025).

#### 4.4. The Possible Food Insecurity Threats To Indigenous People In Indonesia

The present food security state of indigenous people in Indonesia demonstrates a state of contradiction. On the one hand, they have a resilient and adaptive locally based food system, but on the other hand, they are structurally vulnerable to external pressures, whether from the market, the state, or environmental changes. Although many indigenous communities still practice diversified and independent subsistence agriculture, they are often classified as food insecure simply because they do not consume rice or have no cash income (Indow et al., 2021; Niko et al., 2025; Nurhasan et al., 2022; Utomo, 2023; Yusriadi & Cahaya, 2022).

The centralized paradigm of national food development does not reflect the actual conditions on the ground. Indigenous communities in various regions, such as the Dayak, Badui, and Papuan communities, still rely on forests and fields for year-round food supply. However, because national indicators only measure rice consumption and gross domestic product (GDP), the contribution of local food is never reflected in official data (Nelly et al., 2024; Wahyudi et al., 2024).

The existence of indigenous food systems based on crop diversification and local resource management demonstrates long-term stability that modern agricultural systems lack. Several studies have shown that communities with diverse local production patterns are more resilient to systemic shocks such as the global food crisis and climate

change (Béné, 2020; Bullock et al., 2017; Heinz et al., 2024). This makes them a living example of a bottom-up food security system.

The primary factor contributing to the weakening of community food security is pressure on customary lands. Forest conversion for palm oil, mining, and infrastructure projects has deprived communities of access to their primary food sources. In addition to land loss, they have also lost wild food crops, hunting products, and staple foods that typically come from natural ecosystems (Andrianto et al., 2019; Kennedy et al., 2023; Ninomiya et al., 2023; Rondhi et al., 2018). When these resources are lost, communities are forced to purchase food they lack economic access to.

The impoverished internal organization of communities is also harmed by uncontextualized modernization. Agricultural development strategies that fail to acknowledge local social and ecological factors in the form of agricultural intensification programs and high-yielding seeds tend to make the latter lose control over the seeds, planting seasons, and land management practices (Mathys et al., 2023; Sutherland et al., 2023). The indigenous communities fail to respond to the one size fits all due to the inability of the approach to take into consideration the local social and ecological factors (Abeywardana et al., 2019; Gonçalves et al., 2021; Imang, 2020; Melash et al., 2023).

Migration and demographics are other social factors that have contributed to food security. A huge number of youths in the indigenous community are leaving their villages to take jobs in urban areas. This has created a regeneration crisis in the traditional

food production systems. The information regarding farming, seasonality, and local food processing is not being transferred to the new generation (Griffin et al., 2024; Mulyoutami et al., 2020; Ngadi et al., 2023). The end result was a decrease in the survival ability of the community.

In other instances, communities have succeeded in turning the tide around by strengthening local systems, where, in the event that communities are given a space and support, communities can re-establish their food systems without necessarily having to depend on external inputs (Drysdale et al., 2024; Gorecki et al., 2024; Watabe & Takano, 2025). This is to show that there can be a great potential for recovery, provided it is handled in a participatory way. Nonetheless, there are major issues, especially the issue of policy and inequality in distribution. The food aid programs tend to support the reliance on non-contextual food, rice, and instant noodles. It makes communities that were previously self-sufficient food insecure due to the disruption of logistical distribution (Agus et al., 2025; Cassimon et al., 2023; Gautam, 2019; Jackson, 2020). Moreover, the distribution of aid is, in most cases, non-transparent and not in accordance with local needs.

Indigenous women who have long been the custodians of family food systems are being excluded

in formal agricultural programs also being marginalized. They are not given the opportunity to receive training or subsidies as seed keepers and food processors. However, the power of women in the active process of strengthening local food security is essential, especially when it comes to indigenous communities (Antriyandarti et al., 2024; Gonçalves et al., 2021; Kuhnlein, 2017; Lemke & Delormier, 2017).

In general, the Indonesian indigenous population's food security cannot be evaluated based only on macro indicators (rice production or per capita consumption of rice). Their food security lies in their ability to sustainably manage nature, maintain food diversity, and strengthen internal social systems. Therefore, a paradigm shift is needed in viewing, measuring, and building a more pluralistic, equitable, and locally based Indonesian food system.

The food security challenges facing indigenous communities are not caused by their inability to produce food, but by external systems that deny them space, recognition, and protection. The solution lies not solely in food aid or modern technology, but in the restitution of rights, strengthening local food systems, and fully involving indigenous communities in policy formulation. Only then can true food security be achieved from the deepest roots.

**Table 6: Several Studies That Discuss the Potential Threat of Food Insecurity in Indigenous Communities (2015 - 2025).**

Researcher Name & Year	Research result
Indow et al., 2021; Niko et al., 2025; Nurhasan et al., 2022; Utomo, 2023; Yusriadi & Cahaya, 2022	Indigenous communities have resilient and adaptive local food systems, but are often considered food insecure simply because they do not meet national indicators such as rice consumption or cash income, even though they are actually food self-sufficient.
Nelly et al., 2024; Wahyudi et al., 2024	Indigenous community food systems are not reflected in national statistics because official data only measure rice consumption and GDP, so the contribution of local food is ignored in policy.
Béné, 2020; Bullock et al., 2017; Heinz et al., 2024	Food systems based on local diversification have proven to be more stable and resilient in the face of global crises and climate change, and are an example of a bottom-up food security system.
Andrianto et al., 2019; Kennedy et al., 2023; Ninomiya et al., 2023; Rondhi et al., 2018	Conversion of customary land for commercial purposes results in loss of access to natural food sources such as wild plants, forest products, and hunting, which has a direct impact on community food vulnerability.
Mathys et al., 2023; Sutherland et al., 2023; Abeywardana et al., 2019; Gonçalves et al., 2021; Imang, 2020; Melash et al., 2023	Agricultural modernization programs are often inappropriate for local contexts. The adoption of high-yielding seeds and intensification systems without considering local knowledge leads to a loss of control over food production and the weakening of traditional systems.
Griffin et al., 2024; Mulyoutami et al., 2020; Ngadi et al., 2023	Urbanization and the migration of younger generations have led to a regeneration crisis in indigenous community food systems. Local knowledge is no longer passed on, reducing adaptive capacity and long-term sustainability.
Drysdale et al., 2024; Gorecki et al., 2024; Watabe & Takano, 2025	Communities given space and autonomy can restore local food systems independently. Participatory approaches can strengthen local capacity without relying on external inputs.
Agus et al., 2025; Cassimon et al., 2023; Gautam, 2019; Jackson, 2020	Food aid programs tend to increase dependency as opposed to being localized. This leads to the fact that communities are more vulnerable when the distribution is disrupted even the ones who were formerly food self-sufficient. Aid distribution is still poor on transparency and being local.
Antriyandarti et al., 2024; Gonçalves et al., 2021; Kuhnlein, 2017; Lemke & Delormier, 2017	Indigenous women are the key players in securing food insecurity yet they are not addressed in institutional agricultural knowledge and subsidy programs. Their role can be enhanced to support and revive the community food systems.

Source: Various Scopus Journal Articles Processed (2025).

#### **4.5. The Adoption Of Supply Chains To Solve Food Security Problems In Indigenous Indonesia**

The use of supply chains in food security of the indigenous communities in Indonesia is a strategic approach that has not been given much attention. Locally-based, participatory, and efficient food logistics management could be used to enhance indigenous community food systems, especially where infrastructure, market access, and reliance on external distribution are limiting (Niko et al., 2025; Utomo, 2023; Wahyudi et al., 2024). The Aboriginal communities possess well-developed food production, social organization, and local knowledge, yet they tend to be out of the contemporary distribution channels.

The inability to access the markets and distribution channels is one of the primary problems of indigenous communities. There is a problem with the production of local food during the harvest because, in many circumstances, there are no means of transportation and fair trade intermediaries to sell the products. On the other hand, during the lean season, they find it difficult to acquire food materials externally because the cost of logistics is high. These two problems can be tackled through a community-based supply chain approach, which will guarantee a smooth and fair food in and out flow (Anugrah et al., 2023; Maryam et al., 2021; Powell et al., 2024; Sudomo et al., 2023; Suwardi et al., 2020).

The first step in implementing the sustainable food supply chain system should be the mapping of the local resources and planting seasons. An example of a participatory approach to mapping the local food potential has led to an internal supply chain model that has been developed by the Benawan Dayak community and can stabilize food supplies during the seasons (Murhaini & Achmadi, 2021; Niko et al., 2024, 2025). It is a system that does not simply depend on the agricultural products but also other non-timber forest products, which include wild tubers, fruit, and inland fisheries.

Local supply chain models rely heavily on the use of customary institutions and community cooperatives to be successful. These organizations may also serve as aggregators where they can control food distribution, storage of food bank, and negotiate a just price with other parties (Kurniasih et al., 2021; Kusnandar et al., 2024; Maryam et al., 2021). Some of the studies underline the role played by local institutions under mutual cooperation and trust in the values formed as the basis of resilient food

logistics (Nugroho et al., 2024; Nuryartono et al., 2021; Reuter, 2019; Wijaya & Sanubari, 2024; Yusriadi, 2025).

Nevertheless, this system cannot work without technological intervention and policy support. Certain tools and applications necessary in the development of a transparent and efficient supply chain include information technology like local food mapping applications, digital harvest recording systems, and stock monitoring (Alamsyah et al., 2022; Chandan et al., 2023; Majdalawieh et al., 2021; Menon & Jain, 2024). As Masudin et al. (2021) demonstrated, the implementation of the community-based technology in humanitarian logistics in the Indonesian archipelago managed to not only speed up the delivery of food during the crisis but also did not ignore local social setups.

Affordability and stability of prices are also closely connected with the food security of indigenous communities. The high price variations are due to inefficiency of supply chains within the distant regions. Indigenous communities that do not have a stable income are the most susceptible when the price of rice or other staples increases due to transportation costs (Rudiatin et al., 2023; Trisia et al., 2021). Other studies also indicate that involving the indigenous communities in the community-based supply chain can stabilize supply and create access to economic opportunities (Anindhita et al., 2024; Daniel et al., 2022; Utami et al., 2022).

The community-based supply chain concept can also revive community-market relations through implementation. According to this strategy, farmers cease to be mere producers, but become the center of the food cycle, including production and distribution, to consumption (Maryam et al., 2021; Prastyanti et al., 2024; Rochmawan et al., 2025; Trisia et al., 2021). Some kind of a shift between the "isolated subsistence" towards the "adaptable food networks" that would be resistant to changes in climate and markets (Crabtree et al., 2019; Plana et al., 2023; Zoll et al., 2021).

The indigenous people are more vulnerable to climate challenges. Extreme weather conditions disrupt food movements in the regions and reduce the harvesting time. It is here that the local buffer stock systems, which are collectively managed food storage systems, come into play as emergency reserves and prove essential. This model has already been applied in multiple Papuan groups, where food stocks in lean periods are based on local food pantries, which are based on sago and taro (Muliadi et al., 2024; Niko et al., 2025; Nurhasan et al., 2022;

Utomo, 2023).

The food supply chain does not only entail the distribution of goods, but also knowledge. The indigenous populations require information about prices, processing technologies, and quality standards. They will be able to bargain for a better position in the market when this information is highly available. However, this has unfortunately brought such a situation that only large players should have access to this information, and indigenous farmers are informationally isolated (Achmad et al., 2022; Imang, 2020; Kusnandar et al., 2024; Suminar, 2023).

The national logistics systems in many countries fail to acknowledge indigenous institutions that have a successful distribution framework and food management standards. When national distribution systems fail to reach remote areas, indigenous communities can become alternative distribution centers if given recognition (Adeleke, 2022; Swaningrum et al., 2025). Several studies even emphasize the importance of positioning indigenous communities as key actors, not objects, in the national food logistics system (Domingo et al., 2021; Jernigan et al., 2021; Kom et al., 2024; Lemke & Delormier, 2017; Lugo-Morin, 2020; Swiderska et al., 2022).

On the other hand, the success of the supply chain is also determined by multi-actor partnerships. Government agencies, NGOs, the private sector, and indigenous communities must work collaboratively to build an inclusive food logistics system (de Vries et al., 2024; Discetti & Acuti, 2025; Medina-García et al., 2022; van den Akker et al., 2024; van Paassen et al., 2022). The Cireundeu community practice has successfully built a local cassava-based food ecosystem by involving academics and local government to expand distribution reach (Indika & Vonika, 2016; Maryani, 2022; Shalihah et al., 2021; Sulaiman et al., 2023).

Investments in small infrastructure, such as farm roads, warehouses, and light vehicles, can significantly reduce logistics costs (Mittal et al., 2018; Orjuela-Castro et al., 2021; Todorovic et al., 2018). However, infrastructure development must be based on consultation with the community to avoid damaging the ecosystem or creating new conflicts. Many development failures occur due to a failure to consider customary spatial planning (Riady et al., 2024; Yudono et al., 2022).

Indigenous women play a crucial role in food logistics. They are not only producers but also regulators of household consumption and storers of food reserves. Supply chain systems that ignore

women will lose efficiency and social reach. Therefore, women's involvement throughout the entire logistics cycle is crucial, from planning and data collection to distribution (Antriyandarti et al., 2024; Merina et al., 2023; Mirajiani, 2023; Niko, 2025; Roswaldy, 2025).

It is also necessary to change the policy to develop incentives that favor the local supply chains. A more equitable system can be promoted by subsidizing the local transport of food, lowering the taxes on logistics in indigenous lands, and acknowledging the rights to distribution of indigenous cooperatives. Today, a great deal of indigenous populations have significantly higher logistics expenses than the food expenditure (Maryam et al., 2021; Rozaki, 2020; Sudomo et al., 2023; Utomo, 2023).

The community-based supply chains that have been digitalized are a revolutionary move that can transform the management of food distribution at the local level. Possibly, with the help of the simple applications which are capable of capturing food stocks, individual requirements of a community, and distribution channels which are available in real-time, the logistics decision-making may be quicker, more accurate, and more agile to the ground-level dynamics. This will not only enhance efficiency and transparency in the management of resources but also enhance the local food security as the communities are the major players in the distribution ecosystem (Saryatmo & Sukhotu, 2021; Widianarko et al., 2025). Therefore, digital technology as an aspect of community supply chain systems is an important pillar towards a more inclusive, adaptive, and sustainable food system.

The two critical factors of community supply chains are transparency and trust. The inequality and suspicion come in when there are no participatory mechanisms in the food distribution by outsiders. The role played by the traditional leaders, women, and youth in the distribution planning process will enhance efficiency and community social cohesion (Handoko et al., 2026; Maryam et al., 2021).

Finally, effective supply chains in the indigenous communities need to be implemented through the precepts of justice, sustainability, and sovereignty. This is not merely a distribution efficiency issue, but rather one of re-establishing a sound food system which is culturally grounded and which is independent of international markets. By developing community-owned and managed food logistics, Indonesia can make indigenous communities a pillar of national food security.

**Table 7: Several Studies That Discuss the Application of Supply Chains to Address Food Security Issues in Indigenous Communities (2015 – 2025).**

Researcher Name & Year	Research result
Niko et al., 2025; Utomo, 2023; Wahyudi et al., 2024	Strengthening locally based logistics systems in indigenous communities can enhance food security, but they have been marginalized in national policies. Communities have the potential to develop adaptive food supply systems based on local wisdom.
Anugrah et al., 2023; Maryam et al., 2021; Powell et al., 2024; Sudomo et al., 2023; Suwardi et al., 2020	The main challenge is limited infrastructure and markets, which lead to uneven food distribution. A participatory, community-based supply chain approach can address these limitations in food inflows and outflows fairly and efficiently.
Murhaini & Achmadi, 2021; Niko et al., 2024	The participatory mapping model in the Benawan Dayak community resulted in an internal supply chain system that is able to maintain a balance in food supply throughout the seasons, including the utilization of non-timber forest products.
Kurniasih et al., 2021; Kusnandar et al., 2024; Nugroho et al., 2024; Nuryartono et al., 2021; Reuters, 2019; Wijaya & Sanubari, 2024; Yusriadi, 2025	Customary institutions and community cooperatives are effective as food distribution aggregators, food bank managers, and price fairness guarantors. The values of mutual cooperation and trust are the foundation of resilient logistics institutions.
Alamsyah et al., 2022; Chandan et al., 2023; Majdalawieh et al., 2021; Menon & Jain, 2024; Masudin et al., 2021	Community-based information technology such as digital recording of harvests, stocks, and distribution improves the efficiency of food logistics in remote areas and accelerates response during crises.
Rudiatin et al., 2023; Trisia et al., 2021; Anindhita et al., 2024; Daniel et al., 2022; Utami et al., 2022	Supply chain inefficiencies have led to dramatic food price increases in indigenous areas. Integrating communities into local supply chains stabilizes prices and opens up economic opportunities for them.
Crabtree et al., 2019; Plana et al., 2023; Zoll et al., 2021	Community-based supply chains transform communities from passive producers to active actors in managing the food cycle – bridging isolation and increasing community bargaining power.
Muliadi et al., 2024; Niko et al., 2025; Nurhasan et al., 2022; Utomo, 2023	Local buffer stocks based on traditional foods such as sago and taro have been proven to strengthen resilience during lean seasons or extreme weather.
Achmad et al., 2022; Imang, 2020; Kusnandar et al., 2024; Suminar, 2023	Access to logistics information and market prices is highly unequal. Indigenous communities are isolated from vital information flows, weakening their bargaining power in food distribution.
Adeleke, 2022; Swaningrum et al., 2025; Domingo et al., 2021; Jernigan et al., 2021; Kom et al., 2024; Lemke & Delormier, 2017; Lugo, 2020; Swiderska et al., 2022	Indigenous institutions are not recognized in the national logistics system, despite having proven adaptive and resilient distribution mechanisms. Recognizing the role of indigenous peoples is key to an inclusive national food system.
de Vries et al., 2024; Discetti & Acuti, 2025; Medina-García et al., 2022; van den Akker et al., 2024; van Paassen et al., 2022	Multi-actor partnerships (government, NGOs, the private sector, and communities) are crucial for building inclusive and efficient food logistics. Collaboration can open access and expand the distribution of local food.
Indika & Vonika, 2016; Maryani, 2022; Shalihah et al., 2021	The Cireundeu community has successfully built a cassava-based food system through cross-sector collaboration and a local approach that is responsive to community needs.
Mittal et al., 2018; Orjuela-Castro et al., 2021; Todorovic et al., 2018; Riady et al., 2024; Yudono et al., 2022	Investment in small infrastructure (farm roads, warehouses, light vehicles) is crucial for logistics efficiency. However, development must be based on community consultation to avoid conflict and ecosystem damage.
Antriyandarti et al., 2024; Merina et al., 2023; Mirajiani, 2023; Nico, 2025; Roswaldy, 2025	Indigenous women play a strategic role in community food logistics management, including regulating household consumption, stock management, and distribution. Women's involvement improves the efficiency and sustainability of local supply chains.
Rozaki, 2020; Maryam et al., 2021; Sudomo et al., 2023; Utomo, 2023	The logistics charges are immoderate and the aboriginal people pay a lot of money, which can be more expensive than the food itself. The logistics subsidies, distribution incentive and tax reduction are some of the policies that are urgently required to balance the system.
Saryatmo & Sukhotu, 2021; Widianarko et al., 2025	Digitization of the supply chain by communities will boost logistics decision making, improve the efficiency, and enhance autonomy in the management of local food stocks and distribution.
Maryam et al., 2021	Openness and involvement in food distributions are very vital. The engagement of traditional leaders, women, and youth, makes social cohesion stronger and prevents the inequities in the management of food logistics.

