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& social justice

Agroecology in Lebanon:

Analyzing the current scene and exploring upscaling potentials.

authors
Angela Saade
Rana Hassan
Yara Ward

editor
Heather Kayed
designer
daydream sal

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HEINRICH BÖLL STIFTUNG
BEIRUT
Middle East

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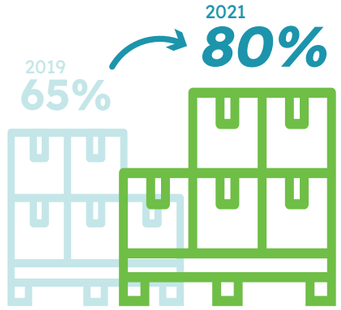
I. Research Objectives and Design

photo by Charlotte Joubert

1.1 Context

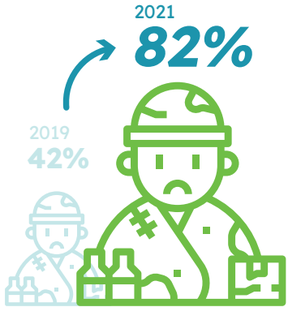
Since 2019, Lebanon has been passing through a tremendous economic crisis which has had strong repercussions on its population.



% of national food supply coming from abroad.

the cost of food increased in one year

396%



poverty rate nearly doubled.[1]

This situation represents a more deeply rooted structural issue in the linkages between local and global food systems. The conventional *(or globalized)* food system model is driven largely by agroindustry who controls both agricultural inputs *(i.e. seeds, pesticides, herbicides)* and end products *(i.e. highly processed goods, distribution of fresh produce*). Unable to compete with large agroindustries' significant global market share and reduced prices, many domestic farmers have become impoverished. Besides the social costs, the environmental consequences of the conventional food system include mass environmental degradation, the depletion of natural resources, and global biodiversity loss.[2] When it comes to consumption, the conventional food system has reduced the costs of foods grown at an industrial scale, a self-reinforcing mechanism that has led to increased consumer demand for cheaper foods. Yet reduced food prices externalize the true costs of food production *(on natural ecosystems and human health)*, a phenomena called the 'cheaper food paradigm.'[3]

1- *ESCWA. ESCWA warns: Three-quarters of Lebanon's residents plunge into poverty. Press Release. 2021.*
2- *Tim Benton et al. Food system impacts on biodiversity loss. Chatham House. 2021.*
3- *Jibal. Exploring alternative food initiatives in Lebanon. 2021. https://www.jibal.org/wp-content/uploads/2021/12/FOOD-INITIATIVES-REPORT.pdf.*

This research is built on the understanding that agroecology– an alternative food system vision– can be a tool to build a more equitable food system. The drive behind agroecological food systems is not based on commodification of food and how to increase productivity but rather how agriculture can more holistically improve rural livelihoods, reduce hunger, while facilitating sustainable development.[4]

photo by Charlotte Joubert

agroecology

a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems. It seeks to optimize the interactions between plants, animals, humans and the environment while also addressing the need for socially equitable food systems within which people can exercise choice over what they eat and how and where it is produced.[5]

According to the United Nations Food and Agriculture Organization (UNFAO)

4- *IAASTD. Towards Multifunctional Agriculture for Social, Environmental and Economic Sustainability. 2008.*
5- *FAO, Agroecology knowledge hub. What is Agroecology?. (accessed November 11, 2022)*

The work of Alexander Wezel identifies agroecology as a concept in three main streams[6]:

- Agroecology as a practice, where farmers are continuously innovating and adapting their practices to the nature and the environment surrounding them, through ecological and resilient approaches to farming.
- Agroecology as a Science, considering a holistic system, including environmental and human aspects.
- Agroecology as a movement, central to the Food Sovereignty movement.

This research is particularly interested in the third stream, which recognizes the concept of agroecology as central to food sovereignty.

food sovereignty

food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems[7].

According to La Via Campesina (a renowned international peasant movement)

Unlike food security, which is a measure of food availability and peoples' ability to access it, the concept of food sovereignty centers power dynamics.

6- *Miguel Altieri et al., "Introduction," in Fertile Ground, Scaling agroecology from the ground, ed. Steve Brescia (Canada, 2017), page 13.*
7- *La Via Campesina. What is food sovereignty?. 2003.*

Practically, it means that it is not only about changing practices to more environmentally friendly ones. In this case organic farming would have been enough to address the problem. However such farming systems do not challenge the monoculture plantations, the dependency on imports of external inputs, nor the logic of export. Food Sovereignty rather means challenging the power dynamics, by addressing the root causes of hunger, poverty, and inequity. Only by changing the export-led, free-trade based, industrial agriculture model of large farms can we address those pressing issues. From the perspective of governance, it involves the direct democratic participation of food producers, consumers, and everyone in between to determine to what extent they want to be self-reliant, define their own agricultural practices, and regulate domestic food production and trade to achieve economic and environmental sustainability[8]. It strives to put people at the center of the food system, instead of profit-driven international corporations. Agroecology as an agricultural practice becomes useful for a food sovereignty movement because it relies on low-input practices that do not require reliance on mega food and farming corporations for seeds, pesticides, or expensive machines. Instead, agroecology adopts methods that are ecologically sound, coordinated through consensus, and knowledge-intensive rather than capital-intensive. This makes room to re-center culture, people, land, and health in the food system rather than profits.

8- *Raj Patel Guest Editor, Food sovereignty, The Journal of Peasant Studies, 36:3. 2009.*

La Via Campesina believes that in order to protect livelihoods, people's food security, people's health as well as the environment, food production must remain in the hands of small-scale sustainable farmers. It cannot be left under the control of large agribusiness companies or supermarket chains. Globally, the percentage of food produced by small-scale peasant farmers is a controversial topic. Particularly because answering this question challenges the viability of industrial and commercialized agriculture and its ability to feed the world. According to a 2009 ETC report, small-scale farmers (those with land holdings of less than 1 hectare or 10,000 m2) supply 70% of the food that is consumed in their communities[9]. In other words, peasant farms produce food that is used to feed people directly, as opposed to industrial farms (lands larger than 10ha or 100 000 m2), which are more prone to growing crops for animal feed, biofuels and other purposes. On the other hand, the practice of these smallholders uses far fewer natural resources and without the severe negative environmental and social impacts of industrial agriculture.

9- *ETC Group, "Who Will Feed Us? Questions for the Food and Climate Crises.", 1st Edition. Communiqué #102. 2009.*

While food sovereignty and agroecology as a movement can insinuate a stringent focus on food and farming, they are in fact the basis for a larger counter-hegemonic movement that aims for "sustainable, just, and healthy development as a common ideal."[10] In this sense, it resonates and intersects with other movements that address oppression and injustice through pushing forward systemic changes, such as ecofeminism and the fight for climate justice. La Via Campesina's work makes a point to highlight this intersectionality. For example, although they recognize that agroecology as a concept is not solely able to defeat patriarchy, it does however challenge oppressive norms in food and farming systems by recognizing women's key role in them, valuing their invisible labor, and including them in the decision making processes.[11] They also claim that

> **"by building a culture around food which recognizes the importance of respect for all people and the planet, Peasant Agroecology is the first and most important step towards achieving Climate Justice."[12]**
>
> *By 'Peasant agroecology*

the group is referring to a movement-based agroecology that transcends beyond a mere agricultural practice. This label differentiation is particularly important at a time when large corporations are co-opting sustainable agriculture and applying it on large scales to serve their profit and public relations goals. While these practices may be more 'green' in some aspects, they fail to address power imbalances– a key focus of the climate justice movement.

10- *Silva et al. Ecofeminisms and Agroecology: a resignification of social and environmental relationships. Research Gate. 2022.3.*
11- *ibid*
12- *Afrika Kontakt and La Via Campesina. Peasant Agroecology Achieves Climate Justice, a primer. https://viacampesina.org/en/wp-content/uploads/sites/2/2018/05/primer_english_print.pdf. (accessed on October 10)*

In recognizing the agroecology movement's potential for transformation, this paper argues for its centrality when reflecting on food and farming issues in Lebanon. We see it as an integral component in striving for food sovereignty in light of the current crisis impacting the country's food system. From our day to day experiences in the field, we see that farmers are being pushed to change many of their practices, some are stopping their activities, while others are making their practice more sustainable as it often allows for reducing imported and capital-intensive production inputs *(i.e. patented seeds, fertilizers, herbicides, expensive irrigation systems).* We also observe new actors appearing in the food and farming scene, with many seeing the crisis as an opportunity to take advantage of an already exploited and low-wage work force to introduce locally made products. Funding trends have also changed, with many donors injecting money into the Lebanese food system, often directing it towards food security. Several NGOs have integrated agriculture and food into their programs. In many ways, the crisis in Lebanon is a key moment to reflect on what new paths can be taken. Ministries, funders, NGOs, and local authorities can play a major role in this process, while agroecology can serve as a guiding framework to rethink the Lebanese food system's failures.

1.2 Research objectives and background

This research is interested in how agroecology as a framework *(specifically one that considers food sovereignty*) is being applied in Lebanon, with an underlying question: how can it be upscaled from scattered, isolated initiatives into a more cohesive, cross-country approach which influences the agricultural and food practices and policies in Lebanon?

This question came to be formulated by the Jibal[13] team towards the end of 2021, particularly after we had been reflecting on how to amplify the concept of food sovereignty in the country for around two years. Back then, Jibal's activities primarily related *(and still relate)* to

training and coaching farmers to shift to more sustainable practices

supporting the development of alternative and fairer access to markets for farmers to sell their products

facilitating active governance around food systems with municipalities and local authorities.

Most of the members of Jibal team around this time were agriculture practitioners with farming approaches that primarily revolved around permaculture *(but not only)*. Some were also involved in initiatives aiming at promoting agroecology:

1) **Ghossoun,** *a community garden located in Zgharta where educational activities and public events were happening.*
2) **Da'ira,** *a collective involving arts and permaculture in Kfardebian, who is part of a network for heirloom seed conservation.*

A series of events happening around this time culminated into conducting this research work. In 2021, Jibal was implementing a series of training which aimed at supporting interested farmers in shifting to sustainable farming. The question that circulated in our heads around this time was

What are the factors that lead these farmers to adopt sustainable approaches?

We conducted a small research around this question, which helped us step back and reflect on the impact of giving training both in comparison with and in complement of other interventions. Around this period, in December 2021, a meet-up was organized by Buzuruna Juzuruna which aimed at reflecting on training in the agriculture field in Lebanon[14]. Inspired by the exchanges that occurred then, Jibal called for another meet-up in March 2022 to form a network of trainers, as a continuation to the reflections that started in December. While the aim was to commonize the efforts around sustainable agriculture training in Lebanon, this encounter did not reach its initial objective. However, it did lead us to the two following valuable conclusions. First, we recognized the need to broaden the scope of the collective conversation, moving it from training to a more general approach of work and intervention around sustainable agriculture. Second, we saw a need to clarify where each actor stands and what their priorities are in relation to agroecology. These two conclusions also led us to reflect on the importance of considering indigenous and historical farming practices of our ancestors in Lebanon and how incorporating this knowledge can create a more culturally-specific agroecology for the Lebanese context today.