Source: Various Scopus Journal Articles Processed (2025).

## 5. CONCLUSION AND RECOMMENDATIONS

### 5.1. Conclusion

1. A literature review indicates that there is a rise

in publications regarding supply chains and food security to indigenous communities grounded on local food, and the rise mainly occurred during the 2020-2024 period, due to the COVID-19 pandemic. This movement

indicates the change in the academic perspective that had been dominated by a general agrarianism towards the realization of the food systems grounded on local wisdom. The main journals, like Sustainability and the Journal of Agriculture, Food Systems, and Community Development, have emerged as the main channels of publication, and this implies a multidisciplinary nature of research orientation.

2. A bibliometric analysis of VOSviewer indicated ten major clusters: policies and interventions; local production and distribution; diversification and future strategies; crisis response and short supply chains; social justice; food sovereignty; food access; alternative food networks; household health and food security; and regional comparisons. These clusters indicate that technical, social, economic, health, and political elements of the study of indigenous community food security are studied as a whole.
3. Agroecological practices, collective granaries, distribution by the community, and the variety of food in seasons, in the form of indigenous food systems, result in high resilience. Planting, harvesting, preservation, and land management wisdom, which is locally based, is one of the major pillars. Nonetheless, long-term stability is hindered by limited infrastructure, limited transfer of intergenerational knowledge, and isolation with regard to formal markets.
4. Major weaknesses will be the loss of traditional land through conversion, damage to the ecosystem, climate disturbance, and the appearance of industrialized food, which replaces traditional consumption. The lack of access to aid in the crisis, poor legal protection of land, and the disappearance of main players in the food security system, including traditional farmers, pose a greater threat to food security.
5. The empowerment of communities by enhancing the supply chains among indigenous people should be anchored on the local knowledge, cultural values, and social solidarity, coupled with new post-harvest technologies, adaptive distribution infrastructure, and internalization within the national food policies without compromising on the indigenous wisdom. The effective collaboration of government, academia, and

the indigenous communities in the same sector is essential in developing a just, inclusive, and sustainable food system.

## 5.2. Recommendation

1. The development of research aimed at sustaining and developing the research on the supply chain and food security of the indigenous communities requires the establishment of national and international research networks on local food based on indigenous wisdom. Governments and research institutions should offer specific funding support and research scholarship programs, which would promote interdisciplinary studies so that the positive trend of publications would be maintained and directly influence policy.
2. Due to the ten interrelated theme areas, it is suggested to create a combined data center and a research map with the findings of the research, best practices, and local food supply chain models in indigenous communities. Researchers, policymakers, and community organizations can use this map when formulating specific interventions.
3. Institutions and governments in the region should launch programs to rejuvenate and restore the traditional knowledge of food, including educating the younger generation of natives on the practices of farming, preservation, and the management of barns. Such programs should integrate the local wisdom with environmentally friendly technologies to provide food security in the context of social and economic changes.
4. There is a need to have customary land protection policies and stringent enforcement of the law against illegal land conversion, restoration of the damaged ecosystems, and creation of an early warning system for food security in the customary regions. This system has to be in a position to track the availability of food, the local climatic change, and threats to distribution, and then mitigation procedures can be taken fast and in the right direction.
5. Enhancement of the food supply chain among indigenous communities should be done by establishing community-based distribution institutions, enhancing post-harvest infrastructure, and providing equitable market access to local food products. The inclusion in the national policies should guarantee that the ideals of ecological sustainability and native

cultural values are core principles.

## REFERENCES

- Abdoellah, O. S., Schneider, M., Nugraha, L. M., Suparman, Y., Voletta, C. T., Withaningsih, S., Parikesit, Heptiyanggit, A., & Hakim, L. (2020). Homegarden commercialization: extent, household characteristics, and effect on food security and food sovereignty in Rural Indonesia. *Sustainability Science*, 15(3), 797–815. <https://doi.org/10.1007/s11625-020-00788-9>
- Abdoellah, O. S., Suparman, Y., Safitri, K. I., Basagevan, R. M., Fianti, N. D., Wulandari, I., & Husodo, T. (2023). Food Security of Urban Agricultural Households in the Area of North Bandung, West Java, Indonesia. *Sustainability (Switzerland)*, 15(24), 1–15. <https://doi.org/10.3390/su152416683>
- Abdullah, A., Fisher, M. R., & Sahide, M. A. K. (2024). Environmental Governance Challenges of Indigenous Forest Recognition: Climate Solution Ideal and Its Uneven Outcomes in Indonesia. *Forest and Society*, 8(2), 402–421. <https://doi.org/10.24259/fs.v8i2.34423>
- Abeykoon, A. M. H., Gupta, S. D., Engler-Stringer, R., & Muhajarine, N. (2024). Early impact of a new food store intervention on health-related outcomes. *BMC Public Health*, 24(1), 1–11. <https://doi.org/10.1186/s12889-024-19052-1>
- Abeywardana, N., Schütt, B., Wagalawatta, T., & Bebermeier, W. (2019). Indigenous agricultural systems in the dry zone of Sri Lanka: Management transformation assessment and sustainability. *Sustainability (Switzerland)*, 11(910), 1–22. <https://doi.org/10.3390/su11030910>
- Abiri, R., Rizan, N., Balasundram, S. K., Shahbazi, A. B., & Abdul-Hamid, H. (2023). Application of digital technologies for ensuring agricultural productivity. *Heliyon*, 9(e22601), 1–21. <https://doi.org/10.1016/j.heliyon.2023.e22601>
- Achmad, B., Sanudin, B., Siarudin, M., Widiyanto, A., Diniyati, D., Sudomo, A., Hani, A., Fauziyah, E., Suhaendah, E., Widyaningsih, T. S., Handayani, W., Maharani, D., Suhartono, D., Palmolina, M., Swestiani, D., Budi Santoso Sulistiadi, H., Winara, A., Nur, Y. H., Diana, M., ... Ruswandi, A. (2022). Traditional Subsistence Farming of Smallholder Agroforestry Systems in Indonesia: A Review. *Sustainability (Switzerland)*, 14(14), 1–33. <https://doi.org/https://doi.org10.3390/su14148631>
- Adeagbo, I. E., Akano, O. I., Oyegoke, O. Y., Ogunbayo, I. E., & Oyelami, B. O. (2026). Understanding the nexus of postharvest losses and food insecurity: Empirical evidence from Nigeria. *Cleaner Food Systems*, 3, 1–11. <https://doi.org/10.1016/j.clfs.2026.100028>
- Adeleke, A. (2022). The Indigenous Logistics System in Africa: The Case of Nigeria, Past to Present. *Logistics*, 6(80), 1–17. <https://doi.org/10.3390/logistics6040080>
- Agus, D., Sriati, S., Riswani, R., & Budianta, D. (2025). Development model of food self-sufficient program based on the assistance of agriculture extension, poor households, and aid types in South Sumatra, Indonesia. *Heritage and Sustainable Development*, 7(1), 257–268. <https://doi.org/10.37868/hsd.v7i1.968>
- Ahmadi, D., Sulaiman, A.I., Runtiko, A.G., Noegroho, A., Ar Raqi, R.I., Maryani, A., Yuniati, Y., & Yulianita, N. (2023). Marketing Communications for Tourism Development in Ecoethno Leadcamp Site. *Studies in Media and Communication*, 11(4) 67-77., <https://doi.org/10.11114/smc.v11i4.5909>
- Ahmed, F., Moriarity, R. J., Spence, N. D., Kataquapit, G., Sutherland, C., Charania, N. A., Tsuji, L. J. S., & Liberda, E. N. (2024). Adaptation in adversity: innovative approaches to food security amidst COVID-19 in a remote First Nations community in Canada. *BMC Public Health*, 24(3498), 1–13. <https://doi.org/10.1186/s12889-024-21052-0>
- Akbar, A., Darma, R., Fahmid, I. M., & Irawan, A. (2023). Determinants of Household Food Security during the COVID-19 Pandemic in Indonesia. *Sustainability (Switzerland)*, 15(5), 1–16. <https://doi.org/10.3390/su15054131>
- Alam, M. M., Wahid, A. N. M., & Siwar, C. (2018). Resilience, adaptation and expected support for food security among the Malaysian east coast poor households. *Management of Environmental Quality: An International Journal*, 29(5), 877–902. <https://doi.org/10.1108/MEQ-01-2018-0013>
- Alamsyah, A., Hakim, N., & Hendayani, R. (2022). Blockchain-Based Traceability System to Support the Indonesian Halal Supply Chain Ecosystem. *Economies*, 10(6). <https://doi.org/10.3390/economies10060134>
- Amanullah, & Khan, U. (2025). Community-based circular food systems in Pakistan: A path to sustainable food security. *Journal of Agriculture, Food Systems, and Community Development*, 14(2), 1–11. <https://doi.org/10.5304/jafscd.2025.142.029>
- Ammons, S., Blacklin, S., Bloom, D., Brown, S., Cappellazzi, M., Creamer, N., Cruz, A., Hynson, J., Knight, G.,

- Lauffer, L., Liang, K., Menius, L., Piner, A., Smallwood, A., Stout, R., Stover, C., Thraves, T., & Ukah, B. (2021). A collaborative approach to COVID-19 response: The Center for Environmental Farming Systems community-based food system initiatives. *Journal of Agriculture, Food Systems, and Community Development*, 10(2), 297–302. <https://doi.org/10.5304/jafscd.2021.102.004>
- Amoak, D., Luginaah, I., & McBean, G. (2022). Climate Change, Food Security, and Health: Harnessing Agroecology to Build Climate-Resilient Communities. *Sustainability (Switzerland)*, 14(13954), 1–15. <https://doi.org/10.3390/su142113954>
- Andrianto, A., Komarudin, H., & Pacheco, P. (2019). Expansion of Oil Palm Plantations in Indonesia's Frontier : Problems of Externalities and the Future of. *Land*, 8(56), 1–16. <https://doi.org/10.3390/land8040056>
- Anindhita, T. A., Zielinski, S., Milanés, C. B., & Ahn, Y. J. (2024). The Protection of Natural and Cultural Landscapes through Community-Based Tourism: The Case of the Indigenous Kamoro Tribe in West Papua, Indonesia. *Land*, 13(1237), 1–23. <https://doi.org/10.3390/land13081237>
- Antriyandarti, E., Suprihatin, D. N., Pangesti, A. W., & Samputra, P. L. (2024). The dual role of women in food security and agriculture in responding to climate change: Empirical evidence from Rural Java. *Environmental Challenges*, 14(100852), 1–10. <https://doi.org/10.1016/j.envc.2024.100852>
- Anugrah, H. P., Sutrisno, J., Marwanti, S., Amalia Nadifta, U., & Indah, N. (2023). Analysis of Rice Supply Chain Management Related to Performance and Sustainability of Food Security Program in Central Java. *Universal Journal of Agricultural Research*, 11(3), 525–536. <https://doi.org/10.13189/ujar.2023.110303>
- Anyanwu, O. A., Naumova, E. N., Chomitz, V. R., Zhang, F. F., Chui, K., Kartasurya, M. I., & Folta, S. C. (2023). The Socio-Ecological Context of the Nutrition Transition in Indonesia: A Qualitative Investigation of Perspectives from Multi-Disciplinary Stakeholders. *Nutrients*, 15(25), 1–21. <https://doi.org/10.3390/nu15010025>
- Arizona, Y., Wicaksono, M. T., & Vel, J. (2019). The Role of Indigeneity NGOs in the Legal Recognition of Adat Communities and Customary Forests in Indonesia. *Asia Pacific Journal of Anthropology*, 20(5), 487–506. <https://doi.org/10.1080/14442213.2019.1670241>
- Arotoma-Rojas, I., Berrang-Ford, L., Ford, J. D., Zavaleta-Cortijo, C., Cooke, P., & Chicmana-Zapata, V. (2024). An intercultural approach to climate justice: A systematic review of Peruvian climate and food policy. *PLOS Climate*, 3(9), 1–23. <https://doi.org/10.1371/journal.pclm.0000404>
- Banks, A., Saito, R., Berneche, N., Krocak, J., & Porta, C. (2023). Seeding Insights and Nourishing Change: a Case for Participatory Evaluation in Place-Based Community Food Systems. *International Journal of Community Well-Being*, 6(2), 151–167. <https://doi.org/10.1007/s42413-020-00097-0>
- Basurko, C., Dupart, O., Savy, M., Obert-Marby, C., Mvogo, A., Gonzalez, A., Trepont, A., Cann, L., Boceno, C., Osei, L., Creton, P. M., Dufit, V., Thelusme, L., Adenis, A., Van-Melle, A., Huber, F., & Nacher, M. (2023). Hunger in French Guiana's Vulnerable Urban Neighborhoods: A Neglected Consequence of COVID-19. *Food and Nutrition Bulletin*, 44(1), 3–11. <https://doi.org/10.1177/03795721231156641>
- Béné, C. (2020). Resilience of local food systems and links to food security – A review of some important concepts in the context of COVID-19 and other shocks. *Food Security*, 12(4), 805–822. <https://doi.org/10.1007/s12571-020-01076-1>
- Béné, C., Frankenberger, T. R., Nelson, S., Conostas, M. A., Collins, G., Langworthy, M., & Fox, K. (2023). Food system resilience measurement: principles, framework and caveats. *Food Security*, 15(6), 1437–1458. <https://doi.org/10.1007/s12571-023-01407-y>
- Bezerra, J. C., Ngowana, T., Oosthuizen, R., Canca, M., Nkwinti, N., Mantel, S. K., New, M., Ford, J., Zavaleta-Cortijo, C. C., Galappaththi, E. K., Perera, C. D., Jayasekara, S. M., Amukugo, H. J., Namanya, D. B., Togarepi, C., Hangula, M. M., Nkalubo, J., Akugre, F. A., Pickering, K., ... Arotoma-Rojas, I. (2025). Addressing Food Insecurity Through Community Kitchens During the COVID-19 Pandemic: A Case Study from the Eastern Cape, South Africa. *Urban Science*, 9(37), 1–20. <https://doi.org/10.3390/urbansci9020037>
- Bhanbhro, S., Kamal, T., Diyo, R. W., Lipoeto, N. I., & Soltani, H. (2020). Factors affecting maternal nutrition and health: A qualitative study in a matrilineal community in Indonesia. *PLoS ONE*, 15, 1–16. <https://doi.org/10.1371/journal.pone.0234545>
- Bizikova, L., Jungcurt, S., McDougal, K., & Tyler, S. (2020). How can agricultural interventions enhance contribution to food security and SDG 2.1? *Global Food Security*, 26, 1–8. <https://doi.org/10.1016/j.gfs.2020.100450>
- Black, J. E. (2024). Fun, community, and culture in a Japanese alternative food network. *Frontiers in Sustainable*

- Food Systems*, 8, 1–19. <https://doi.org/10.3389/fsufs.2024.1346129>
- Borelli, T., Keim, A., Sujarwo, W., Koostanto, H., Pawera, L., Gullotta, G., Jalonen, R., Lombardo, A., & Hunter, D. (2024). Invisible Treasures: Assessing Indonesia's Unique Agrobiodiversity for Food and Nutrition Security. *Sustainability (Switzerland)*, 16(22), 1–26. <https://doi.org/10.3390/su16229824>
- Boyacı-Gündüz, C. P., Ibrahim, S. A., Wei, O. C., & Galanakis, C. M. (2021). Transformation of the Food Sector: Security and Resilience during the COVID-19 Pandemic. *Foods [revista en Internet]* 2021 [acceso 10 de noviembre de 2022]; 10(3): 1–14. *Food*, 10(497), 1–14. <https://doi.org/10.3390/foods10030497>
- Briawan, D., Khomsan, A., Alfiah, E., Nasution, Z., & Putri, P. A. (2023). Preference for and consumption of traditional and fast foods among adolescents in Indonesia. *Food Research*, 7(4), 211–226. [https://doi.org/10.26656/fr.2017.7\(4\).156](https://doi.org/10.26656/fr.2017.7(4).156)
- Brinkley, C. (2017). Visualizing the social and geographical embeddedness of local food systems. *Journal of Rural Studies*, 54, 314–325. <https://doi.org/10.1016/j.jrurstud.2017.06.023>
- Buana, M. S. (2020). Development as a threat to indigenous peoples' rights in Indonesia. *International Journal on Minority and Group Rights*, 27(3), 442–471. <https://doi.org/10.1163/15718115-02703003>
- Bugiman, H., Kasih, T.P., & Kai, Z. (2025). Indonesia Logistics Sector Review: Performance, Challenges, And Future Growth. *Multidisciplinary Output Research For Actual and International Issue (MORFAI)*, 6(1), 400–409. <https://doi.org/10.5281/zenodo.18486550>
- Bullock, J. M., Dhanjal-Adams, K. L., Milne, A., Oliver, T. H., Todman, L. C., Whitmore, A. P., & Pywell, R. F. (2017). Resilience and food security: rethinking an ecological concept. *Journal of Ecology*, 105(4), 880–884. <https://doi.org/10.1111/1365-2745.12791>
- Byaruhanga, R., & Isgren, E. (2023). Rethinking the Alternatives: Food Sovereignty as a Prerequisite for Sustainable Food Security. *Food Ethics*, 8(2), 1–20. <https://doi.org/https://doi.org/10.1007/s41055-023-00126-6>
- Cafer, A., Green, J., & Goreham, G. (2019). A Community Resilience Framework for community development practitioners building equity and adaptive capacity. *Community Development*, 50(2), 201–216. <https://doi.org/10.1080/15575330.2019.1575442>
- Calicioglu, O., Flammini, A., Bracco, S., Bellù, L., & Sims, R. (2019). The future challenges of food and agriculture: An integrated analysis of trends and solutions. *Sustainability (Switzerland)*, 11(222), 1–21. <https://doi.org/10.3390/su11010222>
- Calloway, E. E., Carpenter, L. R., Gargano, T., Sharp, J. L., & Yaroach, A. L. (2023). New measures to assess the “Other” three pillars of food security—availability, utilization, and stability. *International Journal of Behavioral Nutrition and Physical Activity*, 20(1), 1–15. <https://doi.org/10.1186/s12966-023-01451-z>
- Campbell, C. G., Papanek, A., Delong, A., Diaz, J., Gusto, C., & Tropp, D. (2022). Community food systems resilience: Values, benefits, and indicators. *Journal of Agriculture, Food Systems, and Community Development*, 11(4), 89–113. <https://doi.org/10.5304/jafscd.2022.114.006>
- Cassimon, D., Fadare, O., & Mavrotas, G. (2023). The Impact of Food Aid and Governance on Food and Nutrition Security in Sub-Saharan Africa. *Sustainability (Switzerland)*, 15(2), 1–19. <https://doi.org/10.3390/su15021417>
- Cerrada-Serra, P., Moragues-Faus, A., Zwart, T. A., Adlerova, B., Ortiz-Miranda, D., & Avermaete, T. (2018). Exploring the contribution of alternative food networks to food security. A comparative analysis. *Food Security*, 10(6), 1371–1388. <https://doi.org/10.1007/s12571-018-0860-x>
- Chandan, A., John, M., & Potdar, V. (2023). Achieving UN SDGs in Food Supply Chain Using Blockchain Technology. *Sustainability (Switzerland)*, 15(3), 1–21. <https://doi.org/10.3390/su15032109>
- Chandra, A. J., & Diehl, J. A. (2019). Urban agriculture, food security, and development policies in Jakarta: A case study of farming communities at Kalideres – Cengkareng district, West Jakarta. *Land Use Policy*, 89(104211), 1–12. <https://doi.org/10.1016/j.landusepol.2019.104211>
- Chao, S. (2024). Hunger as more-than-human communicative modality on the West Papuan oil palm frontier. *American Anthropologist*, 126(4), 679–681. <https://doi.org/10.1111/aman.28001>
- Charles, I., Salinger, A., Sweeney, R., Batagol, B., Barker, S. F., Nasir, S., Taruc, R. R., Francis, N., Clasen, T., & Sinharoy, S. S. (2023). Joint Food and Water Insecurity Had a Multiplicative Effect on Women's Depression in Urban Informal Settlements in Makassar, Indonesia during the COVID-19 Pandemic. *Journal of Nutrition*, 153(4), 1244–1252. <https://doi.org/10.1016/j.tjn.2023.01.010>
- Chrisendo, D., Heikonen, S., Piipponen, J., Banafa, T., Deryng, D., El Wali, M., Heino, M., Irz, X., Jalava, M., Láng-Ritter, J., Mazac, R., Niva, V., Pihlajamäki, M., Roitto, M., Tuomisto, H. L., & Kumm, M. (2026).

- A systematic review of sustainable food systems identifies socio-economic pathways driving food systems transformations. *Nature Food*, 7, 234–246 <https://doi.org/10.1038/s43016-026-01317-0>
- Coté, C. (2016). “Indigenizing” Food Sovereignty. Revitalizing Indigenous Food Practices and Ecological Knowledges in Canada and the United States. *Humanities*, 5(3), 1–14. <https://doi.org/10.3390/h5030057>
- Crabtree, S. A., Bird, D. W., & Bird, R. B. (2019). Subsistence transitions and the simplification of ecological networks. *Nature: Human Behaviour*, 47, 165–177. <https://doi.org/10.1007/s10745-019-0053-z>
- Crowe, J., Lacy, C., & Columbus, Y. (2018). Barriers to Food Security and Community Stress in an Urban Food Desert. *Urban Science*, 2(2), 46. <https://doi.org/10.3390/urbansci2020046>
- Csevár, S., & Rugarli, Y. (2025). Greasing the Wheels of Colonialism: Palm Oil Industry in West Papua. *Global Studies Quarterly*, 5(2), 1–10. <https://doi.org/10.1093/isagsq/ksaf026>
- Cummer, E., Loyola Amador, C., Montez, K., Skelton, J. A., Ramirez, B., Best, S., Zimmer, R., & Palakshappa, D. (2020). What a city eats: Examining the dietary preferences of families living in communities at high risk for food insecurity. *Journal of Clinical and Translational Science*, 5(e55), 1–7. <https://doi.org/10.1017/cts.2020.549>
- Cunningham, N., Blair, H., Krueger, J., Conner, D., & Whitehouse, C. (2022). Beyond procurement: Anchor institutions and adaptations for resilience. *Journal of Agriculture, Food Systems, and Community Development*, 11(3), 57–73. <https://doi.org/10.5304/jafscd.2022.113.006>
- Dalyan, M., Syarifuddin, Yulandari, Mastang, Suma, M., Sosrohadi, S., & Andini, C. (2024). Harmony and Sustainability: Traditional Ecological Knowledge Systems of the Kaluppini Indigenous People. *International Journal of Religion*, 5(6), 82–92. <https://doi.org/10.61707/tdyqck03>
- Daniel, D., Satriani, S., Zudi, S. L., & Ekka, A. (2022). To What Extent Does Indigenous Local Knowledge Support the Social-Ecological System? A Case Study of the Ammatoa Community, Indonesia. *Resources*, 11(106), 1–16. <https://doi.org/10.3390/resources11120106>
- de Vries, H., Donner, M., Fabiano, F., Mamès, M., Lazaro-Mojica, J., Cotillas, E., Avila, C., Martínez, J., Alcat, G., Rossi, D., Pierantoni, E., Marini, T., Bruen, A., Vordemfelde, J., Amorese, V., Liroso, L., & Voyatzakis, A. (2024). Co-creation in partnerships contributing to the sustainability of food systems: insights from 52 case studies in Europe. *Frontiers in Sustainable Food Systems*, 8, 1–12. <https://doi.org/10.3389/fsufs.2024.1399275>
- Deller, S. C., Lamie, D., & Stickel, M. (2017). Local foods systems and community economic development. *Community Development*, 48(5), 612–638. <https://doi.org/10.1080/15575330.2017.1373136>
- Delormier, T., & Marquis, K. (2019). Building Healthy Community Relationships Through Food Security and Food Sovereignty. *Current Developments in Nutrition*, 3(5), 25–31. <https://doi.org/10.1093/cdn/nzy088>
- Dhiaulhaq, A., & McCarthy, J. F. (2020). Indigenous Rights and Agrarian Justice Framings in Forest Land Conflicts in Indonesia. *Asia Pacific Journal of Anthropology*, 21(1), 34–54. <https://doi.org/10.1080/14442213.2019.1670243>
- Diehl, J. A. (2020). Growing for sydney: Exploring the urban food system through farmers’ social networks. *Sustainability (Switzerland)*, 12(8), 1–21. <https://doi.org/10.3390/SU12083346>
- Diekmann, L. O., Gray, L. C., & Thai, C. Le. (2020). More Than Food: The Social Benefits of Localized Urban Food Systems. *Frontiers in Sustainable Food Systems*, 4, 1–15. <https://doi.org/10.3389/fsufs.2020.534219>
- Dionizi, B., Kërçini, D., & Ljarja, N. (2025). Community-Based Agroecosystem Management: Enhancing Sustainability for Food Security Through Local Initiatives. *Journal of Lifestyle and SDGs Review*, 5(e05045), 1–19. <https://doi.org/10.47172/2965-730x.sdgsreview.v5.n03.pe05045>
- Discetti, R., & Acuti, D. (2025). ‘Lines of flight’ in city food networks: A relational approach to food systems transformation. *Urban Studies*, 62(1), 144–166. <https://doi.org/10.1177/00420980241247780>
- Dixon, J. M., Weerahewa, J., Hellin, J., Rola-Rubzen, M. F., Huang, J., Kumar, S., Das, A., Qureshi, M. E., Krupnik, T. J., Shideed, K., Jat, M. L., Prasad, P. V. V., Yadav, S., Irshad, A., Asanaliev, A., Abugalieva, A., Karimov, A., Bhattarai, B., Balgos, C. Q., ... Timsina, J. (2021). Response and resilience of Asian agrifood systems to COVID-19: An assessment across twenty-five countries and four regional farming and food systems. *Agricultural Systems*, 193, 1–19. <https://doi.org/10.1016/j.agry.2021.103168>
- Dolstad, H. A., Woodward, A. R., Green, C. L., & Mcspirit, S. J. (2016). Interest in Nutrition and Local Food Systems among Food-Insecure Households in an Appalachian Community. *Journal of Hunger and Environmental Nutrition*, 11(3), 340–353. <https://doi.org/10.1080/19320248.2016.1146191>
- Domingo, A., Charles, K., Jacobs, M., Brooker, D., & Hanning, R. M. (2021). Indigenous Community

- Perspectives of Food Security , Sustainable Food Systems and Strategies to Enhance Access to Local and Traditional Healthy Food for Partnering Williams Treaties First Nations ( Ontario , Canada ). *International Journal of Environmental Research and Public Health*, 18(4404), 1-15. <https://doi.org/10.3390/ijerph18094404> Academic
- Dou, Z., Toth, J. D., & Westendorf, M. L. (2018). Food waste for livestock feeding: Feasibility, safety, and sustainability implications. *Global Food Security*, 17, 154-161. <https://doi.org/10.1016/j.gfs.2017.12.003>
- Doustmohammadian, A., Mohammadi-Nasrabadi, F., Keshavarz-Mohammadi, N., Hajjar, M., Alibeyk, S., & Hajigholam-Saryazdi. (2022). Community-based participatory interventions to improve food security : A systematic review. *Frontiers in Nutrition*, 9(1028394), 1-19. <https://doi.org/https://doi.org/10.3389/fnut.2022.1028394>
- Douyon, A., Worou, O. N., Diama, A., Badolo, F., Denou, R. K., Touré, S., Sidibé, A., Nebie, B., & Tabo, R. (2022). Impact of Crop Diversification on Household Food and Nutrition Security in Southern and Central Mali. *Frontiers in Sustainable Food Systems*, 5, 1-11. <https://doi.org/10.3389/fsufs.2021.751349>
- Drysdale, M., Skinner, K., Lazarescu, C., Couture, A., Young, S., & Idzerda, L. (2024). Initiatives and exposures associated with food security in remote and isolated communities: a scoping review. *Rural and Remote Health*, 24(8627), 1-15.
- Duffy, C., Toth, G. G., Hagan, R. P. O., McKeown, P. C., Rahman, S. A., Widyaningsih, Y., Sunderland, T. C. H., & Spillane, C. (2021). Agroforestry contributions to smallholder farmer food security in Indonesia. *Agroforestry Systems*, 95(6), 1109-1124. <https://doi.org/10.1007/s10457-021-00632-8>
- Duile, T. (2020). Indigenous peoples, the state, and the economy in Indonesia: National debates and local processes of recognition. *Austrian Journal of South-East Asian Studies*, 13(1), 155-160. <https://doi.org/10.14764/10.ASEAS-0034>
- Durano, F. L., Sarmiento, J. M., Romo, G. D. A., Wahing, G. D., Traje, A. M., & Baker, D. (2024). Food security of agri-food system actors during the COVID-19 pandemic in the Philippines: Post-pandemic implications to sustainable development. *Journal of Agriculture and Food Research*, 18(101284), 1-11. <https://doi.org/10.1016/j.jafr.2024.101284>
- Duvernoy, I., Jarrige, F., & Gonçalves, A. (2025). Integrated food policies in south-western France: Insights from local policy-making outside major urban areas. *Journal of Rural Studies*, 114, 1-11. <https://doi.org/10.1016/j.jrurstud.2024.103489>
- Dzikunoo, J., Letsyo, E., Adams, Z., Asante-Donyinah, D., & Dzah, C. S. (2021). Ghana's indigenous food technology: A review of the processing, safety, packaging techniques and advances in food science and technology. *Food Control*, 127(January), 108116. <https://doi.org/10.1016/j.foodcont.2021.108116>
- El Zein, A., Shelnutt, K. P., Colby, S., Vilaro, M. J., Zhou, W., Greene, G., Olfert, M. D., Riggsbee, K., Morrell, J. S., & Mathews, A. E. (2019). Prevalence and correlates of food insecurity among U.S. college students: A multi-institutional study. *BMC Public Health*, 19(1), 1-12. <https://doi.org/10.1186/s12889-019-6943-6>
- Enthoven, L., & Van den Broeck, G. (2021). Local food systems: Reviewing two decades of research. *Agricultural Systems*, 193, 1-14. <https://doi.org/10.1016/j.agsy.2021.103226>
- Estiningtyas, W., Surmaini, E., Suciantini, Susanti, E., Mulyani, A., Kartiwa, B., Sumaryanto, Perdinan, Apriyana, Y., & Alifia, A. D. (2024). Analysing food farming vulnerability in Kalimantan, Indonesia: Determinant factors and adaptation measures. *PLoS ONE*, 19, 1-27. <https://doi.org/10.1371/journal.pone.0296262>
- Ezekekwu, E., Salunkhe, S. S., Jennings, J. C., & Kelly Pryor, B. N. (2022). Community-Based and System-Level Interventions for Improving Food Security and Nutritious Food Consumption: A Systematic Review. *Journal of Hunger and Environmental Nutrition*, 17(2), 149-169. <https://doi.org/10.1080/19320248.2021.2021120>
- Fahmi, C., & Armia, M. S. (2022). Protecting Indigenous Collective Land Property in Indonesia under International Human Rights Norms. *Journal of Southeast Asian Human Rights*, 6(1), 1-25. <https://doi.org/10.19184/jseahr.v6i1.30242>
- Fahmi, C., Stoll, P. T., Shabarullah, Rahman, M., & Syukri. (2024). The State's Business upon Indigenous Land in Indonesia: A Legacy from Dutch Colonial Regime to Modern Indonesian State. *Samarah*, 8(3), 1566-1596. <https://doi.org/10.22373/sjhk.v8i3.19992>
- Faoziyah, U., Rosyaridho, M. F., & Panggabean, R. (2024). Unearthing Agricultural Land Use Dynamics in Indonesia: Between Food Security and Policy Interventions. *Land*, 13(2030), 1-29.