13- *Jibal is a non-profit organization founded in Lebanon in 2017. Jibal's work intertwines socio-cultural and ecological perspectives to promote a holistic approach to societal development. Jibal promotes sustainability in all its aspects – in the built and natural environments, in human societies, and in economic and social policies*
14- *A collective and NGO producing and preserving heirloom seeds to help improve food sovereignty in Lebanon.*

photo by Charlotte Joubert

This report is the first of hopefully many others which will aim to understand the direction of agroecological actors across Lebanon in hopes of supporting the growth of a Lebanese agroecological movement. While this report does not fully answer the above question on upscaling agroecology, it starts a reflection and a conversation on this matter. We hope that the knowledge gathered in this report will support building a more cohesive and synergistic agroecological movement in the country.

The report starts by providing an overview of the agriculture sector in Lebanon, and specifically points to the structural aspects hindering the development of a fairer food system in the country. The next part describes the work and agroecological activities of the actors interviewed, considering the motivation that drove them into action. Finally, it ends with a series of thoughts and recommendations on the possibility of scaling up agroecology in the country.

1.3 Methodology

The approach and methodology followed in this report is based on the belief that the knowledge around agroecology is mostly present among the people who practice it; be it old time farmers or activists/actors on the ground working on agroecological initiatives. The primary data collected for this report consists of in-depth semi-structured interviews with 12 actors, NGOs and individuals, who are actively involved in spreading agroecological approaches and concepts. The interviewees were recruited via contacts Jibal had established through its network, and was complemented through a snowball sampling. The selection process for the interviewees was based on the following criteria:

1. people working to disseminate agroecology.
2. diversity in terms of geographic area of the project.
3. diversity in terms of the type of organization/profile of person initiating the project: actions led by NGOs and initiatives, institutions, experts and by place-based community members *(see Table 1)*.

photo by Charlotte Joubert

The interviews with the selected agroecological actors investigated the perspectives and approaches of the actors, the activities they have engaged in and the logic behind it, the challenges and opportunities they faced, and the priorities they set for themselves. We acknowledge a time and budget limitation that impacted interviews gathering data from institutions. Information gathered from persons representing institutions was not in-depth, nor comprehensive yet they still served to provide a vignette of their work which was enough for the scope of this study.

Table 1

	Agroecology Actors	About them
NGOs & Initiatives	Soils Permaculture Association Amani Dagher	A facilitator for the teaching, training and sharing of skills and resources related to sustainable and environment-friendly farming practices.
	Buzuruna Juzuruna Serge Harfouche	A collective and registered NGO producing and preserving heirloom seeds to contribute to food sovereignty in Lebanon.
	Seed in a Box and Agrimovement Sara Salloum Bashar Abu Seifan	An initiative powered by “Agrimovement”, aiming to spread awareness and hands-on education in the fields of permaculture, organic & sustainable agricultural best practices.
Institutions	The Food and Agriculture Organisation (FAO) Fadi Asmar	A specialized agency of the United Nations that leads international efforts to defeat hunger.
	Ministry of Agriculture in Lebanon Rosine Habshy	A public institution focused on agronomic research, food quality, and sustainable rural development.
	International Center of Agricultural Research in the Dry Areas (ICARDA) Hassan Machlab	A non-profit agricultural research institute that aims to improve the livelihoods of the resource-poor across the world's dry areas, holds a gene bank in Turbol, Bekaa.
Experts	Kanj Hamade	A development and agricultural economist, and an expert in food security/sovereignty.
	Rami Zurayk	Professor and chairperson of the Department of Landscape Design and Ecosystem Management at the Faculty of Agricultural and Food Sciences, American University of Beirut.
	Khaled Slim	Expert and trainer of agroecology in Lebanon, founder of the Native Nursery.
Community Based	Fares Zaidan	Orchard farmer in Maaser el Chouf, developing recipes of biopesticides.
	Nohye el Ard Ismael Sheikh Hassan	Urbanist, co-founder of “Nohye el ard” a cooperatively managed community agroecology garden in Saida.
	Batloun Cooperative Jamal Hassan	Orchard farmer in Batloun, Chouf, president of the Agricultural cooperative of Batloun.

A rapid review of existing secondary data – including reports, and news articles – was also conducted in order to establish an understanding of the current Lebanese context and broader conversations on agriculture and food sovereignty in the world. These findings informed the larger design of the study.

In noticing a gap in the indigenous knowledge about the historical agricultural practices of our ancestors, this paper also engages in questioning another set of interviewees on memories of traditional agricultural practices. These interviewees were recruited mainly through connections in two villages of Lebanon: Chabtine *(Batroun Caza)* and Hammana *(Baabda Caza)*. While this was not the main purpose of the study, it helped frame and contextualize the potential for scaling agroecology with culturally-specific examples. This is reflected in the "Looking back into history" section.

The collective experiences around agroecology of Jibal members were synthesized with primary and secondary data collected in order to inform the final findings of this paper. All interviews used in this research were conducted in French, English, or Arabic and recorded after requesting the interviewees' consent. Some direct quotes used in this report were translated from Arabic & French.

II. Peasant history and realities in Lebanon

photo from Old Beirut - Tumblr

2.1 Looking back into history

Since the 16th century, the agriculture production of Mount Lebanon was linked to the major local cities, to then be exported to different countries. The commodities mainly included cotton, olive oil, wool, silk, and soap. Lebanon's silk production, for example, was driven by an increasing French demand after their own local production became too ecologically costly and a burden on public health[15]. Lebanon became a satellite industry to outsource the burden. Because silkworms only eat mulberry trees, much of Mount Lebanon and parts of the Bekaa were covered in them by the 19th century, replacing traditional subsistence crops like wheat and barley[16]. While toward the end of the 19th century some farmers still grew staples like barley and corn, most were imported from Syria, or purchased from the Bekaa for local consumption[17].

Despite these agrarian shifts, many rural inhabitants in Lebanon were still practicing subsistence agriculture in the beginning of the 19th century. The following accounts recount elder community members' recollections of agricultural life in Lebanon around this period. **Klim Klim**, an 88 year old man from the village of Chabtine, Batroun tells us that

> **"we used to live off the land, we used to plant all kinds of vegetables [that] we would consume.**

Klim and the other elders interviewed in Hammana all stated that most people in the village would plant wheat.

15- *Kais Firro. Silk and Agrarian Changes in Lebanon, 1860–1914. International Journal of Middle East Studies 22, no. 2 (1990): 151–69. doi:10.1017/S0020743800033353.*
16- *Salem Darwich. Enjeux de reconversion rurale dans la Béqaa (Liban), Politiques publiques et cultures illicites.*
17- *Kais Firro. Silk and Agrarian Changes in Lebanon, 1860–1914. International Journal of Middle East Studies 22, no. 2 (1990): 151–69. doi:10.1017/S0020743800033353.*


Klim Klim


Joseph Bou Samra


Charfa Awad


Joseph Bou Mitri

Joseph Bou Samra, an 89 year old man from Hammana, explains that

they all used to grow wheat in the mountains… what is now called Dahr El Baydar, used to be a wheat baydar.

baydar is an Arabic term for a threshing floor. When it came to commodities, **Klim** explains that their only source of income was from tobacco:

We would plant it and sell it to the Régie company. We would sell for 300 or 400 liras that would make us live for a year.

Joseph Bou Mitri, a 82 years old man from Hammana, explains how monetization was not very common in the village at that time as

most people wouldn't have 5 lira in their pocket…one would plant wheat, the other chickpeas and we would exchange between each other.

In other words, the community would rely on each other for exchanging basic needs. **Joseph Bou Samra** shares another example of the barter system stating that

they would pay the flour mill with flour, not money.

Charfa Awad, a woman from Chabtine explains to us that this exchange would also sometimes happen with labor. She says

as a kid, I would go with my brothers to Bcharre to pick potatoes…we would go there by bus…we were many from the village, maybe 30 people…on the way back, we could come with a pick up so we could bring potatoes with us…we would be paid with potatoes.

While these accounts come from villages located in Mount Lebanon, **Kanj Hamade**, development economist, explains that

> **there are two histories for agriculture in Lebanon, the history of Mount Lebanon Mutasarrifiyya[18] and the history of the other cazas. while the areas of Beirut and Mount Lebanon entered the international trade through silk and tobacco, the Bekaa area was still very traditional, and this lasted almost until the 1950s.**

For example, in the beginning of the 19th century, the villages of Hermel and Qaa practiced subsistence agriculture with very little commercialization, producing primarily cereals and legumes. The village of Aarsal was specialized in goat and later sheep farming, with land and water resources being managed collectively. Today, the diverging patterns of development across Lebanon's different geographical regions continue to highly influence the state of agriculture and natural resources[19].

photo by Charlotte Joubert

18- *The Mount Lebanon mutasarrifiyya was one of the Ottoman Empire's subdivisions following the Tanzimat reform.*
19- *Kanj Hamade et al. De part et d'autre de la frontière libano-syrienne:les mutations de l'agriculture du Haut Oronte. Cairn International.2015.ttps://www.cairn.info/revue-confluences-mediterranee-2015-1-page-19.htm*

When it comes to practice, ancestral farming techniques and realities fall under an agroecological approach. While the below accounts do not necessarily represent agroecology as a 'movement' and are moreso a sustainable farming 'practice', it was important to recount how the food and farming traditions have shifted dramatically since then to become less sustainable for people and nature. Interviewees discuss water use reduction strategies, local processing, and sustainable farming and dietary choices below. **Klim Klim** explains to us how most of the foods consumed were produced locally, using available natural resources. For example, he recalls how they

> **used to plant wheat right before the winter, so it won't need irrigation**

reducing water use. Continuing on water use reduction strategies, he explains that the tomatoes were only irrigated at the beginning of the season, and that because

> **the cucumber needs more water, we would plant me'te (Armenian cucumber) instead**

The conversation elicited memories of a different kind of food processing chain, one that was localized and small scale

> **I remember there was a baydar here close by, where the house of our neighbor is now built**

Illustrating how dietary choices were dictated by the natural resources and climate of the local ecology, Klim explains how they did not plant beans in the Batroun mountains because it needs high amounts of water,

while **Joseph Bou Mitri** explains that in Hammana they

> **didn't plant lentils, it needs a warmer climate...we would plant chickpeas and beans instead**

Ecologically compatible choices were also reflected in the local consumption practices. For example, in Chabtine people would eat lentil mujadara, while in Hammana, they would replace lentils with beans. Meat consumption was also organized differently. **Marie Klim** recounts how they only consumed meat during Easter, and **Joseph Bou Mitri** recalls how meat would be eaten maximum once per week but all the houses had chickens. These different examples describe agricultural practices that are embedded in a specific environment, adapting to the availability of natural resources, integrated within a more localized value chain, with a lower environmental impact - especially when it comes to meat consumption.


photo by Charlotte Joubert

Despite these very localized based systems, groups and communities were not isolated from each other. While most crops were planted locally in each village, many exchanges used to happen between the different geographical areas of Lebanon. The story of the potato harvest in Bcharre illustrates this type of exchange as do other stories from other interviewees. **Marie Klim** explains how her father used to go to Tripoli to buy cucumbers because its planting required adequate water resources which were not readily available in their area. Similarly, **Joseph Bou Samra** tells us that the lentils they consumed were bought from the Bekaa.

When it comes to inputs, farming in Lebanon today shows high levels of pesticide use. We inquired whether this was the case in past farming traditions. **Joseph Bou Mitri** tells us

> **they didn't spray pesticides, there were no pests**

that Similar responses were given by all other persons interviewed. **Joseph Bou Samra**, explains how his father would use burlap and Sulfur *(kabrit)* to remove pests while in other cases they would use wood ash soaked in water.


photo by Charlotte Joubert

2.2 Small farmers and access to land

Land ownership structures and the politics of property rights highly influence food and agriculture system dynamics. This paper provides a brief overview of land ownership structures and the reasons Lebanon's agriculture looks the way it does today.

At the end of the 19th century, only a handful of families controlled large swaths of land. During this time, Ottoman rule imposed the system of private property in order to better benefit from taxes *('tanzimat' in Arabic)*. This meant that the usufruct status *('miri' in Arabic)* of some lands changed to become registered as private property. This shift in land ownership structure primarily benefited larger and more powerful families that were already in charge of farming these lands as well as urban merchants[20]. While the peasant[21] class who started acquiring land at that time became more independent from large landowners, this shift increased their dependence on merchants.[22] Urban merchants encroached on the farming sector by sourcing and selling necessary agricultural inputs through credit systems to this emerging small land-owning class. When these peasant-turned-smallholder farmers had financial difficulties and could not pay back their input costs purchased at the beginning of the season, some merchants would take advantage by seizing their land.[23] These trends led to a concentration of land ownership in the hands of few. Other factors that impacted land accumulation was the fact that many lands that used to be considered as collective property *(masha')* were registered in the name of a notable of the area, sometimes to maintain the loyalty to the Ottoman Empire.[24]

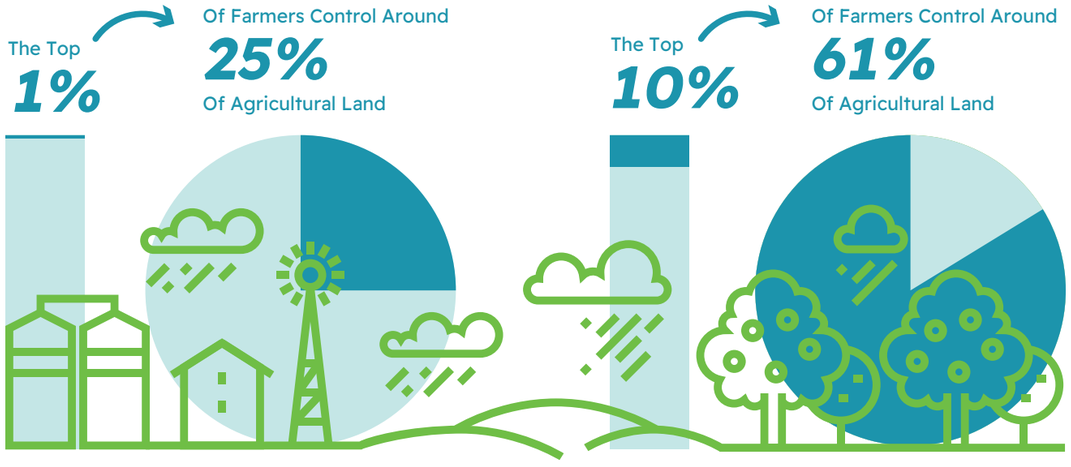
During the French mandate *(1920-1943)*, colonial powers continued disrupting pre-existing agrarian structures by introducing several reforms and institutions. One of them is the "Régie du cadastre" *(or land registry)* which sought to survey and fix the precise boundaries of private properties in order to develop the cadastral map still used in Lebanon today. The lands registered as masha'– mainly in the Bekaa Valley area– were the most affected. These interventions profoundly changed the traditional systems for accessessing land and water, making it more privatized and often in favor of powerful individuals from urban areas.[25] The policies that specifically related to water access highly influenced agriculture. By developing irrigation systems, agriculture in the Bekaa shifted from rainfed crops to water-intensive fruit trees and vegetables. In the continual process of benefiting the most powerful, these reforms were also disqualifying the traditional know-how. In this process, the French colonial power defined what and who nature should serve as well as how it can be exploited, all under the guise of modernizing objectives.[26]

Children in Akkar on their way to fill up water from a well, July 1967. (Photo courtesy of Lebanon Archives/أرشيف لبنان).

20- *Stéphane Ghiotti and Roland Riachi, La gestion de l'eau au Liban:une réforme confisquée?. Open Edition Journals. 2013.*
21- *The term peasant and farmer has been used interchangeably in this report. It refers to smallholders, who are usually economically vulnerable, with limited access to social services, relying mostly on family labor with occasionally hiring laborers, and who seek to minimize monetary costs. The term includes laborers who work on someone else's land.*
22- *Kais Firro. "Silk and Agrarian Changes in Lebanon, 1860–1914." International Journal of Middle East Studies 22, no. 2 (1990): 151–69. doi:10.1017/S0020743800033353.*
23- *Kanj Hamade et al. De part et d'autre de la frontière libano-syrienne : les mutations de l'agriculture du Haut Oronte. Confluences Méditerranée. 2015.*
24- *Pierre Blanc. Proche-Orient: Géopolitique des dynamiques agraires. Herodote. 2015. page 30.*
25- *Stéphane Ghiotti and Roland Riachi, La gestion de l'eau au Liban:une réforme confisquée?. Open Edition Journals. 2013.*
26- *Stéphane Ghiotti and Roland Riachi, La gestion de l'eau au Liban:une réforme confisquée?. Open Edition Journals. 2013.*

It is only in the early 1960's that agricultural and rural development policies were tackled for the first time by the Lebanese government. The reforms aimed at improving wealth distribution and uneven geographic development, however did little to change the underlying causes for the long term.[27] In the post-civil war period, no real efforts were spent developing agriculture, as national economic efforts focused primarily on coastal areas[28]. Interventions in agricultural development that did occur relied on piecemeal international donor-funded projects and the influence of local non-state actors.

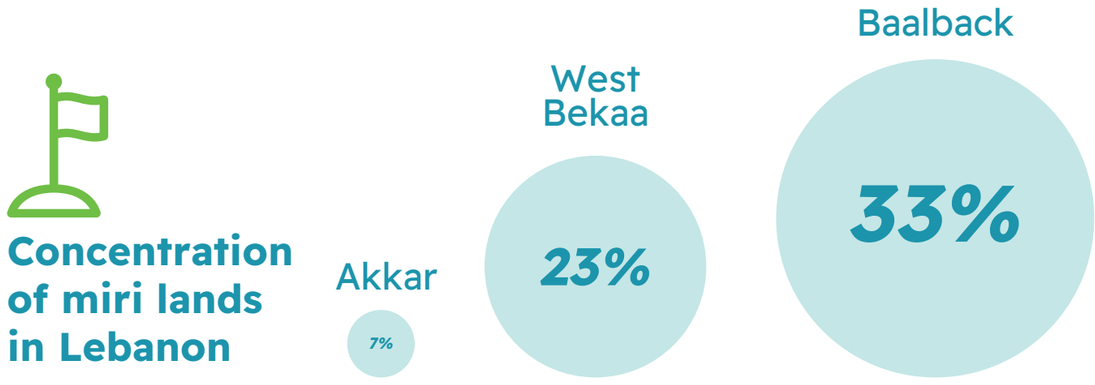
Today the biggest part of the farmers in Lebanon are small farmers. 70% of them work on lands smaller than 1 hectare. More than one third of the small farmers produce for self-sufficiency.[29] Small-scale farming can be considered more of a social form of agriculture than an economic one in Lebanon. These small scale production practices typically take on the form of a 'family farm', with the family itself owning and operating it *(most of the labor, permanent and seasonal is done by the family itself)*. Small-scale family farms constitute the foundation of the rural Lebanese peasant life, which in many ways carry on Lebanese cultural identity, heritage, and values.[30]



27- *Kanj Hamade. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies. ANND. 2019*
28- *Pierre Blanc. Géopolitique des dynamiques agraires. Cairn International. 2015. https://www.cairn.info/revue-herodote-2015-1-page-9.htm*
29- *FAO. L'agriculture Familiale à Petite Echelle au Proche- Orient et Afrique de Nord, Pays Focus: Liban. International Centre for Advanced Mediterranean Agronomic Studies. 2017. https://www.fao.org/3/i6608f/i6608f.pdf.*
30- *FAO. L'agriculture Familiale à Petite Echelle au Proche- Orient et Afrique de Nord, Pays Focus: Liban. International Centre for Advanced Mediterranean Agronomic Studies. 2017. https://www.fao.org/3/i6608f/i6608f.pdf.*

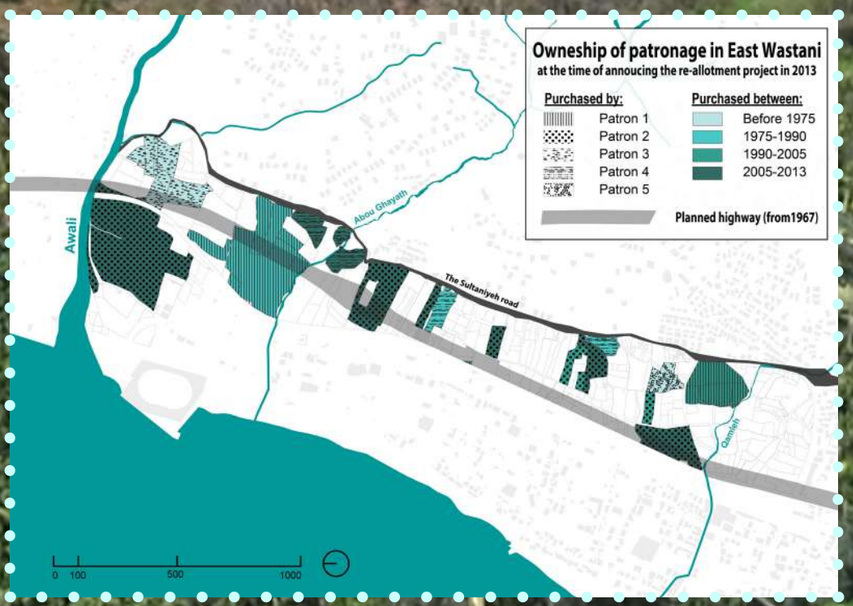
As it currently functions, agriculture constitutes a secondary source of income for most farmers in Lebanon as it is no longer economically viable. Part of the reasoning for this can be explained by inequitable land ownership structures in Lebanon. According to a study conducted by Kanj Hamade, one percent of farmers control around a quarter of agricultural land, and the top decile control 61% of agricultural land. Though the national average farm size is 1.36 ha *(13 600m^2)*, nearly 70% of agricultural plots are smaller than 1 ha *(10 000m^2)*, and 2% are more than 10ha *(100 000m^2)*.[31]

Issues around access to land are still active struggles, particularly when considering the status of usufruct *(or miri)* lands that currently exist as state-owned assets. These state-owned assets can be found across the country, with the biggest concentrations in Baalback *(33%)*, West Bekaa *(23%)*, and Akkar *(7%)*. The usufruct lands possess a particular property use status that grants its holder *(which is not the same as its owner)* a concrete right to use and benefit from the land, one which lasts for life under certain conditions, and is transferred to the heirs equally between males and females.[32] This is why its use for agriculture has been protected. The privatization of this public property has been suggested on several occasions by members of the Lebanese parliament. This places an additional risk on the viability of farming for many non-land owning persons and potentiates further concentration of land in the hands of a select few.