- <https://doi.org/https://doi.org/10.3390/land13122030> Academic
- Fardkhales, S. A., & Lincoln, N. K. (2021). Food hubs play an essential role in the COVID-19 response in Hawai'i. *Journal of Agriculture, Food Systems, and Community Development*, 10(2), 53–70. <https://doi.org/10.5304/jafscd.2021.102.036>
- Ferreira, C., Gaudet, J. C., & Loukes, K. A. (2022). Indigenous women's worldview in food-related research: Rematriating food, bodies and lands. *Applied Physiology, Nutrition and Metabolism*, 47(2), 210–213. <https://doi.org/10.1139/apnm-2021-0400>
- Fibri, D. L. N., & Frøst, M. B. (2019). Consumer perception of original and modernised traditional foods of Indonesia. *Appetite*, 133, 61–69. <https://doi.org/10.1016/j.appet.2018.10.026>
- Frongillo, E. A., Nguyen, H. T., Smith, M. D., & Coleman-Jensen, A. (2017). Food insecurity is associated with subjective well-being among individuals from 138 countries in the 2014 Gallup world poll. *Journal of Nutrition*, 147(4), 680–687. <https://doi.org/10.3945/jn.116.243642>
- Gallegos, D., Booth, S., Pollard, C. M., Chilton, M., & Kleve, S. (2023). Food security definition, measures and advocacy priorities in high-income countries: a Delphi consensus study. *Public Health Nutrition*, 26(10), 1986–1996. <https://doi.org/10.1017/S1368980023000915>
- Galford, G. L., Peña, O., Sullivan, A. K., Nash, J., Gurwick, N., Pirolli, G., Richards, M., White, J., & Wollenberg, E. (2020). Agricultural development addresses food loss and waste while reducing greenhouse gas emissions. *Science of the Total Environment*, 699(134318), 1–13. <https://doi.org/10.1016/j.scitotenv.2019.134318>
- Garima, Olaru, D., Smith, B., & Siddique, K. H. M. (2024). Decision-Making in Grain Supply Chains for Sustainable Food System. *Sustainability*, 16(24), 121. <https://doi.org/10.3390/su162410816>
- Garner, J. A., Hanson, K. L., Jilcott Pitts, S. B., Kolodinsky, J., Sitaker, M. H., Ammerman, A. S., Kenkel, D., & Seguin-Fowler, R. A. (2023). Cost analysis and cost effectiveness of a subsidized community supported agriculture intervention for low-income families. *International Journal of Behavioral Nutrition and Physical Activity*, 20(1), 1–9. <https://doi.org/10.1186/s12966-023-01481-7>
- Garrity, K., Guerra, K. K., Hart, H., Al-muhanna, K., Kunkler, E. C., Braun, A., Poppe, K. I., Johnson, K., Lazor, E., Liu, Y., & Garner, J. A. (2024). Local Food System Approaches to Address Food and Nutrition Security among Low-Income Populations: A Systematic Review. *Advances in Nutrition*, 15(4), 100156. <https://doi.org/10.1016/j.advnut.2023.100156>
- Garske, B., Heyl, K., Ekardt, F., Weber, L. M., & Gradzka, W. (2020). Challenges of food waste governance: An assessment of European legislation on food waste and recommendations for improvement by economic instruments. *Land*, 9(7), 1–23. <https://doi.org/10.3390/land9070231>
- Gatson, S. N., Cisneros, M., Brown, R., Aitkenhead-Peterson, J. A., & Zhang, Y. Y. (2022). Urban Networks, Micro-agriculture, and Community Food Security. *Circular Economy and Sustainability*, 2(3), 1253–1265. <https://doi.org/10.1007/s43615-021-00117-x>
- Gautam, Y. (2019). "Food aid is killing Himalayan farms". Debunking the false dependency narrative in Karnali, Nepal. *World Development*, 116, 54–65. <https://doi.org/10.1016/j.worlddev.2018.12.001>
- Ghosh-Jerath, S., Dhasmana, A., Nair, S. C., & Kapoor, R. (2024). Impact of the second wave of COVID-19 pandemic on food security among Ho indigenous community of Jharkhand, India. *Agriculture and Food Security*, 13(1), 1–14. <https://doi.org/10.1186/s40066-024-00469-1>
- Ghosh-Jerath, S., Kapoor, R., Barman, S., Singh, G., Singh, A., Downs, S., & Fanzo, J. (2021). Traditional Food Environment and Factors Affecting Indigenous Food Consumption in Munda Tribal Community of Jharkhand, India. *Frontiers in Nutrition*, 7(2), 1–18. <https://doi.org/https://doi.org/10.3389/fnut.2020.600470>
- Ghosh-Jerath, S., Kapoor, R., Dhasmana, A., Singh, A., Downs, S., & Ahmed, S. (2022). Effect of COVID-19 Pandemic on Food Systems and Determinants of Resilience in Indigenous Communities of Jharkhand State, India: A Serial Cross-Sectional Study. *Frontiers in Sustainable Food Systems*, 6, 1–24. <https://doi.org/10.3389/fsufs.2022.724321>
- Gibson, E., Stacey, N., Sunderland, T. C. H., & Adhuri, D. S. (2021). Coping or adapting? Experiences of food and nutrition insecurity in specialised fishing households in Komodo District, eastern Indonesia. *BMC Public Health*, 21(1), 1–17. <https://doi.org/10.1186/s12889-021-10248-3>
- Girsang, W., Matsuda, M., & Yamamoto, S. (2023). Dusung Agroforestry Systems on Ambon Island, Central Maluku, Indonesia: Sustainable Livelihoods, Land Property Rights, and Poverty Reduction. *Journal of Marine and Island Cultures*, 12(3), 160–186. <https://doi.org/10.21463/jmic.2023.12.3.12>

- Giyarsih, S. R., Armansyah, Zaelany, A. A., Latifa, A., Setiawan, B., Saputra, D., Haqi, M., Fathurohman, A., & Lamijo. (2024). The contribution of urban farming to urban food security: the case of "Buruan SAE." *International Journal of Urban Sustainable Development*, 16(1), 262–281. <https://doi.org/10.1080/19463138.2024.2384876>
- Godrich, S. L., Doe, J., Goodwin, S., Stoneham, M., & Devine, A. (2025). Lived Experience of Regional and Remote Food Systems: Barriers to and Enablers of Food Access in Western Australia. *Health Promotion Journal of Australia*, 36(2), 1–13. <https://doi.org/10.1002/hpja.70002>
- Gonçalves, C. de B. Q., Schlindwein, M. M., & Martinelli, G. D. C. (2021). Agroforestry systems: A systematic review focusing on traditional indigenous practices, food and nutrition security, economic viability, and the role of women. *Sustainability (Switzerland)*, 13, 1–20. <https://doi.org/10.3390/su132011397>
- Gorecki, M. C., Sevilla, V., Gasperetti, K., Bartoszek, L., Chera, M., Cutler, K., Okano, C., Samuel, B. M., Stewart, C., & Riley, C. L. (2024). Community-Led Interventions to Address Food Inequity. *Pediatrics*, 153(2), 1–7. <https://doi.org/10.1542/peds.2023-063116>
- Gori, F., & Castellini, A. (2023). Alternative Food Networks and Short Food Supply Chains : A Systematic Literature Review Based on a Case Study Approach. *Sustainability*, 15(8140), 1–18. <https://doi.org/https://doi.org/10.3390/su15108140>
- Goszczyński, W., & Wróblewski, M. (2020). Beyond rural idyll? Social imaginaries, motivations and relations in Polish alternative food networks. *Journal of Rural Studies*, 76, 254–263. <https://doi.org/10.1016/j.jrurstud.2020.04.031>
- Grebitus, C., Printezis, I., & Printezis, A. (2017). Relationship between Consumer Behavior and Success of Urban Agriculture. *Ecological Economics*, 136, 189–200. <https://doi.org/10.1016/j.ecolecon.2017.02.010>
- Griffin, C., Sirimorok, N., Dressler, W. H., Sahide, M. A. K., Fisher, M. R., Faturachmat, F., Muin, A. V. F., Andary, P. M., Batiran, K. B., Rahmat, Rizaldi, M., Toumbourou, T., Suwarso, R., Salim, W., Utomo, A., Akhmad, F., & Clendenning, J. (2024). The persistence of precarity: youth livelihood struggles and aspirations in the context of truncated agrarian change, South Sulawesi, Indonesia. *Agriculture and Human Values*, 41(1), 293–311. <https://doi.org/10.1007/s10460-023-10489-5>
- Guiné, R. de P. F., Pato, M. L. de J., Costa, C. A. da, Costa, D. de V. T. A. da, Silva, P. B. C. da, & Martinho, V. J. P. D. (2021). Food Security and Sustainability: Discussing the Four Pillars to Encompass Other Dimensions. *Foods*, 10(11), 1–26. <https://doi.org/10.3390/foods10112732>
- Gupta, A., Alston, L., Needham, C., Robinson, E., Marshall, J., Boelsen-robinson, T., Blake, M. R., Huggins, C. E., & Peeters, A. (2022). Scalability of Healthy Food Retail Interventions: A Systematic Review of Reviews. *Nutrients*, 14(294), 1–18. <https://doi.org/10.3390/nu14020294>
- Gutierrez, B. V., Kaloostian, D., & Redvers, N. (2023). Elements of Successful Food Sovereignty Interventions within Indigenous Communities in the United States and Canada: a Systematic Review. *Current Developments in Nutrition*, 7(9), 101973. <https://doi.org/10.1016/j.cdnut.2023.101973>
- Habiyaremye, A., & Korina, L. (2021). Indigenous knowledge systems in ecological pest control and post-harvest rice conservation techniques: Sustainability lessons from baduy communities. *Sustainability (Switzerland)*, 13(16). <https://doi.org/10.3390/su13169148>
- Haile, F., Mohamed, J. H., Aweke, C. S., & Muleta, T. T. (2025). Impact of Livelihood Diversification on Rural Households' Food and Nutrition Security: Evidence from West Shoa Zone of Oromia Regional State, Ethiopia. *Current Developments in Nutrition*, 9, 1–16. <https://doi.org/10.1016/j.cdnut.2024.104521>
- Hajati, S., Winarsi, S., Nugraha, X., Ikbar, R. D., & Felicia, S. A. (2023). Land Acquisition for the Public Interest as an Alternative to Building a Food Estate in Indonesia: An Effort to Achieve Proportional Justice. *World Journal of Entrepreneurship, Management and Sustainable Development*, 19(1–2), 3–14. <https://doi.org/10.47556/J.WJEMSD.19.1-2.2023.1>
- Handoko, W., Sulaiman, A. I., Prastyanti, S., Sari, L. K., Wijayanti, I. K. E., Windiasih, R., & Rofik, A. (2026). Empowerment of former female migrant workers in rural food security. *Multidisciplinary Science Journal*, 8(9), 1–14. <https://doi.org/10.31893/multiscience.2026576>
- Hawkins, M., Clermont, M., Wells, D., Alston, M., McClave, R., & Snelling, A. (2022). Food Security Challenges and Resilience during the COVID-19 Pandemic: Corner Store Communities in Washington, D.C. *Nutrients*, 14(3028), 1–14. <https://doi.org/10.3390/nu14153028>
- Hawkins, P., Geza, W., Mabhaudhi, T., Sutherland, C., Queenan, K., Dangour, A., & Scheelbeek, P. (2022). Dietary and agricultural adaptations to drought among smallholder farmers in South Africa: A qualitative study. *Weather and Climate Extremes*, 35(100413), 1–12.

- <https://doi.org/10.1016/j.wace.2022.100413>
- Haynes-Maslow, L., Hardison-Moody, A., & Shanks, C. B. (2020). COMMENTARY ON COVID-19 AND THE FOOD SYSTEM: Leveraging informal community food systems to address food security during COVID-19. *Journal of Agriculture, Food Systems, and Community Development*, 10(1), 197–200. <https://doi.org/10.5304/jafscd.2020.101.005>
- Hazzard, V. M., Kunin-Batson, A. S., Trofholz, A. C., Noser, A. E., De Brito, J. N., Pitera, R. T., & Berge, J. M. (2024). Food assistance use barriers, facilitators, and recommendations: Insights from a qualitative study of racially and ethnically diverse parents. *Journal of Nutritional Science*, 13(e86), 1–10. <https://doi.org/10.1017/jns.2024.75>
- Heaney, D., Padilla-Zakour, O. I., & Chen, C. (2024). Processing and preservation technologies to enhance indigenous food sovereignty, nutrition security and health equity in North America. *Frontiers in Nutrition*, 11(June), 1–8. <https://doi.org/10.3389/fnut.2024.1395962>
- Hecht, A. A., Biehl, E., Barnett, D. J., & Neff, R. A. (2019). Urban Food Supply Chain Resilience for Crises Threatening Food Security: A Qualitative Study. *Journal of the Academy of Nutrition and Dietetics*, 119(2), 211–224. <https://doi.org/10.1016/j.jand.2018.09.001>
- Hedin, B., Katze, C., Eriksson, E., & Pargman, D. (2019). A Systematic Review of Digital Behaviour Change Interventions for More Sustainable Food Consumption. *Sustainability (Switzerland)*, 11(2638), 1–23. <https://doi.org/10.3390/su11092638>
- Heinz, M., Galetti, V., & Holzkämper, A. (2024). How to find alternative crops for climate-resilient regional food production. *Agricultural Systems*, 213(103793), 1–16. <https://doi.org/10.1016/j.agsy.2023.103793>
- Hellin, J., Fisher, E., Taylor, M., Bhasme, S., & Loboguerrero, A. M. (2023). Transformative adaptation: from climate-smart to climate-resilient agriculture. *CABI Agriculture and Bioscience*, 4(1), 1–8. <https://doi.org/10.1186/s43170-023-00172-4>
- Hernawati, D., Putra, R. R., & Meylani, V. (2022). Indigenous vegetables consumed as lalapan by Sundanese ethnic group in West Java, Indonesia: Potential, traditions, local knowledge, and it's future. *South African Journal of Botany*, 151, 133–145. <https://doi.org/10.1016/j.sajb.2022.09.007>
- Huambachano, M. (2018). Enacting food sovereignty in Aotearoa New Zealand and Peru: revitalizing Indigenous knowledge, food practices and ecological philosophies. *Agroecology and Sustainable Food Systems*, 42(9), 1003–1028. <https://doi.org/10.1080/21683565.2018.1468380>
- Huang, Y., Yang, Y., Nie, F., & Jia, X. (2024). Production Choices and Food Security: A Review of Studies Based on a Micro-Diversity Perspective. *Foods*, 13(771), 1–22. <https://doi.org/10.3390/foods13050771>
- Hunt, L., Pettinger, C., & Wagstaff, C. (2023). A critical exploration of the diets of UK disadvantaged communities to inform food systems transformation: a scoping review of qualitative literature using a social practice theory lens. *BMC Public Health*, 23(1), 1–19. <https://doi.org/10.1186/s12889-023-16804-3>
- Hwalla, N., El Labban, S., & Bahn, R. A. (2016). Nutrition security is an integral component of food security. *Frontiers in Life Science*, 9(3), 167–172. <https://doi.org/10.1080/21553769.2016.1209133>
- Imang, N. (2020). Short communication: Adoption level of indigenous communities on agricultural technology in East Kalimantan, Indonesia: Problem and adaptive solutions. *Biodiversitas*, 21(3), 1160–1164. <https://doi.org/10.13057/biodiv/d210341>
- Indika, D., & Vonika, N. (2016). Rural Tourism Development using Ecotourism as a Model of Community Empowerment in Cireundeu Indigenous Village, Cimahi, West Java. *International Conference of Integrated Microfinance Management*, 148–154. <https://doi.org/10.2991/imm-16.2016.23>
- Indow, L., Maturbongs, R. A., Prabawardani, S., Hendri, & Lyons, G. (2021). Implementation of the remote indigenous community empowerment program on the sustainability of the local food crops in west papua, indonesia. *Biodiversitas*, 22(12), 5247–5254. <https://doi.org/10.13057/biodiv/d221202>
- Ishangulyyev, R., Kim, S., & Lee, S. H. (2019). Understanding food loss and waste-why are we losing and wasting food? *Foods*, 8(297), 1–23. <https://doi.org/10.3390/foods8080297>
- Iskandar, B. S., Iskandar, J., & Partasasmita, R. (2018). Strategy of the outer baduy community of south banten (Indonesia) to sustain their swidden farming traditions by temporary migration to non-baduy areas. *Biodiversitas*, 19(2), 453–464. <https://doi.org/10.13057/biodiv/d190212>
- Jackson, G. (2020). The influence of emergency food aid on the causal disaster vulnerability of Indigenous food systems. *Agriculture and Human Values*, 37(3), 761–777. <https://doi.org/10.1007/s10460-019-10006-7>
- Jamaludin, H., Elmaky, H. S. E., & Sulaiman, S. (2022). The future of food waste: Application of circular