31- *Kanj Hamade. Transforming the historical link between agriculture policy and inequality in Lebanon. Banfield, J., and Stamadianou, V. (Eds). Towards a peaceful economy in Lebanon. International Alert: London. 2015.*
32- *Public Works Studio. 2021. كتلة الوفاء للمقاومة تقترح إلغاء نظام الأراضي الأميرية https://publicworksstudio.com/en/node/106.*

Lil-Madina Initiative, "Protecting the Khaskieh Canal (The Sidon Aqueduct); Finding New Roles for an Ancient Aqueduct," 2018.



This map is based on the land registration certificates as well as well retrieved by Lil-Madina Initiative in 2013, and on information the author collected during site visits.

Another land-related factor that threatens the viability of agricultural practice in Lebanon is the general neoliberal policies that favor real estate development over agriculture. The development of Saida is one example of this development trajectory. In an article published in 2020, Lyne Jabri explains how

> **"urban projects create significant economic and social transformations in the city, while often compromising water resources and agricultural lands, and thus compromise what had previously made the city sustainable.[33]**

Jabri gives the example of the re-allotment project (called Dam w Farz) announced by the municipality and Member of Parliament Bahia Hariri. Through this project, the agricultural orchards of Wastani were land-pooled and re-subdivided to open up the area for real-estate development. Ismael Sheikh Hassan, from the Nohyee el Ard initiative, also mentioned the Dam w Farz project:

> **"which subdivided agricultural lands and natural water systems in Saida into square-shaped plots and roads. This process eradicated the complex social and natural ecosystems of Saida agricultural plain for the sake of real-estate development serving private interests. Over time the value of land as a common resource and heritage for the city was lost. only."**

According to Sheikh Hassan, this is one of the practices that led to the gradual accumulation of Saida's agricultural plots into the hands of a few wealthy people. This transformation led to increased inequalities by reducing land use diversity and tipping the scale in favor of large real estate developers.

33- *Lyne Jabre. Clientelism and the Destruction of Ancient Water Systems in Saida. Jadaliyya. 2020. https://www.jadaliyya.com/Details/40396*

2.3 Agricultural labor

Most of the agricultural work in Lebanon is outside the formal labor market: 88 percent of Lebanese working in the sector – excluding unpaid family workers – are employed informally and/or have no legal registration for their farms. The same goes for foreign workers, who are *(almost always)* employed informally.[34] Because of this, farmers and agricultural workers often lack access to proper social security, sick day leave, or protection from agriculture hazards. Being paid relatively low wages, they are among the poorest workers in any of Lebanon's employment sectors.

It is estimated that around 75% of agriculture holdings require seasonal laborers, while another 12% require non-family full time labor.[35] These agricultural labor needs in Lebanon have been primarily filled by Syrian workers recruited through a Syrian middleman *('shawish' in Arabic)*, a trend since the mid-

photo by Charlotte Joubert

20th century. Today, the sector employs many refugees, mainly Syrians who have migrated to Lebanon during the Syrian War.[36] Still, prior to 2011, 54% of the agricultural workforce in the Beqaa Valley was composed of Syrian migrants, while in Akkar, 90% were migrants.[37]

34- *ILO, FAO. Skills Development for Inclusive Growth in the Lebanese Agricultural Sector - Policy Brief. 2020. https://doi.org/10.4060/cb2457en.*
35- *Kanj Hamade. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies. ANND. 2019*
36- *Kanj Hamade. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies. ANND. 2019*
37- *SC, IRC. Livelihoods Assessment Syrian Refugees in Lebanon. UNHCR Operational Data Portal. 2012. https://data.unhcr.org/es/documents/details/36564.*

Women and children *(Lebanese or migrants/refugees)* are most affected by the current agricultural system. It is estimated that 60% of child laborers in Lebanon work in the agriculture sector,[38] and that women account for 43% of the agricultural workforce yet they often earn two thirds to half of the wages earned by men. This is especially the case among refugee communities in Lebanon. A report documenting the vulnerability of Syrian refugees in Lebanon[39] states that in females-led households *(which consists of 18% of refugee households in Lebanon),* women and girls are in many cases forced to work in agriculture.[40] Many women have to endure additional oppression due to their gender, such as harassment and a systemic relations of superiority within a patriarchal and capitalist system.[41] This is also the case of Palestinian women who form 23% of total refugee women workforce in Lebanon.

photo by Charlotte Joubert

38- *FAO and UNICEF. Child Labour in Agriculture: The Demand Side. Lebanon. 2019. https://www.unicef.org/lebanon/media/1656/file/ChildLabour_FAO&UNICEF_2019.pdf.*
39- *UNHCR, UNICEF, & WFP. Vulnerability Assessment of Syrian Refugees in Lebanon. WFP. 2018. https://www.wfp.org/publications/vulnerability-assessment-syrian-refugees-lebanon-vasyr-2018*
40- *Nur Turkumani and Kanj Hamade. Dynamics of Syrian Refugees in Lebanon's Agriculture Sector. Open Data Lebanon. 2020. https://www.opendatalebanon.org/wp-content/uploads/2021/11/20200215_dynamics_of_syrian_refugees_in_lebanon_agriculture_sector.pdf.*
41- *لمى أبو خروب، بدنا نعيش، ورشة المعارف، ٢٠٢٢*

Since most of the farming workforce is employed informally, workers are not protected under the labor law, hence, claiming their rights can only happen when there are tools for them to organize. Cooperatives are often the most adequate spaces for small and medium size farmers and farmworkers to organize collectively for better working conditions but this remains a challenge in Lebanon. In 2018, it was estimated that only 4.5% of the farmers are members of cooperatives.[42] One of the reasons for this may be related to an explanation provided by Rami Zurayk, professor at the American University of Beirut:

> **“people do not trust the cooperatives because most of them are directly linked to the local sectarian groups”**

photo by Charlotte Joubert

For Zurayk, it is almost impossible to change the food system within a capitalistic and sectarian system. In other words, while cooperatives are one of the major forms for challenging capitalist forms of governance by giving the power to the workers, their impact will stay very limited if they are acting within a sectarian environment that reinforces competition over resources. In this case, cooperatives might be perceived as instruments of power, reflecting the same local sectarian divisions.

Cooperatives are also often perceived opportunistically as channels to funnel government and international donor funding rather than as businesses collectively owned and managed by members.[43] Beyond issues with sectarianism and funding, there lies a huge discrepancy between the regulation and practices around cooperatives. Although laws around cooperatives in Lebanon do not discriminate based on nationality or gender, the practice is often different. Bashar Abu Seifan from Seed in a Box shares with us their experience:

> **“We wanted to do a cooperative in Beddawi including Palestinian and Syrian members. We asked the ministry and they got back a couple of months ago and said ‘why don’t you do a cooperative of Lebanese and integrate Palestinians as workers’.**

In addition to its discriminative aspect, what this answer would entail is that some - or all - of the workers cannot be part of the governance and the decision making, contradicting fundamentally the philosophy behind cooperatives.

The above information provides a vignette into labor and gender-related issues in Lebanon as they relate to farming. They are critical aspects to consider when imagining alternatives for a more equitable Lebanese food system.

42- *ILO. The Co-operative Sector in Lebanon. ILO. 2018. https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_644724.pdf*

43- *FAO, EU and CIRAD. Food Systems Profile – Lebanon. Catalysing the sustainable and inclusive transformation of food systems. Rome, Brussels and Montpellier, France. 2022. https://doi.org/10.4060/cb9543en.*

2.4 Other power dynamics in the value chain

The agriculture sector in the country relies heavily on the use of pesticides and fertilizers purchased from abroad. Given the economic and dollar liquidity crisis, these products, as well as seeds, are becoming more difficult to import. It has also become nearly impossible for small to medium scale farmers to afford imported inputs, making them mostly a “luxury” of large commercial farms.

These agricultural input imports **seeds, biocides, fertilizers, material and equipment** are dominated by a limited number of people and companies.[44]

In order to access these capital-intensive inputs, farmers need financial support yet private sector financing and bank loans are limited in the agricultural sector. This leaves the majority of farmers, small farmers, with no options but to take informal loans, primarily provided by the input providers themselves *(i.e. agroindustries who control agricultural inputs such as seeds, pesticides, herbicides).* This credit comes with unusually high interest rates and must be paid back at the end of the season. Agroindustry’s unfair financing schemes have been standard practice before the crisis, with 90% of input purchases being made on credit.[45] This situation puts agroindustry in a stronger position, holding a significant impact on the sector while small farmers are led into further marginalization through unending debt.

44- *FAO, EU and CIRAD. Food Systems Profile – Lebanon. Catalysing the sustainable and inclusive transformation of food systems. Rome, Brussels and Montpellier, France. 2022. https://doi.org/10.4060/cb9543en.*

45- *Aden Aw-Hassan et al. Value Chain analysis in the Bekaa Plain, Lebanon: “Potatoes, Tomatoes, and Dairy products”. 2018. MELSpace.https://repo.mel.cgiar.org/handle/20.500.11766/10360.*

In addition to the inaccessible agricultural inputs market, farmers are forced to sell their products in a whole sale system that lacks consistency and transparency for lack of a better option. Price-setting mechanisms practiced by wholesale markets, middlemen traders, and intermediaries remain obscured. Because farmers often rely on these actors to access consumers, they are put in a weak bargaining position and often accept whatever pricing is offered by intermediaries for their products.[46] In other words, middlemen take advantage of their power over farmers, which is especially easy to do in the absence of state regulation or protection. For example, traders often own cold storage units which they largely profit from in off-seasons, yet still fail to pay farmers a fair share of profit made on their products. Middlemen have also been known to underreport to farmers the profit made on their produce.[47] Informal agreements between farmers and these traders consist of the latter receiving 10% of all revenues in exchange for selling products in the wholesale market. One study explores these dynamics and shows how farmers are being exploited, particularly through an assessment of the incremental changes in the value of fresh produce as it goes up in a simplified domestic value chain *(from farmer to wholesale trader to consumer)* in Lebanon. The assessment concluded that farmers often have poor value capture.[48] Moreover, the oligopolistic structure among these different actors *(traders, middlemen, importers)* dominates the agricultural sales market.[49] Connections with these actors are hence an essential prerequisite for projects in the sector to be successful.

46- *Marc Ruijs. Value chain analysis of (greenhouse) vegetables in Lebanon. Wageningen Economic Research. 2017. https://edepot.wur.nl/425924.*

47- *Nathalie Allam, Farming is like Gambling; An Examination of the Decline of Produce Farming in Lebanon’s Central Bekaa Valley. PhD diss., The George Washington University, 2011.*

48- *Roland Riachi. Agriculture et système alimentaire sous la mission hydraulique libanaise. Open Edition Journals. 2012. doi:https://doi.org/10.4000/mediterranee.6470.*

49- *FAO, EU and CIRAD. Food Systems Profile – Lebanon. Catalysing the sustainable and inclusive transformation of food systems. Rome, Brussels and Montpellier, France. 2022. https://doi.org/10.4060/cb9543en.*

The different power dynamics presented above are not far-off from agrarian dynamics worldwide. The livelihood and quality of life of billions of people depends on the resources which the land provides,[50] yet corporate interests in the food system continue to encroach on the world's poorest. According to the FAO, three out of every four among the world's poorest people live in rural areas and rely on agriculture and related activities for their sustenance. Agriculture is an integral part of sustenance[51] but also something that carries culture and identity. In other words, traditional rural practices and livelihoods being sidelined and replaced with corporate food interests threatens much more than our ability to eat. The way we use and care for our lands also determines our capacity to regenerate ecosystems, and to ensure continued human survival. Despite this, the ways in which land is distributed shows profound inequalities that threaten social and ecological sustainability.

> **"around 84% of farms share 12% of the total agricultural land area, while just 16% of farms control the remaining 88%. In the most unequal countries, fewer than 1% of land owners control 50% or more of agricultural land."[52]** *According to the International Land Coalition,*

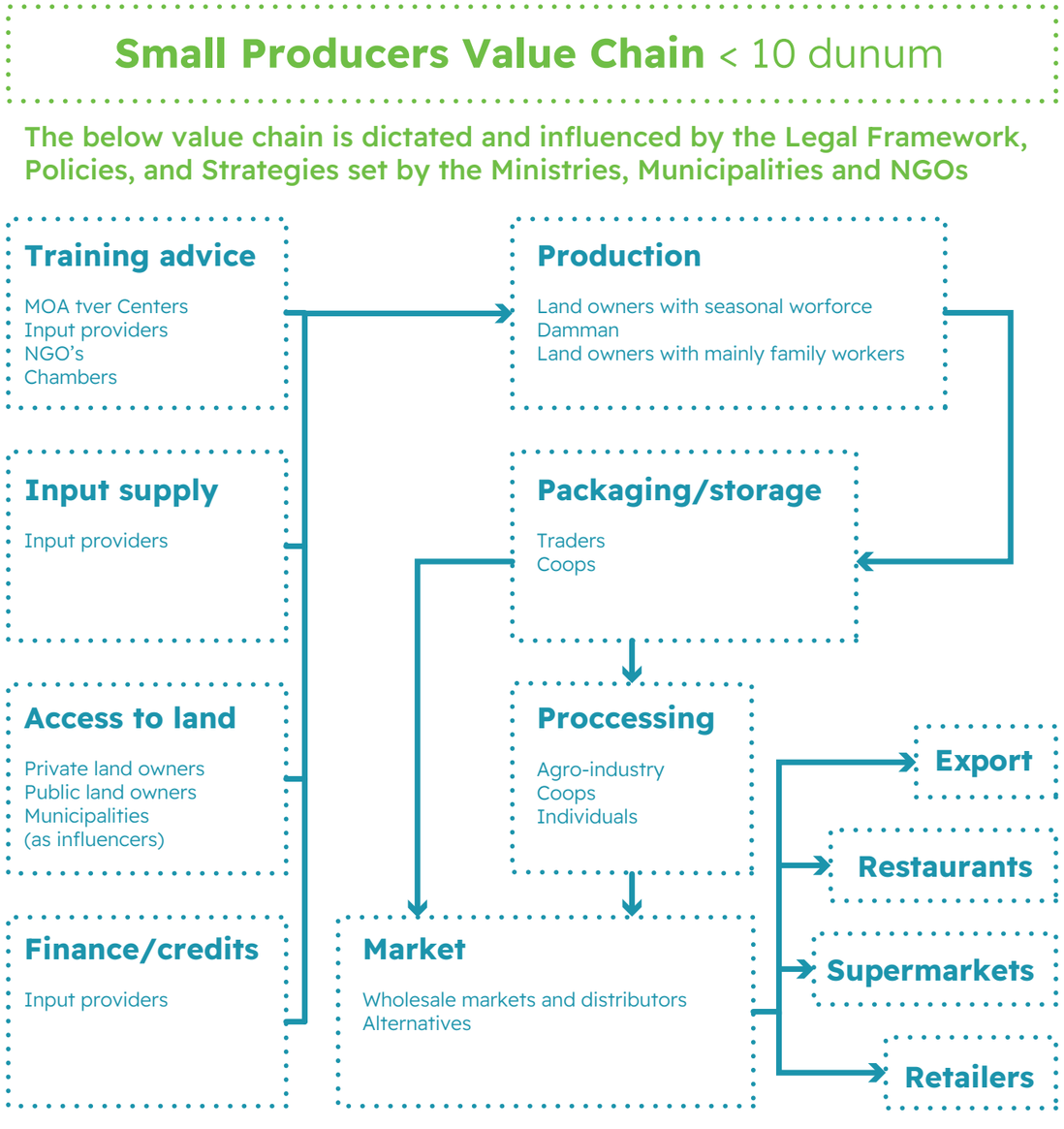
photo by Jenny Gustafson

50- *Arantxa Guerena and Marc Wegerif. Land Inequality Farming Document. ILC Land Inequality Research Initiative. 2019. https://d3o3cb4w253x5q.cloudfront.net/media/documents/2019_8_report_land_inequality_framing_document_web_single_page.pdf*

51- *FAO. The State of Food and Agriculture: Climate Change, Agriculture and Food Security. FAO. 2016. https://www.fao.org/documents/card/en/c/6d5e0d14-b177-497e-a3bb-065853bcc370/.*

52- *Arantxa Guerena and Marc Wegerif. Land Inequality Farming Document. ILC Land Inequality Research Initiative. 2019. https://d3o3cb4w253x5q.cloudfront.net/media/documents/2019_8_report_land_inequality_framing_document_web_single_page.pdf*

As large landowners and corporate agro-food industries continue to dominate, agricultural land is becoming an increasingly profitable asset for investors and shareholders. This reality moves decision-making further away from farmers, having important repercussions on food security and sovereignty. At the core, the issue in the food system remains in recognizing the unequal power relations between the actors involved in these types of arrangements. This nurtures further inequality and social injustice typically transforming peasants into workers on their own land by subordinating them to dominant frameworks of global agribusiness and capital accumulation.[53]



53- *Kojo Amanor and Sergio Chichava. South–south cooperation, agribusiness, and African agricultural development: Brazil and China in Ghana and Mozambique. Science Direct. 2016. https://doi.org/10.1016/j.worlddev.2015.11.021.*

2.5 Environmental impacts

Input providers are the main reference of recommendations and advice for farmers, despite the fact that their opinions may hold some biases as they might be interested in selling pesticides and chemical fertilizers, amongst other things.[54] As a consequence, the sector in Lebanon suffers from poor land and soil management, showing some of the highest per hectare use of fertilizers and pesticides in the world.[55] Input providers– in the absence of regulating policies and monitoring systems– have played a major role in exacerbating overuse of these. When it comes to water management, the agriculture sector is the largest consumer of water in Lebanon,[56] where poor management practices and inefficient irrigation systems are leading to a rise in water stress. The inadequacy and unsustainability of these resource management methods contributed to the decline in the quality of farm products, the reduction in profit margins for growers, and the devitalization of this sector as a whole. Besides water, another important resource to take into consideration is energy. Energy sources for agricultural production come 70% from diesel and 30% from gasoline[57]. With the financial crisis and energy crisis worldwide, the cost of fuel has increased leaving many farmers with the impossibility to irrigate their fields due to high costs of transportation. Farmers also carry the weight of other running costs such as maintenance for the machinery or renting machinery that they do not own.

Conversations on the changing climate have been growing recently and have highlighted how crucial it is to build a more resilient food system. Many conventional farmers have their livelihood at risk, as they often rely on a single cash crop for the whole season, and are dependent on large agroindustries for chemical inputs and hybrid seeds. The lack of diversity in the cultivation mixed with the reliance on imports makes the current food system extremely fragile and susceptible to external turbulence. The rise in food and social insecurity, the degradation of natural resources, and the heavy reliance of imports for agricultural inputs and for basic food items are all indicators of an urgent need for alternatives, and for forming coalitions that complement one another as actors in the food system.

54- *Aden Aw-Hassan et al. Value Chain analysis in the Bekaa Plain, Lebanon: "Potatoes, Tomatoes, and Dairy products". 2018. MELSpace.https://repo.mel.cgiar.org/handle/20.500.11766/10360.*
55- *FAO. FAOSTAT: http://www.fao.org/faostat/en/#data. (accessed on September 3)*
56- *Ministry of Agriculture. Lebanon National Agriculture Strategy - NAS 2020-2025. 2020. http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB*
57- *FAO. Addressing Food Security Challenges in Lebanon: A Water-Energy-Food-Health Nexus Approach. FAO. 2021. https://www.fao.org/publications/card/en/c/CB4203EN/.*

III. What is happening in Lebanon today?

The current agroecology scene in Lebanon has a lot to do with the struggles the agriculture sector is facing, which were explained at length in the previous section. The following section attempts to map the different types of projects that are currently spreading agroecology in Lebanon, and we do so by looking at: first, the motivation behind the work on agroecology; second, what is being done by the different actors/initiatives; and third, how is the work being done.

photo by Charlotte Joubert

3.1 Why did people start their initiative?

While all the actors who have an active project that spreads agroecology expressed a belief in its potential to generate positive changes in our food system, they did not all reach agroecology from the same place. The motivation behind the use of agroecology as a tool, or the decision to spread knowledge about its benefits depends a lot on the nature of the work of each of the actors interviewed, as well as their background and core values. For some, agroecology came as a natural progression of working in agriculture and wanting to overcome the problems in the sector, others saw in agroecology a social and political tool to reclaim the right to land and to reach social justice, and some recognized in it a timely tool to deal with the current crisis.