- economy. *Energy Nexus*, 7(100098), 1–11. <https://doi.org/10.1016/j.nexus.2022.100098>
- Jarzebowski, S., Bourlakis, M., & Bezat-Jarzebowska, A. (2020). Short food supply chains (SFSC) as local and sustainable systems. *Sustainability (Switzerland)*, 12(4715), 1–13. <https://doi.org/10.3390/su12114715>
- Jernigan, V. B. B., Maudrie, T. L., Nikolaus, C. J., Benally, T., Johnson, S., Teague, T., Mayes, M., Jacob, T., & Taniguchi, T. (2021). Food Sovereignty Indicators for Indigenous Community Capacity Building and Health. *Frontiers in Sustainable Food Systems*, 5(704750), 1–9. <https://doi.org/10.3389/fsufs.2021.704750>
- Jia, F., Shahzadi, G., Bourlakis, M., & John, A. (2024). Promoting resilient and sustainable food systems: A systematic literature review on short food supply chains. *Journal of Cleaner Production*, 435, 140364. <https://doi.org/10.1016/j.jclepro.2023.140364>
- Johnson, K., Elizer, A., Franck, K. L., & Jarvandi, S. (2025). Leveraging Community Partnerships and Resources to Address Food Insecurity in a Rural County During the COVID-19 Pandemic. *Journal of Extension*, 63(1), 1–6. <https://doi.org/10.34068/joe.63.01.07>
- Jones, S., Krzywoszynska, A., & Maye, D. (2022). Resilience and transformation: Lessons from the UK local food sector in the COVID-19 pandemic. *Geographical Journal*, 188(2), 209–222. <https://doi.org/10.1111/geoj.12428>
- Joseph, L., & Turner, N. J. (2020). “The Old Foods Are the New Foods!”: Erosion and Revitalization of Indigenous Food Systems in Northwestern North America. *Frontiers in Sustainable Food Systems*, 4(December). <https://doi.org/10.3389/fsufs.2020.596237>
- Kadir, A., Suharno, Reawaruw, Y. I., Ali, A., & Putra, M. F. P. (2024). Sago Sep: traditional food sources in eastern indonesia and their potential as alternative foods for athletes. *Retos*, 61, 544–551. <https://doi.org/10.47197/retos.v61.109661>
- Kapadia, F. (2022). Confronting and Ending Food Insecurity During and Beyond the Pandemic: A Public Health of Consequence, July 2022. *American Journal of Public Health*, 112(7), 962–964. <https://doi.org/10.2105/AJPH.2022.306922>
- Kapoor, R., Sabharwal, M., & Ghosh-Jerath, S. (2024). Co-existence of potentially sustainable indigenous food systems and poor nutritional status in Ho indigenous community, India: an exploratory study. *Environmental Research Letters*, 19, 1–14. <https://doi.org/10.1088/1748-9326/ad4b44>
- Katre, A., & Raddatz, B. (2023). Low-Income Families’ Direct Participation in Food-Systems Innovation to Promote Healthy Food Behaviors. *Nutrients*, 15(5), 1–18. <https://doi.org/10.3390/nu15051271>
- Keefe, S., & Lee, J. (2025). Sustainable transitions in food systems: a case study of an urban agriculture farming training program in Washington, United States. *Frontiers in Sustainable Food Systems*, 9, 1–9. <https://doi.org/10.3389/fsufs.2025.1501877>
- Kennedy, C. M., Fariss, B., Oakleaf, J. R., Garnett, S. T., Fernández-Llamazares, Á., Fa, J. E., Baruch-Mordo, S., & Kiesecker, J. (2023). Indigenous Peoples’ lands are threatened by industrial development; conversion risk assessment reveals need to support Indigenous stewardship. *One Earth*, 6(8), 1032–1049. <https://doi.org/10.1016/j.oneear.2023.07.006>
- Khaenamkhaew, D. (2024). Promoting community food security learning: a case study of Ban Pa Yang, Moo 4, Tha Ngio Sub-district, Mueang District, Nakhon Si Thammarat Province, Thailand. *Cogent Social Sciences*, 10(1), 1–19. <https://doi.org/10.1080/23311886.2024.2433702>
- Kholik, S., Nurlinda, I., Muttaqin, Z., & Priyanta, M. (2024). Reformulation of Policies to Prevent Land Conversion of Rice Fields In Achieving Indonesia’s National Food Security. *F1000Research*, 13(945), 1–13. <https://doi.org/10.12688/f1000research.151364.1>
- Kom, Z., Nicolau, M. D., & Nenwiini, S. C. (2024). The Use of Indigenous Knowledge Systems Practices to Enhance Food Security in Vhembe District, South Africa. *Agricultural Research*, 13(3), 599–612. <https://doi.org/https://doi.org/10.1007/s40003-024-00716-8>
- Kuhnlein, H. V. (2017). Gender roles, food system biodiversity, and food security in Indigenous Peoples’ communities. *Maternal and Child Nutrition*, 13(S3), 1–5. <https://doi.org/10.1111/mcn.12529>
- Kuhnlein, H. V., & Chotiboriboon, S. (2022). Why and How to Strengthen Indigenous Peoples’ Food Systems With Examples From Two Unique Indigenous Communities. *Frontiers in Sustainable Food Systems*, 6, 1–20. <https://doi.org/10.3389/fsufs.2022.808670>
- Kumareswaran, K., & Jayasinghe, G. Y. (2022). Systematic review on ensuring the global food security and covid-19 pandemic resilient food systems: towards accomplishing sustainable development goals targets. *Discover Sustainability*, 3(29), 1–30. <https://doi.org/10.1007/s43621-022-00096-5>
- Kurniasih, H., Ford, R. M., Keenan, R. J., & King, B. (2021). The evolution of community forestry through the

- growth of interlinked community institutions in Java, Indonesia. *World Development*, 139(105319), 1–13. <https://doi.org/10.1016/j.worlddev.2020.105319>
- Kusnandar, K., Apriliyani, E. K., Wicaksono, A., & Saville, R. (2024). Local supply chain actor roles in farmer organisation information networks: Empirical findings from two Indonesian farmer organisations. *World Development Perspectives*, 35, 100619. <https://doi.org/https://doi.org/10.1016/j.wdp.2024.100619>
- Lal, R. (2020). Home gardening and urban agriculture for advancing food and nutritional security in response to the COVID-19 pandemic. *Food Security*, 12, 871–876. <https://doi.org/10.1007/s12571-020-01058-3>
- Langston, J. D., Riggs, R. A., Sururi, Y., Sunderland, T., & Munawir, M. (2017). Estate crops more attractive than community forests in West Kalimantan, Indonesia. *Land*, 6(1), 1–14. <https://doi.org/10.3390/land6010012>
- Lanham, A. R., & Van Der Pols, J. C. (2025). Toward Sustainable Diets - Interventions and Perceptions Among Adolescents: A Scoping Review. *Nutrition Reviews*, 83(2), e694–e710. <https://doi.org/10.1093/nutrit/nuae052>
- Larson, N., Laska, M. N., & Neumark-Sztainer, D. (2020). Food insecurity, diet quality, home food availability, and health risk behaviors among emerging adults: Findings from the EAT 2010–2018 study. *American Journal of Public Health*, 110(9), 1422–1428. <https://doi.org/10.2105/AJPH.2020.305783>
- Lee, J. C., Neonaki, M., Alexopoulos, A., & Varzakas, T. (2023). Case Studies of Small-Medium Food Enterprises around the World: Major Constraints and Benefits from the Implementation of Food Safety Management Systems. *Foods*, 12(3218), 1–26. <https://doi.org/10.3390/foods12173218>
- Lemke, S., & Delormier, T. (2017). Indigenous Peoples' food systems, nutrition, and gender: Conceptual and methodological considerations. *Maternal and Child Nutrition*, 13(S3), 1–12. <https://doi.org/10.1111/mcn.12499>
- Liang, Y., & Zhong, T. (2023). Impacts of community-level grassroots organizations on household food security during the COVID-19 epidemic period in China. *International Journal of Disaster Risk Reduction*, 85(103490), 1–16. <https://doi.org/10.1016/j.ijdrr.2022.103490>
- Limpo, S. Y., Fahmid, I. M., Fattah, A., Rauf, A. W., Surmaini, E., Muslimin, Saptana, Syahbuddin, H., & Andri, K. B. (2022). Integrating Indigenous and Scientific Knowledge for Decision Making of Rice Farming in South Sulawesi, Indonesia. *Sustainability (Switzerland)*, 14(2952), 1–18. <https://doi.org/10.3390/su14052952>
- Linda, A. M., Setiawan, B., Shinta, A., Wahyuningtyas, H., & Asmara, R. (2025). Determinants of Lowland Rice Farmers' Behavior in Food-Insecure Areas in East Nusa Tenggara, Indonesia: A COM-B Model Approach. *Transactions of the Chinese Society of Agricultural Machinery*, 56(3), 1–15. <https://doi.org/10.62321/issn.1000-1298.2025.3.1>
- Liu, L., Ross, H., & Ariyawardana, A. (2023). Building rural resilience through agri-food value chains and community interactions: A vegetable case study in wuhan, China. *Journal of Rural Studies*, 101(103047), 1–14. <https://doi.org/10.1016/j.jrurstud.2023.103047>
- Lopez Barrera, E., & Hertel, T. (2021). Global food waste across the income spectrum: Implications for food prices, production and resource use. *Food Policy*, 98(101874), 1–16. <https://doi.org/10.1016/j.foodpol.2020.101874>
- Luecking, C. T., Barr-Porter, M., Brewer, D., & Cardarelli, K. M. (2025). Community-Engaged Approach to Improve Food Access and Consumption of Fruits and Vegetables in a Rural Appalachian Community. *Nutrients*, 17(3), 1–14. <https://doi.org/10.3390/nu17030431>
- Lugo-Morin, D. R. (2020). Indigenous communities and their food systems: a contribution to the current debate. *Journal of Ethnic Foods*, 7(6), 1–10. <https://doi.org/10.1186/s42779-019-0043-1>
- Lugo-Morin, D. R. (2022). Innovate or Perish: Food Policy Design in an Indigenous Context in a Post-Pandemic and Climate Adaptation Era. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(34), 1–18. <https://doi.org/10.3390/joitmc8010034>
- Lulovicova, A., & Bouissou, S. (2023). Environmental Assessment of Local Food Policies through a Territorial Life Cycle Approach. *Sustainability (Switzerland)*, 15(4740), 1–20. <https://doi.org/10.3390/su15064740>
- Madlala, S. S., Hill, J., Kunneke, E., Lopes, T., & Faber, M. (2023). Adult food choices in association with the local retail food environment and food access in resource-poor communities: a scoping review. *BMC Public Health*, 23(1), 1–33. <https://doi.org/10.1186/s12889-023-15996-y>
- Maftuchah, Febriana, L., Sulistyawati, Reswari, H. A., & Septia, E. D. (2021). Morphological diversity and

- heritability of nine local sorghum (*Sorghum bicolor*) genotypes in east java, indonesia. *Biodiversitas*, 22(3), 1310–1316. <https://doi.org/10.13057/biodiv/d220330>
- Mahoney, E., Golan, M., Kurth, M., Trump, B. D., & Linkov, I. (2022). Resilience-by-Design and Resilience-by-Intervention in supply chains for remote and indigenous communities. *Nature Communications*, 13(1), 1–5. <https://doi.org/10.1038/s41467-022-28734-6>
- Maisa, Syamsul Haling, Moh. Nafri, Ida Lestiawati, & Irmawaty. (2024). The Implications of the Constitutional Court's Ruling on the Protection of Indigenous Peoples' Land in the National Agrarian System. *Evolutionary Studies in Imaginative Culture*, 8(2), 1228–1237. <https://doi.org/10.70082/esiculture.vi.1372>
- Majdalawieh, M., Nizamuddin, N., Alaraj, M., Khan, S., & Bani-Hani, A. (2021). Blockchain-based solution for Secure and Transparent Food Supply Chain Network. *Peer-to-Peer Networking and Applications*, 14(6), 3831–3850. <https://doi.org/10.1007/s12083-021-01196-1>
- Malley, A. L., Bronson, K., Burg, S. Van Der, & Klerkx, L. (2020). The futur (s) of digital agriculture and sustainable food systems: An analysis of high-level policy documents. *Ecosystem Services*, 45(August), 101183. <https://doi.org/10.1016/j.ecoser.2020.101183>
- Marjanovic, S., Kent, K., Morrison, N., Wu, J., Fleming, C., Trieu, K., McBride, K., Simmons, D., Osuagwu, U., & MacMillan, F. (2023). The impact of community-based food access strategies in high-income countries: a systematic review of randomised controlled trials. *Public Health Research and Practice*, 33(4), 1–9. <https://doi.org/10.17061/phrp3342333>
- Martin-Rios, C., Hofmann, A., & Mackenzie, N. (2021). Sustainability-oriented innovations in food waste management technology. *Sustainability (Switzerland)*, 13(1), 1–12. <https://doi.org/10.3390/su13010210>
- Marusak, A., Sadeghiamirshahidi, N., Krejci, C. C., Mittal, A., Beckwith, S., Cantu, J., Morris, M., & Grimm, J. (2021). Resilient regional food supply chains and rethinking the way forward: Key takeaways from the COVID-19 pandemic. *Agricultural Systems*, 190(103101), 1–10. <https://doi.org/10.1016/j.agsy.2021.103101>
- Maryam, N. S., Nurasa, H., Alexandri, M. B., & Sugandi, Y. S. (2021). Designing a food supply chain network under public-private community partnership on traditional indonesia markets. *Uncertain Supply Chain Management*, 9(4), 841–850. <https://doi.org/10.5267/j.uscm.2021.8.005>
- Maryani, E. (2022). Food security for drought disaster adaptation in Cireundeu Traditional Village. *IOP Conference Series: Earth and Environmental Science*, 986, 1–6. <https://doi.org/10.1088/1755-1315/986/1/012058>
- Masudin, I., Lau, E., Safitri, N. T., Restuputri, D. P., & Handayani, D. I. (2021). The impact of the traceability of the information systems on humanitarian logistics performance: Case study of Indonesian relief logistics services. *Cogent Business and Management*, 8(1), 1–22. <https://doi.org/10.1080/23311975.2021.1906052>
- Mathys, A. S., van Vianen, J., Rowland, D., Narulita, S., Palomo, I., Pascual, U., Sutherland, I. J., Ahammad, R., & Sunderland, T. (2023). Participatory mapping of ecosystem services across a gradient of agricultural intensification in West Kalimantan, Indonesia. *Ecosystems and People*, 19(1), 1–15. <https://doi.org/10.1080/26395916.2023.2174685>
- Maudrie, T. L., Nguyen, C. J., Wilbur, R. E., Mucioki, M., Clyma, K. R., Ferguson, G. L., & Jernigan, V. B. B. (2023). Food Security and Food Sovereignty: The Difference Between Surviving and Thriving. *Health Promotion Practice*, 24(6), 1075–1079. <https://doi.org/10.1177/15248399231190366>
- Max, J. I. S. D., Sirimorok, N., Vivian, Y. I., Dahlan, D., Alamsyah, A., Nugroho, B. A., Huan, O. L., & Hilah, V. F. (2025). Circular Commoning: Sustaining Dayak Bahau Agency Amid Political and Ecological Change. *Forest and Society*, 9(1), 103–132. <https://doi.org/10.24259/fs.v9i1.36920>
- Mbajjorgu, G. (2020). Human Development and Food Sovereignty: A Step Closer to Achieving Food Security in South Africa's Rural Households. *Journal of Asian and African Studies*, 55(3), 330–350. <https://doi.org/10.1177/0021909619875757>
- McCarthy, J. F. (2020). The paradox of progressing sideways: food poverty and livelihood change in the rice lands of outer island Indonesia. *Journal of Peasant Studies*, 47(5), 1077–1097. <https://doi.org/10.1080/03066150.2019.1628021>
- McDaniel, T., Soto Mas, F., & Sussman, A. L. (2021). Growing Connections: Local Food Systems and Community Resilience. *Society and Natural Resources*, 34(10), 1375–1393. <https://doi.org/10.1080/08941920.2021.1958965>
- McDougall, N., & Davis, A. (2024). The local supply chain during disruption: Establishing resilient networks

- for the future. *Journal of Cleaner Production*, 462, 1–12. <https://doi.org/10.1016/j.jclepro.2024.142743>
- Medina-García, C., Nagarajan, S., Castillo-Vysokolan, L., Béatse, E., & Van den Broeck, P. (2022). Innovative Multi-Actor Collaborations as Collective Actors and Institutionalized Spaces. The Case of Food Governance Transformation in Leuven (Belgium). *Frontiers in Sustainable Food Systems*, 5, 1–23. <https://doi.org/10.3389/fsufs.2021.788934>
- Melash, A. A., Bogale, A. A., Migbaru, A. T., Chakilu, G. G., Percze, A., Ábrahám, É. B., & Mengistu, D. K. (2023). Indigenous agricultural knowledge: A neglected human based resource for sustainable crop protection and production. *Heliyon*, 9(e12978), 1–9. <https://doi.org/10.1016/j.heliyon.2023.e12978>
- Menon, S., & Jain, K. (2024). Blockchain Technology for Transparency in Agri-Food Supply Chain: Use Cases, Limitations, and Future Directions. *IEEE Transactions on Engineering Management*, 71, 106–120. <https://doi.org/10.1109/TEM.2021.3110903>
- Merina, B., Sholahuddin, A., & Sukowati, P. (2023). The Empowerment of Indigenous Papuan Women Through Home-Based Industries: A Case Study in Papua, Indonesia. *Academic Journal of Interdisciplinary Studies*, 12(5), 38–48. <https://doi.org/10.36941/ajis-2023-0124>
- Michel-Villarreal, R., Vilalta-Perdomo, E. L., Canavari, M., & Hingley, M. (2021). Resilience and digitalization in short food supply chains: A case study approach. *Sustainability (Switzerland)*, 13(11), 1–23. <https://doi.org/10.3390/su13115913>
- Miltenburg, E., Neufeld, H. T., & Anderson, K. (2022). Relationality, Responsibility and Reciprocity: Cultivating Indigenous Food Sovereignty within Urban Environments. *Nutrients*, 14(9), 1–16. <https://doi.org/10.3390/nu14091737>
- Mirajiani. (2023). Gender Equality in the Agricultural Sector: Lessons Learned from the Baduy Indigenous Community in Indonesia. *Space and Culture, India*, 11(3), 25–42. <https://doi.org/10.20896/SACI.V11I3.1379>
- Mittal, A., Krejci, C. C., & Craven, T. J. (2018). Logistics Best Practices for Regional Food Systems : A Review. *Sustainability (Switzerland)*, 10(168), 1–44. <https://doi.org/10.3390/su10010168>
- Mohd Salim, J., Anuar, S. N., Omar, K., Tengku Mohamad, T. R., & Sanusi, N. A. (2023). The Impacts of Traditional Ecological Knowledge towards Indigenous Peoples: A Systematic Literature Review. *Sustainability (Switzerland)*, 15(1), 1–22. <https://doi.org/10.3390/su15010824>
- Morales, S. I., Vicente, G., LaMonaca, K., Rios, J., Cunningham, S. D., Higginbottom, J., Mathios, E., Werlin, S., Cramer, J., Santilli, A., & O'Connor Duffany, K. (2023). The Implementation of a Nutrition Intervention in Food Pantries: The Spirit of SWAP. *Health Promotion Practice*, 24, 80S–91S. <https://doi.org/10.1177/15248399221112454>
- Mu, W., van Asselt, E. D., & van der Fels-Klerx, H. J. (2021). Towards a resilient food supply chain in the context of food safety. *Food Control*, 125(107953), 1–8. <https://doi.org/10.1016/j.foodcont.2021.107953>
- Muhammad, M., Koestiono, D., Syafrial, & Isaskar, R. (2024). The Performance Enhancement Model for Coconut Processed Products Cooperatives through the Value Chain and Livelihood Assets Approach in North Maluku Province, Indonesia. *Journal of Law and Sustainable Development*, 12(1), 1–24. <https://doi.org/10.55908/sdgs.v12i1.2547>
- Muliadi, M., Lubis, S. N., Harahap, H., Slamet, B., & Rafiud, A. A. (2024). Sustainable Food Systems and Regional Development: Analyzing Food Security in Medan City's Underprivileged Areas, Indonesia. *Journal of Ecohumanism*, 3(6), 529–537. <https://doi.org/10.62754/joe.v3i6.4023>
- Mulwa, C. K., & Visser, M. (2020). Farm diversification as an adaptation strategy to climatic shocks and implications for food security in northern Namibia. *World Development*, 129(104906), 1–10. <https://doi.org/10.1016/j.worlddev.2020.104906>
- Mulyani, A., Mulyanto, B., Barus, B., Panuju, D. R., & Husnain. (2023). Potential Land Reserves for Agriculture in Indonesia: Suitability and Legal Aspect Supporting Food Sufficiency. *Land*, 12(970), 1–19. <https://doi.org/10.3390/land12050970>
- Mulyoutami, E., Lusiana, B., & van Noordwijk, M. (2020). Gendered migration and agroforestry in indonesia: Livelihoods, labor, know-how, networks. *Land*, 9(12), 1–18. <https://doi.org/10.3390/land9120529>
- Mundler, P., & Laughrea, S. (2016). The contributions of short food supply chains to territorial development: A study of three Quebec territories. *Journal of Rural Studies*, 45, 218–229. <https://doi.org/10.1016/j.jrurstud.2016.04.001>
- Munyororo, J. K. (2025). Strengthening small-scale farmers capability to enhance local food access amid disruptions. *Frontiers in Sustainable Food Systems*, 8(1508056), 1–16.

- <https://doi.org/https://doi.org/10.3389/fsufs.2024.1508056>
- Murhaini, S., & Achmadi. (2021). The farming management of Dayak People's community based on local wisdom ecosystem in Kalimantan Indonesia. *Heliyon*, 7(e08578), 1–7. <https://doi.org/10.1016/j.heliyon.2021.e08578>
- Myers, C. A. (2020). Food Insecurity and Psychological Distress: a Review of the Recent Literature. *Current Nutrition Reports*, 9(2), 107–118. <https://doi.org/10.1007/s13668-020-00309-1>
- Nagal, C. J. C. (2025). Harvesting Traditions: Exploring the Indigenous Agricultural Knowledge Systems in Java, Indonesia and Mindanao, Philippines. *Millennial Asia*, 1–20. <https://doi.org/10.1177/09763996251327672>
- Nelly, C., Fitriyana, L., Santi, T. D., & Saudah. (2024). Diversity of traditional vegetables and spices as local food security for the Gayo Tribe, Aceh, Indonesia. *Biodiversitas*, 25(12), 4699–4711. <https://doi.org/10.13057/biodiv/d251206>
- Nerenberg, J. (2022). 'Start from the Garden': Distribution, Livelihood Diversification and Narratives of Agrarian Decline in Papua, Indonesia. *Development and Change*, 53(5), 987–1009. <https://doi.org/10.1111/dech.12691>
- Ngadi, N., Zaelany, A. A., Latifa, A., Harfina, D., Asiati, D., Setiawan, B., Ibnu, F., Triyono, T., & Rajagukguk, Z. (2023). Challenge of Agriculture Development in Indonesia : Rural Youth Mobility and Aging Workers in Agriculture Sector. *Sustainability*, 15(922), 1–15. <https://doi.org/https://doi.org/10.3390/su15020922>
- Ngongo, Y., Basuki, T., Derosari, B., Hosang, E. Y., Nulik, J., Dasilva, H., Hau, D. K., Sitorus, A., Kotta, N. R. E., Njurumana, G. N., Pujiono, E., Ishaq, L., Simamora, A. V., & Mau, Y. S. (2022). Local Wisdom of West Timorese Farmers in Land Management. *Sustainability (Switzerland)*, 14(10), 1–21. <https://doi.org/10.3390/su14106023>
- Ngongo, Y., Basuki, T., Njurumana, G. N., Nugraha, Y., Harianja, A. H., Ardha, M., Kustiyo, K., Shofiyati, R., Heryanto, R. B., Bernedi, J., Rawung, M., Olvy, J., Sondakh, M., Senewe, R. E., Timbul, R., Hutapea, P., Mattitaputty, P. R., Kenduballa, Y. P., Rusminta, N., ... Hadi, S. (2023). Land Cover Change and Food Security in Central Sumba : Challenges and Opportunities in the Decentralization Era in Indonesia. *Land*, 12(1043), 1–23. <https://doi.org/https://doi.org/10.3390/land12051043>
- Nguyen, C. J., Wilbur, R. E., Henderson, A., Sowerwine, J., Mucioki, M., Sarna-Wojcicki, D., Ferguson, G. L., Maudrie, T. L., Moore-Wilson, H., Wark, K., & Jernigan, V. B. B. (2023). Framing an Indigenous Food Sovereignty Research Agenda. *Health Promotion Practice*, 24(6), 1117–1123. <https://doi.org/10.1177/15248399231190362>
- Niko, N. (2025). Indigenous Women in the Food Chain System: The Marginalization and Alienation of Indigenous Knowledge on Environmental Management. *Asian Politics & Policy*, 17(2), e70014. <https://doi.org/10.1111/aspp.70014>
- Niko, N., Rahmaniah, S. E., Purnama, D. T., Patriani, I., & Khikmawati, N. (2025). Experiencing Ngitemp: Tradition, Food Sovereignty, and Human-Nature Relations among the Dayak Benawan Indigenous Community in Indonesia. *Space and Culture, India*, 12(4), 114–130. <https://doi.org/10.20896/ef302m16>
- Niko, N., Widianingsih, I., Sulaeman, M., & Fedryansyah, M. (2024). Indigenous women, forest, and the battle for livelihood rights of Dayak Benawan in Indonesia. *Multidisciplinary Reviews*, 7, 1–8. <https://doi.org/10.31893/multirev.2024160>
- Ninomiya, M. E. M., Burns, N., Pollock, N. J., Green, N. T. G., Martin, J., Linton, J., Rand, J. R., Brubacher, L. J., Keeling, A., & Latta, A. (2023). Indigenous communities and the mental health impacts of land dispossession related to industrial resource development: a systematic review. *The Lancet Planetary Health*, 7(6), e501–e517. [https://doi.org/10.1016/S2542-5196\(23\)00079-7](https://doi.org/10.1016/S2542-5196(23)00079-7)
- Nisbet, C., Lestrat, K. E., & Vatanparast, H. (2022). Food Security Interventions among Refugees around the Globe: A Scoping Review. *Nutrients*, 14(522), 1–44. <https://doi.org/10.3390/nu14030522>
- Nugroho, B. F., Nazaruddin, L. O., Syamil, A., Nurhasan, H. M., Fatma, E., Noor, M. M., Mustika Soeharsono, I. P. F., Sarasi, V., Fekete-Farkas, M., & Balázs, G. (2024). A pattern of collaborative logistics during multiple crises. *International Journal of Disaster Risk Reduction*, 108(104499), 1–17. <https://doi.org/10.1016/j.ijdrr.2024.104499>
- Nurhasan, M., Maulana, A. M., Ariesta, D. L., Usfar, A. A., Napitupulu, L., Rouw, A., Hurulean, F., Hapsari, A., Heatubun, C. D., & Ickowitz, A. (2022). Toward a Sustainable Food System in West Papua, Indonesia: Exploring the Links Between Dietary Transition, Food Security, and Forests. *Frontiers in*

- Sustainable Food Systems*, 5, 1–20. <https://doi.org/10.3389/fsufs.2021.789186>
- Nuryartono, N., Rifai, M. A., Anggraenie, T., & Setiawan, B. I. (2021). Determining factors of regional food resilience in Java-Indonesia. *Journal of Social and Economic Development*, 23, 491–504. <https://doi.org/10.1007/s40847-021-00156-y>
- O'Hara, S., & Toussaint, E. C. (2021). Food access in crisis: Food security and COVID-19. *Ecological Economics*, 180. <https://doi.org/10.1016/j.ecolecon.2020.106859>
- Ochoa, C. Y., Ruiz, A. M., Olmo, R. M., Figueroa, Á. M., & Rodríguez, A. T. (2020). Peri-urban organic agriculture and short food supply chains as drivers for strengthening city/region food systems—Two case studies in Andalucía, Spain. *Land*, 9(6), 1–20. <https://doi.org/10.3390/LAND9060177>
- Opitz, I., Berges, R., Pierr, A., & Krikser, T. (2016). Contributing to food security in urban areas: differences between urban agriculture and peri-urban agriculture in the Global North. *Agriculture and Human Values*, 33(2), 341–358. <https://doi.org/10.1007/s10460-015-9610-2>
- Orjuela-Castro, J. A., Orejuela-Cabrera, J. P., & Adarme-Jaimes, W. (2021). Logistics network configuration for seasonal perishable food supply chains. *Journal of Industrial Engineering and Management*, 14(2), 135–151. <https://doi.org/10.3926/jiem.3161>
- Paganini, N., Farr, V., & Weigelt, J. (2024). Pathways to transform urban food systems: feminist action research from Cape Town and Nairobi. *Frontiers in Sustainable Food Systems*, 8, 1–15. <https://doi.org/10.3389/fsufs.2024.1470801>
- Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-wilson, E., McDonald, S., ... Prisma, M. (2021). PRISMA 2020 Explanation and Elaboration: Updated Guidance and Exemplars for Reporting Systematic Reviews. *Research Methods and Reporting*, 372(160), 1–36. <https://doi.org/10.1136/bmj.n160>
- Palita, S. K., Panda, D., & Nayak, J. K. (2023). Indigenous communities and biodiversity conservation: an indian perspective. *Science and Culture*, 89, 9–10. <https://doi.org/10.36094/sc.v89.2023>
- Palmeira, P. D. A., Mattos, R. A. de, & Salles-Costa, R. (2020). Food security governance promoted by national government at the local level: a case study in Brazil. *Food Security*, 12, 591–606. <https://doi.org/10.1007/s12571-019-01000-2>
- Pelawi, J. T., Ismansyah, Lubis, M. Y., & Marlina. (2025). Restoring Rights: Addressing Land Disputes and Legal Frameworks in Indonesia'S Plantation Sector. *International Journal of Conservation Science*, 16(1), 357–370. <https://doi.org/10.36868/IJCS.2025.01.25>
- Pérez-Escamilla, R., Gubert, M. B., Rogers, B., & Hromi-Fiedler, A. (2017). Food security measurement and governance: Assessment of the usefulness of diverse food insecurity indicators for policy makers. *Global Food Security*, 14, 96–104. <https://doi.org/10.1016/j.gfs.2017.06.003>
- Perdana, T., Chaerani, D., Hermiatin, F. R., Achmad, A. L. H., & Fridayana, A. (2022). Does an Alternative Local Food Network Contribute to Improving Sustainable Food Security? *Sustainability (Switzerland)*, 14(11533), 1–17. <https://doi.org/10.3390/su141811533>
- Pérez-Neira, D., & Grollmus-Venegas, A. (2018). Life-cycle energy assessment and carbon footprint of peri-urban horticulture. A comparative case study of local food systems in Spain. *Landscape and Urban Planning*, 172, 60–68. <https://doi.org/10.1016/j.landurbplan.2018.01.001>
- Persulesy, C. B., Kusdiyantini, E., Ferniah, R. S., Agustini, T. W., & Budiharjo, A. (2020). Ina sua: The traditional Food Fermentation from Teon Nila Serua, Central of Maluku, Indonesia. *Journal of Ethnic Foods*, 7(1), 1–7. <https://doi.org/10.1186/s42779-020-00055-3>
- Péra, T. G., Rocha, F. V. d., & Caixeta Filho, J. V. (2023). Tracking Food Supply Chain Postharvest Losses on a Global Scale: The Development of the Postharvest Loss Information System. *Agriculture*, 13(10), 1–14. <https://doi.org/10.3390/agriculture13101990>
- Plana, F., Pérez, J., & Abeliuk, A. (2023). Modularity of food-sharing networks minimises the risk for individual and group starvation in hunter-gatherer societies. *PLoS ONE*, 18(5), 1–31. <https://doi.org/10.1371/journal.pone.0272733>
- Poirier, B., & Neufeld, H. T. (2023). “We Need to Live off the Land”: An Exploration and Conceptualization of Community-Based Indigenous Food Sovereignty Experiences and Practices. *International Journal of Environmental Research and Public Health*, 20(5), 1–17. <https://doi.org/10.3390/ijerph20054627>
- Poirier, B., Soares, G., Neufeld, H. T., Hedges, J., Sethi, S., & Jamieson, L. (2024). Conceptualising the relationships between food sovereignty, food security and oral health among global Indigenous