Nohye el Ard - Siada

a. Concern over the agriculture sector and the Farmers' wellbeing

People coming from an agricultural background– be it a theoretical one or one from hands-on experiences in farming– decided to incorporate agroecology in their work because they saw the damage conventional agriculture causes for the farmers themselves, for the ecosystem, and for the quality of our food. Khaled Slim was one of the interviewees who expressed this: **"I am an agriculture engineer and I started my professional life like many other colleagues, working for an agriculture company that sold pesticides and chemical fertilizers amongst other things."** Slim worked for this company for four years before deciding to stop. **"The director of the company used to ask us to do surveys and studies. One farmer who used to grow cucumbers used to spray 3 times a week, and then sell those to the market. It made me crazy."**

In addition to the damage chemicals leave in the land and the food quality, another interviewee expressed a concern about their impact on the farmers' health: **"Farmers have eye problems because of the glyphosate,"** explains Bashar Abu Seifan from Seed in a Box. This concern is accompanied by a frustration from the institutions that continue to spread and encourage the use of pesticides despite their negative impact. **"I don't understand the agricultural system in Lebanon, I don't understand why no organization has shed light on the impact of pesticides on human health,"** says Abu Seifan. Abu Seifan and his colleague Sara Salloum explain that they spoke to a member of the board of trustees of AUB who explained that they teach their students from the perspective of agriculture input producers. **"They don't see the link between the problem and the input providers. The agri engineers are so convinced by the importance of pesticides and herbicides,"**shares Salloum.

b. Agroecology as a tool of action for social justice

Not all the actors interviewed had previous experience in agroecology before their engagement in the current projects. In fact, some of them got to agroecology through a path of being active on a political or social cause. Sheikh Hassan from the Nohye el Ard initiative– a cooperatively managed community agroecology garden in Saida– is one of those cases. Together with a group of urbanists and social activists in the area, they founded an initiative called "Lil Madina" which is a grassroots initiative that conducts actions and research on urban issues of public concern in Saida. One of the focal themes of this initiative revolved around the changes in the city, the threat of losing agricultural lands for real estate, and the importance of land as a public good. For this purpose, before 2019, they would produce knowledge, organize hikes, public talks, and meetings with people living in Saida.

However, Sheikh Hassan shares that they felt that through all their previous activities they were unable to mobilse the broader public in Saida: **"on issues related to environmental protection, the importance of public space and the need to confront problematic urban planning practices. Where the group had an impact was on intellectuals, thus the impact was marginal, especially if the objective was that of changing public opinion."** Moreover, he added that their engagement in advocacy campaigns to change public policies also led to very little change. According to Sheikh Hassan, this is how the community garden in Saida started, they saw in it **"an opportunity for people to connect directly with the land and not just to have intellectual and theoretical debates on the importance of open and unbuilt space in the city."** This would change the perspective of a lot of people on the land-related issues.

The Nohye el Ard community garden was therefore a way to bring back agriculture to the city, on a piece of land that would otherwise be used as a real estate asset. This was also the case of the "Beddawi Gardens", a project by Seed in a Box, in the north of Lebanon. In this project, they collaborated with UNDP, Amel Association, and the municipality to transform an abandoned field in Beddawi into a community garden.

The fear of losing agricultural lands and local agriculture practices is not only present in cities. Jamal Hassan, an agroecology farmer in the village of Batloun in the Shouf area, expressed that he shares a similar fear. According to Jamal, farmers are being obliged to sell their lands because agriculture is no longer providing the income it used to provide. Hence, he sees supporting farmers through the framework of the Batloun Cooperative as a way to maintain the agriculture practice and lands in the village, and to root the farmers there.

photo by Charlotte Joubert

Another aim that several of the initiatives interviewed try to foster is giving access to land to those who are usually marginalized. Both the Nohye el Ard and the Beddawi Gardens communities include a large number of Palestinian refugees who reside in the city and its camps. The Palestinian refugees in Lebanon are banned from acquiring private property, hence when they work in agriculture, they usually do so as the workforce. In Nohye el Ard, as well as in the Beddawi gardens in the north, Palestinians are part of the community of members of the project, and have equal access to the land and its resources. Moreover, the Beddawi garden project targets specifically women and youth, both being groups of people who usually have limited access to land. Another project that also attempts to give land access for a marginalized community is the Rezq w Wafa project. In this project a group of Syrian families are sharing a land to plant organic vegetables for their own consumption. The project was first launched by Buzuruna Juzuruna, which facilitated the training, as well as the access to land and resources, and while it still receives the organization's support, it has now become an independent agroecology project self managed by the Syrian families involved.

c. Seizing the moment: learning from the crisis

The crisis moment *(the economic crisis in Lebanon)* was a factor that made some of the actors currently active in the agroecology scene in Lebanon take steps forward. Sheikh Hassan, from the Nohye el Ard initiative, states that **"the economic crisis gives opportunity to talk about these topics (agroecology and food sovereignty), before it was impossible."** The Nohye el Ard community garden was launched in 2020, after the founders reached an agreement with the landowner to use the land for agricultural purposes, in exchange for a percentage of the vegetables produced in the garden. According to Sheikh Hassan, **"the landowner wouldn't have agreed to give the land before the crisis, he would have built on it instead."** He perceives that the current moment is a good one to develop models such as Nohye el Ard, and to involve the public in projects that foster food sovereignty.

Another initiative that was born out of the struggles of farmers in a crisis situation is Buzuruna Juzuruna. The organization that is now formed by mostly Lebanese, Syrian and French farmers, and that centers its work around the production of heirloom seeds, was inspired by the events in Syria. Serge Harfouche, one of the members of the organization, shares that it was the experience of the struggle of the residents of the Al Yarmouk Palestinian camp to get seeds when they were suffering a blockade,[58] which brought them to where they are today. Harfouche explains that during the blockade of Al Yarmouk, **"nothing could come in or out, people were going to starve to death, some of them did. So what the people in the camp did is they rehabilitated spaces inside the camp and they planted. Lots of initiatives tried to get them seeds through smuggling, and this is where it appeared in its ultimate form, the need for reproducible seeds."** Reflecting on this experience, the founders of Buzuruna Juzuruna realized, as Harfouche puts it, that **"the emergency is in having reproducible seeds, not being controlled by monopolies, not being controlled by corporations."**

58- *Annia Ciezadlo. A garden grows amid the daily dangers of a siege in Syria. Aljazeera America. 2015.http://america.aljazeera.com/articles/2015/5/18/a-garden-grows-amid-a-siege-in-syria.html*

photo by Charlotte Joubert

The story that Harfouche shared shows us that the agroecology scene in Lebanon is not operating in a vacuum, and is rather situated within a larger global movement. In the same sense, several of the interviewees shared that they learned first about agroecology through people who visited from abroad, and this is how they got inspired to start getting into the topic. Slim for instance mentioned that he met Paul Wojtkowski– author of different books on agroecology– when he came to Lebanon to volunteer for training farmers. This is when Slim discovered the concept and got convinced. Similarly, Ramzi Bou Saab, a farmer in the Shouf area, shared that he first heard the concept when the Shouf Biosphere Reserve invited a group of experts from abroad to teach about compost and sustainable agriculture.

3.2 What are the actors doing?

In an effort to transition towards greater resilience and autonomy in our agriculture and food system, the local agroecology actors are working on a variety of activities which we have classified under 5 main categories: sustainable agricultural inputs production; networking and cooperation; training and knowledge sharing; marketing and selling; and theorizing and researching.

a. Sustainable agricultural input production

Providing sustainable alternatives to synthetic and capital-intensive agricultural inputs is crucial to be able to transition towards a more sustainable food system. Even amidst the current economic crisis, Lebanon imports USD 95M per year in artificial fertilizers, pesticides, and seeds.[59] Among the 12 actors interviewed, 5 of them are involved directly in this activity.

At the level of NGOs and initiatives, Buzuruna Juzuruna, Soils association and Seed in a Box are all producing sustainable agricultural inputs and supporting input providers. In the case of Buzuruna Juzuruna, their primary activity is producing heirloom, open pollinated seeds, and making them available for the public. Serge Harfouche, member of the collective, says **"then we added the fact that we also need to spread knowledge, making it open source, user friendly. You complete the package also by producing biofertilizers and so on to get to the 4 pillars."** The four pillars of agricultural inputs he is referring to are: seeds, seedlings, compost and biofertilizers. These are all crucial to support farmers in their transition. Today, one of the objectives of Buzuruna Juzuruna consists of supporting four farms in different parts of Lebanon, and for each to produce one of the four pillars.

59- *Grondier, Hamade, 2020: Diagnostic note - Lebanese Agriculture in crisis by By Philippe Grondier and Kanj Hamade for the Agence Française du Développement*

photo by Charlotte Joubert

Similarly, Seed in a Box's first activity was to reproduce heirloom, open pollinated seeds in different areas of Lebanon. They also started a nursery in Beddawi, in the north of Lebanon, where they would grow and sell seedlings to the local community. They are planning to start biopesticide and biofertilizer (compost, fermented solutions) production in collaboration with a local municipality. Soils Permaculture Association is also working on the local production of inputs. By focusing on heirloom seeds and compost, they are supporting individuals who are producing these soil amendments. In Saidoun– where the NGO is based– they are supporting locals to preserve heirloom seeds. Amani Dagher, a member of the group explains how they are "giving training on the extraction, the production, and the preservation of seeds. The last step would be to cooperate and produce a local seed house and exchange those between each other." For them, preserving peasant seeds and sharing the know-how to the local communities is the starting point towards food sovereignty.

Promoting the production of local inputs is not solely done by NGOs. Fares Zaiden, an orchard farmer in Maaser el Chouf, produces biopesticides using aromatic distillations. Most of his recipes were learned from his parents and grandparents, which he then refined throughout the years. He is also spreading his knowledge to farmers around him so that they can start planting aromatics in their fields and use them as natural pesticides and fertilizers through a distillation process. In the case of Nohyee el Ard, the community garden in Saida, a small group amongst the members also decided to start their own cooperative of seeds and seedlings, extracting them from the crops planted in the community garden.

b. Networking and cooperation

Based on the interviews, a common thread that most agroecology actors share is the drive to mobilize, create networks, and foster cooperation. This drive saw a considerable rise after the 2019 October revolution, where several talks and actions were organized to address the issue of food sovereignty and the need to have a movement that supports sustainable farming. Our research showed that cooperation is happening both at the local level *(in specific towns or regions)*, as well as at the national level.

The cooperative approach is core to the agroecology movement. According to Amani Dagher from Soils Permaculture Association, **“farmers would have everything to win, in the case they cooperate with others. This is part of the philosophy of agroecology.”** With this idea in mind, and with the help of Saad Dagher– palestinian agroecology farmer and activist– members of Soils called for an encounter in September 2022 at Nohyee el Ard, Saida, to start a farmer-led movement called “the Agroecology Forum”. Many individuals who are practicing agroecology in Lebanon were brought together to think on how to find alternatives to the current system, work together to exchange knowledge and expertise, and transition into a more resilient food system through agroecology.

Nohye el Ard - Siada

Similarly, other actors have also implemented several projects where farmer’s cooperation is central. One of these actors in Buzuruna Juzuruna. After five years of working as heirloom seed producers in Saadnayel, Bekaa, they started a network of seed production at the beginning of Spring 2022, with five other farms. The aim was to decentralize the seed production from the Bekaa to different areas in Lebanon. They selected five farms who are either practicing agroecology or transitioning to agroecology, and gave a series of workshops and training. Harfouche notes that **“the first upscaling we do is mostly with the seed producers network, because this is what we know how to do. We know seeds, let’s make it more available in bigger quantities on larger territories.”** In September 2022, the collective organized a Seed Festival at their farm in Saadnayel, Bekaa. While the purpose of the event was to celebrate heirloom seeds, the discussions and presentations revolved around organizing collectively. It was also a perfect occasion to bring people together while connecting with professionals from other countries such as France and Palestine.

In the north of Lebanon, Seed in a Box is also fostering networks and collaborations. In 2018, they started a heirloom seed production network with an organization called “Jafra”, and in partnership with other entities such as the Lebanese Seed Bank and ICARDA. **“We started a network of 24 farmers producing heirloom seeds in different areas of Lebanon under a number of criteria such as no chemicals, and a minimum quantity of seeds to reproduce,”** explains Bashar Abu Seifan. In 2019, Seed in a Box decided to join forces with other groups to create AgriMovement. At first, they wanted to do a cooperative in Beddawi but the ministry didn’t give them the authorization: **“This is why we joined forces and decided to be a movement and not an organization,”** Bashar explains. Similarly to Buzuruna Juzuruna’s event, they also took part in organizing two encounters or agriculture seminars on agriculture and food sovereignty in 2020 and 2021 “SEAC Agriculture 1 & SEAC Agriculture 2”.

When it comes to local initiatives, the Batloun cooperative, in the Chouf area, offers one example of cooperation between farmers in one village. Jamal Hassan, an orchard farmer and the president of the agriculture cooperative of Batloun has studied organic farming in Switzerland and is spreading this knowledge through training sessions. The cooperative has supported people to plant by giving tools at a lower cost to the farmers, its members. Little by little, lands which are not being used have been donated to the cooperative so that people can start planting. In 2020, they organized a festival day about organic farming, which aimed to show the various existing solutions to transition to sustainable agriculture. In the past two years, and because of the economic crisis Lebanon is facing, the cooperative has received less funds, but continues to support the farmers of Batloun as much as possible.

Cooperation between different types of actors like NGOs, institutions, and farmers can also happen at the local level. Jibal started working on implementing local food strategies at the level of cazas. Pilot work started in Zgharta, where the different stakeholders involved in the food system were invited to reflect collectively on a strategy for the caza. It involved municipalities, the union of municipalities, NGOs, local initiatives, and farmers. At the heart of the approach is the collaboration principle where these different entities come together to set priorities and align their strategies towards a common plan for the area.

The objective of cooperating, networking, and going towards movement-building is an important step towards reaching a potential change in policies. Our research showed that the efforts of advocacy work in targeting such change remains minimal. One reason that could explain the absence of advocacy work is the limited impact it has had in our recent history. Ismael Sheikh Hassan, from Nohye el Ard, explains that while they have had their share of lobbying work in the Lil Madina initiative, advocacy and policy change can be quite frustrating, **“the people who have the power, which you try to convince or confront are corrupted. The amount of effort you put in for what you get in return is very depressing in most of the cases.”** As they currently search for a new piece of land to move their community garden to, they are creating a conversation around public lands and advocating for the fact that they are a common good. They are putting pressure on the municipality of Saida and other public authorities to give them access to public land for their project. Through this lobbying, they are raising awareness on the importance of public spaces in urban areas, and how community gardens practicing agroecology are some of the best ways to maintain these spaces and involve the local community to take ownership over them.

c. Alternative governance models

While most of these examples show efforts of cooperation building and networking at a macro *(regional or national level)*, our research showed that the democratic, cooperative, and transformative dimension of agroecology is also often reflected at the micro level, particularly in the models that some collectives use for their internal governance. This is especially the case of two of the actors we interviewed: Buzuruna Juzuruna and Nohye el Ard, but is also present in the work spirit of other actors such as Soils, Seeds in a box, and Jibal.

As mentioned previously, the Buzuruna Juzuruna organization is formed by a mixed group, mostly consisting of Syrian farmers and their families, French farmers and ecologists, and some Lebanese ecologists. According to Harfouche, the members of the organization recognize the power dynamics that result from this mix and always consider **"taking into account the social and cultural backgrounds of each, and the power dynamics within each group. Especially with lots of people coming from complicated backgrounds."** Nevertheless, the organization attempts to follow a horizontal structure, **"if you're taking care of your environment and your ecosystem, you're obviously going to have to take care of the people taking care of it right? This is where the idea of horizontality comes in. No chief, no one single authority taking decisions, always as a group, as equal wages as possible. And we are practicing it, it's complicated but we're getting there,"** shares Harfouche.

photos by Charlotte Joubert >

In a different context, Nohye el Ard is also experimenting with another model of democratic structure of governance. Sheikh Hassan shares that **"there are no employees in the land, there are committees of people, each committee has a coordinator, and every season they change which brings in new ideas and new committees. It's very fluid, all volunteer-based".** This governance structure is reflected in both the decisions made in Nohye el Ard, as well as the way to coordinate collective work: **"We have one day of collective work per month, everyone comes and cleans, and contribute to the land."** As the group grew bigger, the mode of governance changed with it. Sheikh Hassan tells us, **"we used to have meetings for everyone, but when the group became bigger, we stopped doing general meetings, only the coordinators meet together who then inform their respective committee members."** The motives behind choosing this model of governance in Nohye el Ard is not only for the purpose of being more democratic, but also to remain independent financially: **"The project does not have operation costs, to be more free and more community based."**

d. Trainings, knowledge production, and sharing

Producing knowledge on agroecology and making it accessible is another strong aspect that links agroecology actors in Lebanon. In 2020, Buzuruna Juzuruna published a book called "Towards Peasants Autonomy," which they sold at the cost of production to make it "as accessible as possible, while trying to make it readable, and user-friendly" as Harfouche explains. In the book, they share different practices from seed preservation, to biofertilizer production, to compost production, as well as information on renewable energy. Also, Seed in a Box created a "Sustainable Agriculture Guide" accessible online, sharing the basics of agroecology through videos and photos. When it comes to Soils Permaculture Association, they have a lot of resources on their website, where they share tutorials and manuals, making their knowledge open source and as accessible as possible. Slim had also contributed to writing several books, including a technical program on how to introduce agroforestry in Lebanon. It particularly explores **"how farmers can benefit from the trees on their land. How to use the services of the trees as wind breakers, for shading, for Nitrogen fixation, etc.,"** he explains.

In the case of Jibal, the publications shared are more of research on specific topics like the document "Alternative food initiatives in Lebanon". At the academic level, several researchers focus their work on political ecology and food politics among other topics. We can cite the AUB professor Rami Zurayk and the development economist Kanj Hamade, both interviewed in the framework of this research. Those researchers are among many others working on food-related topics in Lebanon.

When it comes to spreading knowledge, the process takes on different forms. In addition to publications, a lot of it is transmitted through teaching and training. Soils Permaculture Association gives training to local communities on heirloom seed production or preservation, compost production, beekeeping, agroecology practices, and permaculture. The NGO tries to put more energy on what they call "key farmers" or in other words, prototype farms in agroecology which will have a strong influence on the farmers around. Dagher explains the reasoning behind this approach: **"We cannot work with a lot of farmers on this. It needs a big follow-up. We usually work with 1 or 2 farmers in one village or area, and we work with them for one year. This would then lead to the fact that later many other farmers in the area changed."** Jibal uses the same approach. After giving trainings and coaching sessions to farmers for two consecutive years to support them in their transition towards sustainable agriculture, additional focus was given to a few key farmers, which will become a reference of agroecology-type farms in the area. Buzuruna Juzuruna delivers regular training to different groups, many of them underprivileged Syrian families. In 2022, they started training sessions to various farmers through the heirloom seed network, as well as training four initiatives to each produce sustainable agricultural inputs. Similarly Seed in a Box delivers a wide range of training for farmers and non-professional growers, from seed saving to other sustainable farming practices. As individual experts, Khaled Slim and Fares Zaiden are also spreading agroecological practices through training they provide to other farmers. Slim, a certified trainer for many years, has supported many farmers in Lebanon in their transition, as well as Zaiden, who has shared his knowledge and practices with many other farmers from his area, in Maaser el Chouf.

When it comes to the Ministry of Agriculture, their activities include training for farmers on pest control, but no real focus on agroecology.[60] As for the FAO, they provide a lot of training and capacity building for farmers, promoting mainly agro-forestry, agropastoralism, watershed management and nature-based solutions, all of which fall under agroecology. However, they do not focus directly on agroecological practices in their projects in Lebanon. Finally, ICARDA also promotes "conservation agriculture," which reduces the inputs of chemicals used to grow crops, and encourages no-till farming to keep the moisture in the soil. However, they work on this type of agriculture mostly in Syria and Iraq, not in Lebanon.

60- *Interview with Rosine Habshy from the Ministry of Agriculture, in August 2022. National Agriculture Strategy 2020-2025*

e. Marketing and selling

Another aspect some agroecology actors share is working on the marketing aspect of the food system. Focusing on knowledge sharing, training, and input providers is essential in order to spread agroecology. However, if farmers do not have access to alternative markets to sell their products, they are forced to rely on the wholesale market. This gives them little room to maneuver. By providing farmers alternative selling strategies such as direct selling, or through less intermediaries, they might benefit from fairer transactions and hence transition more confidently to more sustainable agricultural practices.

In Saida, Nohyee el Ard organized a weekly market, where various sustainable producers from the region *(Saida and Jezzine)* would have the opportunity to sell their products directly to consumers. The market would also host other types of activities such as book exchange, seed swaps, local food cooking and more.

Jibal has also worked on the marketing aspect of the food system in its projects. A weekly farmers market called “Souk el Mawsam” was launched in 2022 with the farmers that have been receiving training and coaching sessions on sustainable farming techniques for 2 years. Other markets have been developed recently in Lebanon such as those implemented by the Shouf Biosphere Reserve in the villages surrounding the reserve; the Badaro Farmers Market collectively run by a group of producers - including Buzuruna Juzuruna - and consumers from the neighborhood; and finally Souk El Tayeb that happens twice a week in the area of Gemmayzeh, Beirut.

photo by Charlotte Joubert

IV. Ideas and recommendations on how to upscale agroecology in Lebanon

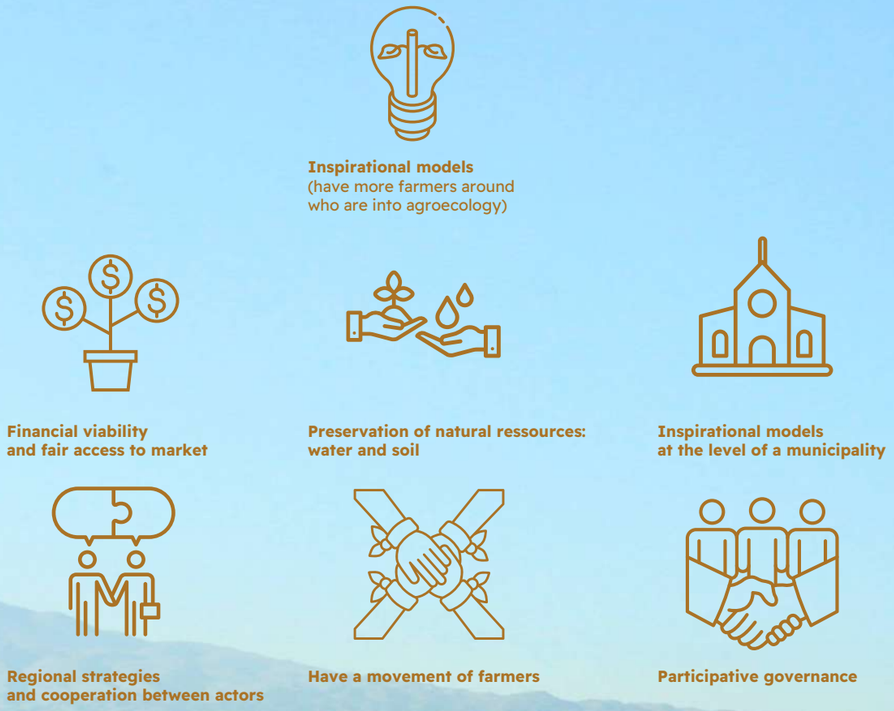


photo by Charlotte Joubert

photo by Charlotte Joubert

Small-scale family farms are the most common production entities in Lebanon, yet they are essentially the weakest players of the value chain. With barely any policy measures to support them, they often have to submit to the conditions of traders and the oligopolistic structure that they impose. Several initiatives have been developing around the country, all revolving around agroecology as presented throughout this paper. To recall the underlying purpose of the study, we revisit the following question: how to move from having scattered and sparse agroecological initiatives in Lebanon to becoming more prevalent in our local food system?