- Communities: A scoping review. *Public Health Nutrition*, 27(1), 1-11. <https://doi.org/10.1017/S1368980024001198>
- Powell, W., Sultanbawa, Y., Thomson, M., Sivakumar, D., Dipu, M. A., Williams, L., Turner-Morris, C., Sigley, G., & He, S. (2024). Blockchain-Enabled Provenance and Supply Chain Governance for Indigenous Foods and Botanicals: A Design Approach Study. *Sustainability (Switzerland)*, 16(7084), 1-23. <https://doi.org/10.3390/su16167084>
- Prastyanti, S., Wulandari, R., & Iman Sulaiman, A. (2024). Estrategia de comunicación participativa para el desarrollo de un programa de agricultura urbana en Yogyakarta, Indonesia. *Palabra Clave*, 27(4), 1-34. <https://doi.org/10.5294/pacla.2024.27.4.11>
- Pribadi, N. H., Saddhono, K., & Suhita, R. (2021). The power of local foods in the Kebo-Keboan traditional ceremony of Alasmalang, Banyuwangi, Indonesia: a philosophical study and cultural promotion. *Food Research*, 5(6), 72-79. [https://doi.org/10.26656/fr.2017.5\(6\).757](https://doi.org/10.26656/fr.2017.5(6).757)
- Purnamasari, M., Huang, W. C., & Priyanto, B. (2023). The Impact of Government Food Policy on Farm Efficiency of Beneficiary Small-Scale Farmers in Indonesia. *Agriculture (Switzerland)*, 13(6), 1-14. <https://doi.org/10.3390/agriculture13061257>
- Rafiqi, I. D. (2025). Recognition of Indigenous Peoples Values in Indonesia for Policy Addressing Climate Change. *Journal of Law and Legal Reform*, 6(1), 1-40. <https://doi.org/10.15294/jllr.v6i1.11746>
- Rahayu, Y. Y. S., Sujarwo, W., Irsyam, A. S. D., Dwiartama, A., & Rosleine, D. (2024). Exploring unconventional food plants used by local communities in a rural area of West Java, Indonesia: ethnobotanical assessment, use trends, and potential for improved nutrition. *Journal of Ethnobiology and Ethnomedicine*, 20(1), 1-23. <https://doi.org/10.1186/s13002-024-00710-y>
- Rahman, M. S., Toiba, H., & Huang, W. C. (2021). The impact of climate change adaptation strategies. *Sustainability (Switzerland)*, 13(7905), 1-16.
- Rao, P., & Rathod, V. (2019). Valorization of Food and Agricultural Waste: A Step towards Greener Future. *Chemical Record*, 19(9), 1858-1871. <https://doi.org/10.1002/tcr.201800094>
- Rapinski, M., Raymond, R., Davy, D., Herrmann, T., Bedell, J. P., Ka, A., Odonne, G., Chanteloup, L., Lopez, P. J., Foulquier, É., da Silva, E. F., El Deghel, N., Boëtsch, G., Coxam, V., Joliet, F., Guihard-Costa, A. M., Tibère, L., Nazare, J. A., & Duboz, P. (2023). Local Food Systems under Global Influence: The Case of Food, Health and Environment in Five Socio-Ecosystems. *Sustainability (Switzerland)*, 15(3), 1-22. <https://doi.org/10.3390/su15032376>
- Rendón-Sandoval, F. J., Casas, A., Moreno-Calles, A. I., Torres-García, I., & García-Frapolli, E. (2020). Traditional agroforestry systems and conservation of native plant diversity of seasonally dry tropical forests. *Sustainability (Switzerland)*, 12(4600), 1-27. <https://doi.org/10.3390/su12114600>
- Rethlefsen, M. L., Kirtley, S., Waffenschmidt, S., Ayala, A. P., Moher, D., Page, M. J., Koffel, J. B., & Group, P. (2021). PRISMA-S: an extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews. *Systematic Reviews*, 10(39), 1-19. <https://doi.org/10.1186/s13643-020-01542-z>
- Reuter, T. (2019). Understanding Food System Resilience in Bali, Indonesia: A Moral Economy Approach. *Culture, Agriculture, Food and Environment*, 41(1), 4-14. <https://doi.org/10.1111/cuag.12135>
- Riady, I., Sirojuzilam, Purwoko, A., Lubis, S. N., & Charloq. (2024). Development Model of Sustainable Agrotourism-Based Village Tourism for Improving Community Welfare in Tapanuli Utara Regency, Indonesia. *Journal of Ecohumanism*, 3(7), 1309-1324. <https://doi.org/10.62754/joe.v3i7.4291>
- Rijanta, R. (2020). The prospects & challenges of local foods production in rural Java, Indonesia: The case of kulonprogo regency. *Human Geographies*, 14(2), 321-335. <https://doi.org/10.5719/hgeo.2019.141.9>
- Robinson, D. (2021). Rural food and wine tourism in Canada's south okanagan valley: Transformations for food sovereignty? *Sustainability (Switzerland)*, 13(4), 1-19. <https://doi.org/10.3390/su13041808>
- Robitaille, É., Paquette, M. C., Durette, G., Bergeron, A., Dubé, M., Doyon, M., Mercille, G., Lemire, M., & Lo, E. (2022). Implementing a Rural Natural Experiment: A Protocol for Evaluating the Impacts of Food Coops on Food Consumption, Resident's Health and Community Vitality. *Methods and Protocols*, 5(2), 1-16. <https://doi.org/10.3390/mps5020033>
- Rochmawan, H., Sulaiman, A.I., Putri, D.D., Rosyadi, S., Dharmawan, B., Haryanto, T.A. D., (2025). Community Empowerment Based On Local Wisdom In Agritourism Development: A Bibliometric Analysis Of Research From 2015 To 2025. *Scientific Culture*. 11(3), 341-368. <https://sci-cult.com/volume-view/page/3/?id=7>
- Rojas-Reyes, J. J., Rivera-Cadavid, L., & Peña-Orozco, D. L. (2024). Disruptions in the food supply chain: A

- literature review. *Heliyon*, 10(14), 1–21. <https://doi.org/10.1016/j.heliyon.2024.e34730>
- Rondhi, M., Pratiwi, P. A., Handini, V. T., Sunartomo, A. F., & Budiman, S. A. (2018). Agricultural land conversion, land economic value, and sustainable agriculture: A case study in East Java, Indonesia. *Land*, 7(4), 1–19. <https://doi.org/10.3390/land7040148>
- Rossi, A., Coscarello, M., & Biolghini, D. (2021). ( Re ) Commoning Food and Food Systems . The Contribution of Social Innovation from Solidarity Economy. *Agriculture*, 11(548), 1–30. <https://doi.org/10.3390/agriculture11060548>
- Rossi, J., & Woods, T. (2024). Placing community supported agriculture in local food systems. *International Journal of Agricultural Sustainability*, 22(1), 1–19. <https://doi.org/10.1080/14735903.2024.2318936>
- Roswaldy, P. “Pepe.” (2025). Mending the Broken Clock: Gender and Socioecological Changes in Postconflict North Sumatra. *Journal of Agrarian Change*, 0(e70017), 1–13. <https://doi.org/10.1111/joac.70017>
- Rowe, S., Brady, C., Sarang, R., Wiipongwii, T., Leu, M., Jennings, L., Peterson, T., Boston, J., Roach, B., Phillips, J., & Conrad, Z. (2024). Improving Indigenous Food Sovereignty through sustainable food production: a narrative review. *Frontiers in Sustainable Food Systems*, 8, 1–18. <https://doi.org/10.3389/fsufs.2024.1341146>
- Rozaki, Z. (2020). COVID-19, Agriculture, and Food Security in Indonesia. *Reviews in Agricultural Science*, 8, 243–260. [https://doi.org/10.7831/ras.8.0\\_243](https://doi.org/10.7831/ras.8.0_243)
- Rozi, F., Santoso, A. B., Mahendri, I. G. A. P., Hutapea, R. T. P., Wamaer, D., Siagian, V., Elisabeth, D. A. A., Sugiono, S., Handoko, H., Subagio, H., & Syam, A. (2023). Indonesian market demand patterns for food commodity sources of carbohydrates in facing the global food crisis. *Heliyon*, 9(6), e16809. <https://doi.org/10.1016/j.heliyon.2023.e16809>
- Rudiatin, E., Murod, M., Siswanto, H. A., & Putri, D. I. (2023). an Important Maritime and River Transportation Network To Sustain the Supply Chain in Indonesia’S Border. *Journal of Southeast Asian Studies*, 28(2), 38–59. <https://doi.org/10.22452/jati.vol28no2.3>
- Sacca, L., Garba, N. A., Clarke, R. D., Maroun, V., & Brown, D. R. (2023). Using Community-Based Implementation Frameworks and Strategies to Address Food Insecurity During the COVID-19 Pandemic: A Scoping Review. *Journal of Hunger & Environmental Nutrition*, 18(3), 396–414. <https://doi.org/10.1080/19320248.2022.2136024>
- Sadler, R. C., Gillil, J. A., & Arku, G. (2013). A Food retail-based intervention on food security and consumption. *International Journal of Environmental Research and Public Health*, 10(8), 3325–3346. <https://doi.org/10.3390/ijerph10083325>
- Saediman, H., Gafaruddin, A., Hidrawati, H., Salam, I., Ulimaz, A., Sarimustaqiyma Rianse, I., Sarinah, S., & Adha Taridala, S. A. (2021). The contribution of home food gardening program to household food security in indonesia: A review. *WSEAS Transactions on Environment and Development*, 17(i), 795–809. <https://doi.org/10.37394/232015.2021.17.75>
- Sakapaji, S. C., García Molinos, J., Parilova, V., Gavrilyeva, T., & Yakovleva, N. (2024). Navigating Legal and Regulatory Frameworks to Achieve the Resilience and Sustainability of Indigenous Socioecological Systems. *Resources*, 13(56), 1–24. <https://doi.org/10.3390/resources13040056>
- Sarangi, P. K., Pal, P., Singh, A. K., Sahoo, U. K., & Prus, P. (2024). Food Waste to Food Security: Transition from Bioresources to Sustainability. *Resources*, 13(12), 1–24. <https://doi.org/10.3390/resources13120164>
- Sari, Y. I., & Rahman, E. (2021). Roads for Communities, Not Commodities: A Qualitative Study of the Consequences of Road Development in Papua, Indonesia. *Human Ecology Review*, 27(1), 139–161. <https://doi.org/10.22459/HER.27.01.2021.08>
- Saryatmo, M. A., & Sukhotu, V. (2021). The influence of the digital supply chain on operational performance: a study of the food and beverage industry in Indonesia. *Sustainability (Switzerland)*, 13(5109), 1–18. <https://doi.org/10.3390/su13095109>
- Schanbacher, W. D., & Cavendish, J. C. (2023). The effects of COVID-19 on Central Florida’s community gardens: lessons for promoting food security and overall community wellbeing. *Frontiers in Public Health*, 11, 1–10. <https://doi.org/10.3389/fpubh.2023.1147967>
- Schipanski, M. E., MacDonald, G. K., Rosenzweig, S., Chappell, M. J., Bennett, E. M., Kerr, R. B., Blesh, J., Crews, T., Drinkwater, L., Lundgren, J. G., & Schnarr, C. (2016). Realizing resilient food systems. *BioScience*, 66(7), 600–610. <https://doi.org/10.1093/biosci/biw052>
- Selfa, T., & Qazi, J. (2005). Place, taste, or face-to-face? Understanding producer-consumer networks in “local” food systems in Washington State. *Agriculture and Human Values*, 22(4), 451–464.

- <https://doi.org/10.1007/s10460-005-3401-0>
- Septhia, N. D., Izdihar, N. S., Destiani, N. F. L., Rindiani, N., Izdihar, R. S., & Setyawan, A. D. (2024). Ethnobiological study of tumpang, traditional food in Surakarta City, Central Java, Indonesia. *Asian Journal of Ethnobiology*, 7(1), 61–67. <https://doi.org/10.13057/asianjethnobiol/y070107>
- Shalihah, S., Sugandi, D., & Somantri, L. (2021). Adaptation of indigenous communities in kampung ciroundeu to the environment in maintaining local wisdom. *IOP Conference Series: Earth and Environmental Science*, 683(1), 1–5. <https://doi.org/https://doi.org/10.1088/1755-1315/683/1/012128>
- Sharma, V. (2024). Empowering local food security: A systematic review of community grain banks. *Journal of Agriculture, Food Systems, and Community Development*, 14(1), 1–23. <https://doi.org/10.5304/jafscd.2024.141.006>
- Shemshad, M., Synowiec, A., Kopyra, M., & Benedek, Z. (2025). The Community-Driven Ecosystem Resilience and Equity Framework: A Novel Approach for Social Resilience in Ecosystem Services. *Sustainability (Switzerland)*, 17(3452), 1–30. <https://doi.org/10.3390/su17083452>
- Shikuku, K. M., Winowiecki, L., Twyman, J., Eitzinger, A., Perez, J. G., Mwongera, C., & Läderach, P. (2017). Smallholder farmers' attitudes and determinants of adaptation to climate risks in East Africa. *Climate Risk Management*, 16, 234–245. <https://doi.org/10.1016/j.crm.2017.03.001>
- Siegner, A., Sowerwine, J., & Acey, C. (2018). Does urban agriculture improve food security? Examining the nexus of food access and distribution of urban produced foods in the United States: A systematic review. *Sustainability (Switzerland)*, 10(9), 8–12. <https://doi.org/10.3390/su10092988>
- Simelane, K. S., & Worth, S. (2020). Food and Nutrition Security Theory. *Food and Nutrition Bulletin*, 41(3), 367–379. <https://doi.org/10.1177/0379572120925341>
- Singh, D. R., Sunuwar, D. R., Shah, S. K., Sah, L. K., Karki, K., & Sah, R. K. (2021). Food insecurity during COVID-19 pandemic: A genuine concern for people from disadvantaged community and low-income families in Province 2 of Nepal. *PLoS ONE*, 16, 1–20. <https://doi.org/10.1371/journal.pone.0254954>
- Skhephu, A., Mayekiso, A., & Toko, A. (2025). Key Drivers of Household Food Security and Consumption Patterns in the Post-Covid-19 Pandemic: Lessons From Umzimvubu and Ntabankulu Local Municipalities, Eastern Cape Province, South Africa. *African Journal of Food, Agriculture, Nutrition and Development*, 25(2), 26004–26020. <https://doi.org/10.18697/ajfand.139.25390>
- Smith, K., Lawrence, G., MacMahon, A., Muller, J., & Brady, M. (2016). The resilience of long and short food chains: a case study of flooding in Queensland, Australia. *Agriculture and Human Values*, 33(1), 45–60. <https://doi.org/10.1007/s10460-015-9603-1>
- Snyder, H. (2019). Literature review as a research methodology : An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/https://doi.org/10.1016/j.jbusres.2019.07.039>
- Sõukand, R., Pieroni, A., Biró, M., Dénes, A., Dogan, Y., Hajdari, A., Kalle, R., Reade, B., Mustafa, B., Nedelcheva, A., Quave, C. L., & Łuczaj, Ł. (2015). An ethnobotanical perspective on traditional fermented plant foods and beverages in Eastern Europe. *Journal of Ethnopharmacology*, 170(1), 284–296. <https://doi.org/10.1016/j.jep.2015.05.018>
- Stanton, A. V. (2024). Plant-based diets—impacts of consumption of little or no animal-source foods on human health. *Frontiers in Nutrition*, 11, 1–12. <https://doi.org/10.3389/fnut.2024.1423925>
- Steckley, M. (2025). Community-based food sovereignty assessments (FSAs): A review. *Food Security*, 17(1), 257–273. <https://doi.org/10.1007/s12571-024-01500-w>
- Steenkamp, J., Cilliers, E. J., Cilliers, S. S., & Lategan, L. (2021). Food for thought: Addressing urban food security risks through urban agriculture. *Sustainability (Switzerland)*, 13(3), 1–29. <https://doi.org/10.3390/su13031267>
- Stenmark, S. H., Steiner, J. F., Marpadga, S., Debor, M., Underhill, K., & Seligman, H. (2018). Lessons Learned from Implementation of the Food Insecurity Screening and Referral Program at Kaiser Permanente Colorado. *The Permanente Journal*, 22, 18–093. <https://doi.org/10.7812/TPP/18-093>
- Stluka, S., Moore, L., Eicher-miller, H. A., Franzen-castle, L., Henne, B., Mehrle, D., Remley, D., & McCormack, L. (2018). Voices for food: methodologies for implementing a multi-state community-based intervention in rural, high poverty communities. *BMC Public Health*, 18(1055), 1–8. <https://doi.org/10.1186/s12889-018-5957-9>
- Stone, J., & Rahimifard, S. (2018). Resilience in agri-food supply chains: a critical analysis of the literature and synthesis of a novel framework. *Supply Chain Management*, 23(3), 207–238. <https://doi.org/10.1108/SCM-06-2017-0201>

- Sudomo, A., Leksono, B., Tata, H. L., Rahayu, A. A. D., Umroni, A., Rianawati, H., Asmaliyah, Krisnawati, Setyayudi, A., Utomo, M. M. B., Pieter, L. A. G., Wresta, A., Indrajaya, Y., Rahman, S. A., & Baral, H. (2023). Can Agroforestry Contribute to Food and Livelihood Security for Indonesia's Smallholders in the Climate Change Era? *Agriculture (Switzerland)*, 13(1896), 1-25. <https://doi.org/10.3390/agriculture13101896>
- Sujarwo, W., Rahayu, Y. Y. S., Sukenti, K., Lugrayasa, N., Prihardhyanto Keim, A., & Zuccarello, V. (2025). Bio-cultural habits of plant consumption in the food system of traditional Sasak's villages (Indonesia). *Ethnobotany Research and Applications*, 30, 1-15. <https://doi.org/10.32859/era.30.22.1-15>
- Sukayat, Y., Setiawan, I., Suharpaputra, U., & Kurnia, G. (2023). Determining Factors for Farmers to Engage in Sustainable Agricultural Practices: A Case from Indonesia. *Sustainability (Switzerland)*, 15(13), 1-14. <https://doi.org/https://doi.org/10.3390/su151310548>
- Sukenti, K., Hakim, L., Indriyani, S., Purwanto, Y., & Matthews, P. J. (2016). Ethnobotanical study on local cuisine of the Sasak tribe in Lombok Island, Indonesia. *Journal of Ethnic Foods*, 3(3), 189-200. <https://doi.org/10.1016/j.jef.2016.08.002>
- Sulaiman, A.I., Prastyanti, S., Adi, T.N., Chusmeru, Novianti, W., Windiasih, R., Weningsih, S. (2023). Stakeholder communication and its impact on participatory development planning in rural areas. *International Journal of Sustainable Development and Planning*, 18(8), 2513-2521. <https://doi.org/10.18280/ijstdp.180822>
- Sulaiman, A. I., Rosyadi, S., Handoko, W., Masrukin, M., Putri, D. D., Wijayanti, I. K. E., & Faozanudin, M. (2024). The Importance of Participatory Communication in Development Planning Deliberations for Agritourism Village Enhancement. *Journal of Intercultural Communication*, 24(1), 144-160. <https://doi.org/10.36923/jicc.v24i1.246>
- Sumarwati, S. (2022). Traditional ecological knowledge on the slope of Mount Lawu, Indonesia: all about non-rice food security. *Journal of Ethnic Foods*, 9(1). <https://doi.org/10.1186/s42779-022-00120-z>
- Suminar, P. (2023). Will Indigenous Ecological Knowledge Vanish? Assessing Persistence of the Celako kemali in Farming Practices among the Serawainese in Bengkulu, Indonesia. *Forest and Society*, 7(1), 5-25. <https://doi.org/10.24259/fs.v7i1.22033>
- Suri, S. K. (2025). Reaching last mile consumers: how mobile traders facilitate stable access to nutritious foods. *Frontiers in Sustainable Food Systems*, 9(3), 1-11. <https://doi.org/10.3389/fsufs.2025.1484300>
- Susanti, W. I., Cholidah, S. N., & Agus, F. (2024). Agroecological Nutrient Management Strategy for Attaining Sustainable Rice Self-Sufficiency in Indonesia. *Sustainability*, 16(845), 1-29. <https://doi.org/https://doi.org/10.3390/su16020845>
- Sutardi, Apriyana, Y., Rejekiningrum, P., Alifia, A. D., Ramadhani, F., Darwis, V., Setyowati, N., Setyono, D. E. D., Gunawan, Malik, A., Abdullah, S., Muslimin, Wibawa, W., Triastono, J., Yusuf, Arianti, F. D., & Fadwiwati, A. Y. (2023). The Transformation of Rice Crop Technology in Indonesia: Innovation and Sustainable Food Security. *Agronomy*, 13(1), 1-14. <https://doi.org/https://doi.org/10.3390/agronomy13010001>
- Sutherland, I. J., Van Vianen, J., Rowland, D., Palomo, I., Pascual, U., Mathys, A., Narulita, S., & Sunderland, T. (2023). Use, value, and desire: ecosystem services under agricultural intensification in a changing landscape in West Kalimantan (Indonesia). *Regional Environmental Change*, 23(148), 1-16. <https://doi.org/10.1007/s10113-023-02134-y>
- Sutrisno, J., Marwanti, S., Putri, H. A., Ulfa, A. N., & Nurhidayati, I. (2024). Motivational Evaluation of Food Security Programs in Central Java, Indonesia. *Agricultural and Resource Economics: International Scientific E-Journal*, 10(2), 116-142. <https://doi.org/10.51599/are.2024.10.02.05>
- Suwardi, A. B., Navia, Z. I., Harmawan, T., Syamsuardi, & Mukhtar, E. (2020). Ethnobotany and conservation of indigenous edible fruit plants in south Aceh, Indonesia. *Biodiversitas*, 21(5), 1850-1860. <https://doi.org/10.13057/biodiv/d210511>
- Suwarno, Nirwansyah, A. W., Sutomo, Demirdag, I., Sarjanti, E., & Bramasta, D. (2022). The Existence of Indigenous Knowledge and Local Landslide Mitigation: A Case Study of Banyumas People in Gununglurah Village, Central Java, Indonesia. *Sustainability (Switzerland)*, 14, 1-15. <https://doi.org/10.3390/su141912765>
- Swaningrum, A., de Snoo, G. R., Persoon, G. A., & Musters, C. J. M. (2025). Understanding the Utilization of Indigenous Institutions: The Case of Wonosobo, Central Java, Indonesia. *Sustainability (Switzerland)*, 17(1392), 1-17. <https://doi.org/10.3390/su17041392>