Inspirational models
(have more farmers around who are into agroecology)

A recurring theme expressed by different actors to upscale agroecology was the importance of having inspirations and models. These sentiments are shared below. Khalid Slim believes that: **"We should focus on having more model farms, like the one of Buzuruna Juzuruna, so the farmers can visit and see that it works."** This is already an approach that some actors are adopting. They showcase success stories with the hope that others would become more inclined to change their practices. However, achieving this requires close and consistent follow-up: **"We should focus on a few farmers but with intensive support, long term, so they really succeed,"** explains Amani Dagher from Soils Permaculture Association. Learning from peers is at the heart of the model farm approach. The legitimacy of a farmer sharing know-how with their peers is much stronger than when it comes from expert trainers that do not practice farming on a daily basis. Serge Harfouche from Buzuruna Juzuruna says that therefore, **"we should focus on key farmers that others listen to,"** adding that these could be big landowners willing to invest in agroecology. In many ways, the project Nohye El Ard succeeded in showing that an urban land can be turned into an agroecological collective project. As Sheikh Hassan explained **"in all Lebanese cities, except Beirut maybe, you find a lot of diversity in the city in terms of lands, there is a lot of potential for urban agriculture."**

While supporting agroecology through training and coaching key farmers is a strong approach, it's key to remember that each context, farm, and farmer are different. While the kind of agriculture practiced in the 1950s introduced a concentration of knowledge in the hands of corporations and universities, agroecology must remain a farmer-centered approach. Homogeneity and uniformity may hinder the scaling of agroecology.[61]

61- *FAO. Scaling Up Agroecology. https://www.fao.org/agroecology/overview/scaling-up-agroecology-initiative/en/. (accessed on September 15)*

Financial viability and fair access to market

Besides, working closely with farmers on their agroecological techniques is not enough if there is no financial viability. Hamade reminds us that: **"ultimately, the farmer is affected by: farming community, the policies, and the market."** While the trading system is often unfair to farmers, with intermediaries taking the biggest share, alternatives exist. For Khaled Slim it's community-supported agriculture which creates a solidarity system between farmers and consumers. Here, consumers would need to accept taking part of the risk that goes with agricultural production *(climate risks, price change risks, etc).* Farmer's markets, where producers sell directly to the end consumers, are also an interesting option but they **"should not only be in Beirut,"** comments Amani Dagher. She adds that while this option is important, we should not only focus on marketing but making sure to support diversification of farmer's sources of income and reduce production costs. These would entail **"not only vegetables, but also trees, and animals. This way there are several seasons, and the farmer can be working all year long. If something is not working, something else would complement."**

photo by Charlotte Joubert

Preservation of natural ressources: water and soil

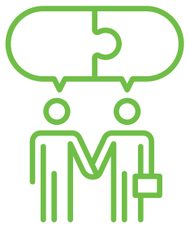
Another important aspect is focusing on infrastructure and the preservation of natural resources, a basic need for practicing sustainable agriculture. If farmers do not have access to clean water on their land and the soil they plant in is damaged, then planting sustainably is not enough of a solution. Harfouche reflects on the issue of access to resources: **“A lot of water is going to waste, while at the same time lots of lands don’t have access to water.”** He discusses **“reforesting the mountains, getting the water flowing, and fixing the soil,”** as broader ecological restoration aspects that would support sustainable farming. Water and soil health are intrinsically linked to how the ecosystems around farmed lands are being managed, and whether there is proper infrastructure and maintenance.

photo by Charlotte Joubert

Inspirational models at the level of a municipality

The scale at which support for agroecology occurs also proves important. Zurayk suggests that work should be done at the municipal level. He recommends choosing a very small municipality and to **“try to work across the municipality and make it a model. Work on waste management, energy, food, urban planning and food production.”** He notes that it may be important to choose a locale with a municipal council open and interested to collaborate in the process. Harfouche mentions another favorable condition related to this approach: **“Start in the areas where people are more sensitive to nature, even if they do conventional agriculture…they have the sensitivity to know that they are part of a whole.”** This could be for example villages close to a natural reserve, or where there are economic activities linked to nature like tourism. In addition, he also notes that the choice of a village could include the fact that local markets already exist.

photo by Charlotte Joubert



Regional strategies and cooperation between actors

Working at the level of a village or town on building new agri-food models, should involve the local citizens, farmers, and other stakeholders in a transparent process of collective decision-making echoing “the values of agroecology” as Dagher puts it. In parallel, work can be done at the regional levels *(e.g. the caza)* in an effort to plan and coordinate efforts: **“Regional plans for food sovereignty should be implemented in the different areas of the country,”** explains Abu Seifan. Regional strategies could play a role in localizing and making more sustainable the food system in Lebanon. If different regions of Lebanon grew what worked with the seasonal ecology of the landscape, production could be diversified while also maintaining nature-friendlier practices and building a better-networked local food system. While the regional level coordination is useful, national coordination still plays a large role in the food system. Public authorities have a major responsibility to prioritize the needs and to support the main food producers of the country: small-scale family farmers. While many initiatives work to address issues in the local food system, work should be done at the structural level. As Hamade puts it, **“alternative forms of production do not upscale unless (..) there are institutions that support this from the policy perspective.”.**

Today, the National Agriculture Strategy (2020-2025) developed by the Ministry of Agriculture places a larger focus on sustainability-related aspects, however this is not enough. While the strategy highlights food agricultural practices like reduced pesticide use, there is no long term strategy that considers the main concerns of food sovereignty. Other reforms and policies should be considered, such as the provision of legal status to farmers, the regulation of the wholesale system, the creation of a more efficient subsidy scheme for supporting small farmers, and a reform of the cooperative law. At the policy level, any change must ensure that citizens, farmers, and independent researchers can be involved in shaping them.

Have a movement of farmers

Still, transparency and good governance are not enough. Shifting to agroecology as an agricultural practice and a social movement also means a political shift. It involves envisioning a society concerned with social justice within emancipatory class, gender, and ecological objectives. This requires building a movement involving the people impacted by the unfair food system, raising their voice collectively and claiming, while building mechanisms to gain leveraging and bargaining power. For Hamade, **“If you take the example of organic agriculture: it started as a movement with practices and discourses. These practices and discourse are unified around this movement. That is the first step.”** While the practices were new techniques and approaches to agriculture, the discourse related to the urge of preserving the environment and people’s health, while pointing out the power dynamics in the food sector. This way, the practical solutions were coupled with a political discourse. Such a movement could bring together different actors working and thinking around agroecology to decide on priorities and common actions. Hamade sheds light on the legitimacy such a movement would have: **“Often the donor comes with this concept from abroad, and throws it here like sustainable agriculture… without there being a local movement. This [movement] should be built from the ground.”** For him, it could take different forms without being complicated. He says, **“for example, it can be a general assembly that meets every year, that would discuss climate change, the pesticides, the policies, etc, that develops a set of political discourse and practices.”** He continues, warning that the movement **“should give space for the practitioners: the farmers. This movement should not only be a movement of NGOs, but a movement of farmers.”**

photo by Jenny Gustafson

photo by Jenny Gustafson

Participative governance

While NGOs and international donors are currently main actors promoting agroecology in Lebanon, several interviewees warned of the possible dangerous impact of this situation. Sheikh Hassan from Nohye El Ard sheds light on the danger of the funding system which NGOs rely on: **"Agroecology in Lebanon is becoming very exotic and every NGO is doing competitions to get funds. Those who know how to get access to funds and write proposals get access to those resources."**

This opportunity-based intervention impedes a more coordinated and sustainable dynamic, as each party is implementing its own project without necessarily looking at how it could complement other actions. Such coordination on funding and actions should be led by the public authorities, as these institutions are ones meant to guarantee the public good. This work would happen in parallel to the one led by a farmers' movement. While the movement would be setting its priorities, and claiming for the necessary changes, it should create all possible mechanisms to counterpower and make their voice heard by the authorities to implement the relevant policies.

With the quasi absence of the government, Hamade explains that international donors are giving the needed recognition in supporting sustainable agriculture projects: "when they give money for example to Buzuruna Juzuruna, they recognize that this approach is useful in terms of policies, in terms of development, and useful for the community." One of these major donors and players is the FAO, who directly supports the Ministry of Agriculture, Fadi Asmar from the FAO explains the reason why they are not supporting agroecological interventions in Lebanon: **"If the ministry doesn't request this, we cannot impose it. We can give orientations sometimes. If it is requested by the government to do something on a pest for example and we see agroecology can be used as a tool, then it will be then mainstreamed."** On their website the FAO has published a section called Agroecology Knowledge Hub that gathers several resources, definitions, and publications on agroecology. In 2018, the organization launched the "scaling up agroecology initiative." One of its aims is to assist countries in the development of policies for agroecology. However, this is still not the case in Lebanon.[62]

62- *FAO. Scaling Up Agroecology. https://www.fao.org/agroecology/overview/scaling-up-agroecology-initiative/en/. (accessed on September 15)*

photo by Charlotte Joubert

These different recommendations shared by the actors operate at different levels, ranging from demonstration to policies. The book Fertile Ground, Scaling agroecology from the ground[63], gathers several experiences and lessons from people innovating and organizing around agroecological alternatives in different contexts. They shared an upscaling framework with three levels:

1) depth– here farmers are able to continuously innovate on their land, moving from using limited agroecological techniques, to a more holistic farming system;
2) horizontality– where agroecology is spread horizontally among different farming households and communities;
3) verticality– where networks and movements are strengthened, linking farmers to local markets and creating supportive policies.

As this report showed, these different levels are being explored in different ways by the actors in Lebanon. Future research should widen the scope and examine other agroecological initiatives and actors not covered in this report. This would allow a comparison of a wider diversity of projects and approaches. In an effort to shift from standardized industrialized agriculture, these different initiatives demonstrate a creative movement where scaling agroecology is not a rigid process, but instead supports the constant innovation of farmers and collectives trying to (re)invent their relation to nature and production.

63- *Miguel Altieri et al., "Introduction," in Fertile Ground, Scaling agroecology from the ground, ed. Steve Brescia (Canada, 2017), page 13.*

photo by Jenny Gustafson

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HEINRICH BÖLL STIFTUNG
BEIRUT
Middle East