- Swiderska, K., Argumedo, A., Wekesa, C., Ndalilo, L., Song, Y., Rastogi, A., & Ryan, P. (2022). Indigenous Peoples' Food Systems and Biocultural Heritage: Addressing Indigenous Priorities Using Decolonial and Interdisciplinary Research Approaches. *Sustainability (Switzerland)*, 14, 1–23. <https://doi.org/10.3390/su141811311>
- Syaban, A. S. N., & Appiah-Opoku, S. (2024). Unveiling the Complexities of Land Use Transition in Indonesia's New Capital City IKN Nusantara: A Multidimensional Conflict Analysis. *Land*, 13(606), 1–36. <https://doi.org/10.3390/land13050606>
- Taslim, N. A., Handayani, N. D., Arruan, W., Aminuddin, Bukhari, A., Faradillah, A., & Syaui, A. Y. (2023). Dietary Patterns and Ultra-Processed Foods Consumption in Modern and Traditional Populations in South Sulawesi: An Analysis of Nutritional Status and Body Composition. *Nutricion Clinica y Dietetica Hospitalaria*, 43(1), 90–98. <https://doi.org/10.12873/431handayani>
- Tay, M. J., Ng, T. H., & Lim, Y. S. (2024). Fostering sustainable agriculture: An exploration of localised food systems through community supported agriculture. *Environmental and Sustainability Indicators*, 22, 1–9. <https://doi.org/10.1016/j.indic.2024.100385>
- Thomas, E. L., Livingstone, D., Nugent, A. P., Woodside, J. V., & Brereton, P. (2024). Food-based indices for the assessment of nutritive value and environmental impact of meals and diets: A systematic review protocol. *PLoS ONE*, 19(12), 1–10. <https://doi.org/10.1371/journal.pone.0315894>
- Thornton, P. K., Kristjanson, P., Förch, W., Barahona, C., Cramer, L., & Pradhan, S. (2018). Is agricultural adaptation to global change in lower-income countries on track to meet the future food production challenge? *Global Environmental Change*, 52, 37–48. <https://doi.org/10.1016/j.gloenvcha.2018.06.003>
- Tirado, M. C., Vivero-Pol, J. L., Bezner Kerr, R., & Krishnamurthy, K. (2022). Feasibility and Effectiveness Assessment of Multi-Sectoral Climate Change Adaptation for Food Security and Nutrition. *Current Climate Change Reports*, 8(2), 35–52. <https://doi.org/10.1007/s40641-022-00181-x>
- Todorovic, V., Maslaric, M., Bojic, S., Jokic, M., Mircetic, D., & Nikolicic, S. (2018). Solutions for more sustainable distribution in the short food supply chains. *Sustainability (Switzerland)*, 10(3481), 1–27. <https://doi.org/10.3390/su10103481>
- Tohit, N. F. M., Ya, R. M., & Haque, M. (2025). Unveiling the Impacts of Food Security on Community Health: A Scoping Review. *Bangladesh Journal of Medical Science*, 24(2), 307–330. <https://doi.org/10.3329/bjms.v24i2.81524>
- Torres-Vitolas, C. A., Harvey, C. A., Cruz-Garcia, G. S., Vanegas-Cubillos, M., & Schreckenber, K. (2019). The Socio-Ecological Dynamics of Food Insecurity among Subsistence-Oriented Indigenous Communities in Amazonia: a Qualitative Examination of Coping Strategies among Riverine Communities along the Caquetá River, Colombia. *Human Ecology*, 47(3), 355–368. <https://doi.org/10.1007/s10745-019-0074-7>
- Toumbourou, T. D., & Dressler, W. H. (2024). The Politics of Misalignment: NGO Livelihood Interventions and Exclusionary Land Claims in an Indonesian Oil Palm Enclave. *Critical Asian Studies*, 56(1), 89–114. <https://doi.org/10.1080/14672715.2023.2272736>
- Trisia, M. A., Mashashi, T., & Ehara, H. (2021). The Role of the Sago Supply Chain for Rural Development in Indonesia. *Reviews in Agricultural Science*, 9, 143–156. [https://doi.org/10.7831/ras.9.0\\_143](https://doi.org/10.7831/ras.9.0_143)
- Turcu, C., & Rotolo, M. (2022). Disrupting from the ground up: community-led and place-based food governance in London during COVID-19. *Urban Governance*, 2(1), 178–187. <https://doi.org/10.1016/j.ugj.2022.04.006>
- Ušča, M., & Tisenkopfs, T. (2023). The resilience of short food supply chains during the COVID-19 pandemic: a case study of a direct purchasing network. *Frontiers in Sustainable Food Systems*, 7(1146446), 1–13. <https://doi.org/10.3389/fsufs.2023.1146446>
- Utama, D. R., Hamsal, M., Abdinagoro, S. B., & Rahim, R. K. (2024). Developing a digital transformation maturity model for port assessment in archipelago countries: The Indonesian case. *Transportation Research Interdisciplinary Perspectives*, 26, 1–17. <https://doi.org/10.1016/j.trip.2024.101146>
- Utami, L. A., Lechner, A. M., Permanasari, E., Purwandaru, P., & Ardianto, D. T. (2022). Participatory Learning and Co-Design for Sustainable Rural Living , Supporting the Revival of Indigenous Values and Community Resiliency in Sabrang Village , Indonesia. *Land*, 11(1597), 1–23. <https://doi.org/10.3390/land11091597>
- Utomo, S. L. (2023). An examination of indigenous community-based strategies for sustaining food autonomy: Indonesia's case. *Journal of Southwest Jiaotong University*, 58(1), 573–585. <https://doi.org/10.35741/issn.0258-2724.58.1.45>

- Vaezghasemi, M., Öhman, A., Ng, N., Hakimi, M., & Eriksson, M. (2020). Concerned and Conscious, but Defenseless: The intersection of gender and generation in child malnutrition in Indonesia: a qualitative grounded theory study. *Global Health Action*, 13, 1–12. <https://doi.org/10.1080/16549716.2020.1744214>
- van den Akker, A., Fabbri, A., Slater, S., Gilmore, A. B., Knai, C., & Rutter, H. (2024). Mapping actor networks in global multi-stakeholder initiatives for food system transformation. *Food Security*, 16(5), 1223–1234. <https://doi.org/10.1007/s12571-024-01476-7>
- van Paassen, A., Osei-Amponsah, C., Klerkx, L., van Mierlo, B., & Essegbey, G. O. (2022). Partnerships Blending Institutional Logics for Inclusive Global and Regional Food Value Chains in Ghana; with What Smallholder Effect? *European Journal of Development Research*, 34(5), 2179–2203. <https://doi.org/10.1057/s41287-022-00530-4>
- Varzakas, T., & Smaoui, S. (2024). Global Food Security and Sustainability Issues: The Road to 2030 from Nutrition and Sustainable Healthy Diets to Food Systems Change. *Foods*, 13(306), 1–29. <https://doi.org/https://doi.org/10.3390/foods13020306>
- Verfuerth, C., Sanderson Bellamy, A., Adlerova, B., & Dutton, A. (2023). Building relationships back into the food system: addressing food insecurity and food well-being. *Frontiers in Sustainable Food Systems*, 7, 1–17. <https://doi.org/10.3389/fsufs.2023.1218299>
- Wahyudi, Djitmau, D. A., Dwiranti, F., Sagrim, M., & Manuhua, D. (2024). Roles of local food and knowledge of indigenous communities during pandemic COVID-19 at three districts across West Papua Province, Indonesia. *Asian Journal of Ethnobiology*, 7(1), 1–12. <https://doi.org/10.13057/asianjethnobiol/y070101>
- Watabe, A., & Takano, M. (2025). Cultivating Collaborative Food Futures: Analyzing How Local Actions Address Interconnected Food Challenges. *Sustainability*, 17(3807), 1–33. <https://doi.org/doi.org/10.3390/su17093807>
- Wehi, P. M., Cox, M. P., Whaanga, H., & Roa, T. (2023). Tradition and change: celebrating food systems resilience at two Indigenous Māori community events. *Ecology and Society*, 28(1), 1–19. <https://doi.org/10.5751/ES-13786-280119>
- Wickramasuriya, S. S., Park, I., Lee, K., Lee, Y., Kim, W. H., Nam, H., & Lillehoj, H. S. (2022). Role of Physiology, Immunity, Microbiota, and Infectious Diseases in the Gut Health of Poultry. *Vaccines*, 10(2), 1–30. <https://doi.org/10.3390/vaccines10020172>
- Widianarko, B., Hantoro, I., Putri, N. I., & Nugrahedi, P. Y. (2025). Transforming food systems in Semarang City, Indonesia: A short food supply chain model. *Open Agriculture*, 10(1), 1–12. <https://doi.org/10.1515/opag-2025-0440>
- Widiono, S., Wahyuni, E. S., Kolopaking, L. M., & Satria, A. (2024). Livelihood vulnerability of indigenous people to climate change around the Kerinci Seblat National Park in Bengkulu, Indonesia. *Regional Sustainability*, 5(100181), 1–18. <https://doi.org/10.1016/j.regSus.2024.100181>
- Wijaya, F. A., & Sanubari, T. P. E. (2024). Negotiating “Local” Food: Eastern Part Indonesia Narratives and Perspectives. *Society*, 12(2), 883–893. <https://doi.org/10.33019/society.v12i2.751>
- Xu, Z., Elomri, A., El Omri, A., Kerbache, L., & Liu, H. (2021). The compounded effects of COVID-19 pandemic and desert locust outbreak on food security and food supply chain. *Sustainability (Switzerland)*, 13(3), 1–17. <https://doi.org/10.3390/su13031063>
- Yagaso, Z. S., Bayu, T. Y., & Bedane, M. D. (2024). Assessing the current status of food security under climate variability and the role of household-level adaptation strategies near Ghibe III hydroelectric dam, Ethiopia. *Discover Food*, 4(1), 1–15. <https://doi.org/10.1007/s44187-024-00153-0>
- Yani, A., Hati, E. P., & Hardianti. (2025). Urban Agriculture for Sustainable Food Systems: A Narrative Review of Indonesian Practices and Potentials. *Journal of FoodSecure Indonesia*, 1(1), 34–49. <https://doi.org/10.61978/foodsecure.v1i1.624>
- Yii, V., Palermo, C., & Kleve, S. (2020). Population-based interventions addressing food insecurity in Australia: A systematic scoping review. *Nutrition and Dietetics*, 77(1), 6–18. <https://doi.org/10.1111/1747-0080.12580>
- Young, L., Shukla, S., & Wilson, T. (2024). Indigenous values and perspectives for strengthening food security and sovereignty: learning from a community-based case study of Misko-ziibing (Bloodvein River First Nation), Manitoba, Canada. *Frontiers in Sustainable Food Systems*, 8(May). <https://doi.org/10.3389/fsufs.2024.1321231>
- Yuda, F.Z.A., (2025). System Integration and IT Readiness as Drivers of Logistics Performance in Emerging E-

- Commerce Markets. *Sinergi International Journal of Logistics*, 3(3), 145-156. <https://doi.org/10.61194/sijl.v3i3.886>
- Yudono, H., Hadi, S., Indrawati, D. R., Wahyuningrum, N., Adi, R. N., Supangat, A. B., Indrajaya, Y., Putra, P. B., Cahyono, S. A., Nugroho, A. W., Basuki, T. M., Savitri, E., Yuwati, T. W., Narendra, B. H., Sallata, M. K., Allo, M. K., & Bisjoe, A. R. (2022). Toward Water, Energy, and Food Security in Rural Indonesia: A Review. *Water (Switzerland)*, 14(1645), 1-25. <https://doi.org/10.3390/w14101645>
- Yusriadi, Y. (2025). Sustaining food security through social capital in agroforestry: a qualitative study from North Luwu, Indonesia. *Frontiers in Sustainable Food Systems*, 9(1580017), 1-11. <https://doi.org/https://doi.org/10.3389/fsufs.2025.1580017>
- Yusriadi, Y., & Cahaya, A. (2022). Food security systems in rural communities: A qualitative study. *Frontiers in Sustainable Food Systems*, 6, 1-14. <https://doi.org/10.3389/fsufs.2022.987853>
- Zasada, I., Schmutz, U., Wascher, D., Kneafsey, M., Corsi, S., Mazzocchi, C., Monaco, F., Boyce, P., Doernberg, A., Sali, G., & Piorr, A. (2019). Food beyond the city - Analysing foodsheds and self-sufficiency for different food system scenarios in European metropolitan regions. *City, Culture and Society*, 16, 25-35. <https://doi.org/10.1016/j.ccs.2017.06.002>
- Zerbian, T., Adams, M., Dooris, M., & Pool, U. (2022). The Role of Local Authorities in Shaping Local Food Systems. *Sustainability (Switzerland)*, 14, 1-16. <https://doi.org/10.3390/su141912004>
- Zhan, Y., & Chen, K. Z. (2021). Building resilient food system amidst COVID-19: Responses and lessons from China. *Agricultural Systems*, 190(103102), 1-7. <https://doi.org/10.1016/j.agsy.2021.103102>
- Zhang, Q. F. (2024). Producers' transition to alternative food practices in rural China: social mobilization and cultural reconstruction in the formation of alternative economies. *Agriculture and Human Values*, 41(2), 615-630. <https://doi.org/10.1007/s10460-023-10509-4>
- Zhao, S., Li, T., & Wang, G. (2023). Agricultural Food System Transformation on China's Food Security. *Foods*, 12(2906), 1-14. <https://doi.org/10.3390/foods12152906>
- Zivhave, M., & Kornienko, K. (2025). Urban Agriculture's 'Invisible' Short Food Value Chain: How Small-scale Farming Contributes to Johannesburg Food Security. *Urban Forum*, 36(1), 91-113. <https://doi.org/10.1007/s12132-024-09521-6>
- Zoll, F., Specht, K., & Siebert, R. (2021). Alternative = transformative? Investigating drivers of transformation in alternative food networks in Germany. *Sociologia Ruralis*, 61(3), 638-659. <https://doi.org/10.1111/soru.12350>
- Zollet, S., Colombo, L., De Meo, P., Marino, D., McGreevy, S. R., McKeon, N., & Tarra, S. (2021). Towards territorially embedded, equitable and resilient food systems? Insights from grassroots responses to covid-19 in italy and the city region of rome. *Sustainability (Switzerland)*, 13(5), 1-25. <https://doi.org/10.3390/su13052425>
- Zulfa, S., Laili, S., Sumaryani, S., Saraswati, G. P. D., Anjaniputra, A. G., Anam, Z., Dawson, V., Astuti, R., & Pangastuti, Y. (2025). Locally grown seeds, natural fertilizer, and pranata mangsa: Women farmers practicing sustainable agriculture while contesting the Green Revolution in Indonesia. *Asian Journal of Women's Studies*, 31(1), 1-25. <https://doi.org/10.1080/12259276.2025.2465003>