



Between Scarcity and Decision:

Using Simulation Games to Understand Agriculture and Social Relations in Rural Hama

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Introduction

The agricultural crisis in rural Hama is not simply a production problem. It is also a window into how livelihoods are changing, how trust is built or broken, how people cooperate, and how social cohesion holds or frays. After years of conflict and neglect, production has fallen, costs have risen, access to resources has shifted, decision-making has fragmented, and new forms of competition and interdependence have emerged. Agriculture in this context sits at the intersection of economic, social, and political life, and the ways people relate to land and natural resources are continuous negotiation over justice, power, and collective organisation.

These changes cannot be separated from the local political economy. Resource management policies, access to agricultural inputs, and the inclusive and exclusive roles played by formal and informal institutions all shape how agricultural production takes place in practice. From this angle, the agricultural crisis is the product of overlapping environmental conditions, local practices, institutional structures, and a long history of inequality. Understanding it, therefore, requires an analytical approach focused on how resources are used, distributed, and contested.

With this in mind, we used simulation games as a methodological tool for understanding these dynamics. Games of this kind can reconstruct reality within an interactive environment, making it possible to observe how decisions are made under conditions of scarcity and uncertainty. The games were designed using local data drawn from discussions that the Badael team conducted in al-Saan, Morek, and Suran. The scenarios reflected real tensions around resource management, distribution, and collective decision-making. Participants were assigned roles that allowed them to inhabit different positions of power and vulnerability within the community,

and to observe how attitudes and interactions take shape when interests diverge or conflict.

This approach made it possible to observe the moment of decision itself, where negotiating behaviours, the limits of cooperation, and the building or erosion of trust became visible. Unlike conventional tools that rely on narration or direct testimony, simulation allows us to observe the gap between stated principles and actual conduct, as choices get renegotiated in the process of being translated into action within a collective setting. The games function here as an analytical instrument, surfacing hidden dynamics in resource management and social relations.

This paper analyses what these sessions reveal by tracing the relationship between the agricultural crisis and the social transformations it generates, and by examining how patterns of governance, cooperation, and peacebuilding take shape in these contexts. It seeks to draw broader insights about the possibilities for intervention in environments like those in rural Hama, and about what agriculture might offer as an entry point for reorganising social relations and building more stable and just conditions in the aftermath of conflict.

Methodology

Understanding Agricultural and Social Reality in the Target Areas

This paper draws on a qualitative methodology that tracks how agricultural knowledge is formed in Morek, Suran, and al-Saan, connecting lived experience to the mechanisms of collective decision-making on thorny questions specific to farming conditions in each locality. The methodology follows a cumulative process of knowledge production: beginning by listening to local experience, reconstructing that experience within interactive scenarios, and finally analysing what those interactions reveal about underlying patterns.

The process began with three focus group sessions held in December 2025, one in each locality, each lasting approximately seven hours. Forty-three participants were drawn from active local actors in the community, selected to reflect the diversity of the social structure and to capture a range of knowledge, experience, and perspectives on the agricultural crisis as understood from different positions within it. Each group included farmers, agricultural engineers, livestock herders, women working in food processing, representatives of agricultural cooperatives, and people involved in resource management and service provision. The selection logic was to represent different positions within the production system and within decision-making, so that the interactions observed could approximate how they actually occur in real life.

These sessions formed the foundational phase of the work, clarifying what the crisis looks like through local eyes: how resources are defined, what tensions their management generates, how communities adapt, and what forms of cooperation exist for finding sustainable solutions. These findings were then used to design the

simulation games, translating qualitative data into simulation games grounded in local context and tackling local problems. Several scenarios were introduced as reconstructions of lived conditions, and agricultural challenges were simulated as a way of analysing broader dynamics: how tension is managed, how community trust is built or eroded, and how relationships within the community have been reshaped by years of conflict, violence, displacement, and neglect. By linking agricultural decisions to questions of resource distribution, representation, and the feasibility of technical solutions, the methodology allowed us to track patterns of cohesion or fracture produced by these challenges.

The games were developed on two connected levels. The first was a local level, focusing on the specific dynamics of each area - with four games per area simulating its particular agricultural challenges. The second was a joint level, bringing together participants from all three areas in a single master game - designed to test how different contexts interact and to understand what patterns of cooperation or tension emerge when they meet. The games involved a total of 141 participants.

To encourage open expression and reduce local sensitivities, we used fictional villages as representative spaces for the games (al-Marj, al-Suhul, Umm al-Uyun, and Dima). This allowed participants to represent their experiences without direct reference to their actual communities, which made for more open discussion.

In analysing the data, we used a comparative approach across the three areas, looking for what elements of the structure of the agricultural crisis are common across contexts and what elements are unique. This enabled us to understand how agricultural and social dynamics vary by setting, and how each environment reproduces, in its own particular way, the challenges bound up with peacebuilding.

Findings were cross-referenced across focus group sessions, in-game interaction patterns, and documentary materials; this combination enriched the analysis and brought it closer to the complexity of the reality under study.

I. Three Regions, Three Different Stories

We chose Morek, Suran, and al-Saan as agricultural communities whose livelihoods depend on the land, though in different ways and under different conditions. In Morek, the relationship with the land is built around a single high-value cash crop: pistachio. Given its historical economic significance and social weight, any disruption to production, ownership, or cultivation directly affects the structure of local relations. Suran, by contrast, has a diverse agricultural base but relies on deteriorating water sources, making the management of scarcity a central organising factor in social life. Al-Saan faces a similar but more severe situation, where the viability of farming is declining under drought and resource scarcity, forcing social relations to confront a basic question of survival under conditions of limited production.

The differences between the three areas go beyond production patterns, extending to the paths of displacement and return, the nature of land ownership, the degree of institutional presence, the capacity of institutions to organise, and variations in agricultural knowledge and access to resources. In Morek, shifts in land ownership are a major source of tension. In Suran, there are ongoing attempts to manage shared resources within a deteriorating environment. In al-Saan, social cohesion depends on the community's ability to organise itself and manage scarcity rather than abundance. The agricultural crisis, then, is not a single phenomenon but a structure shaped by different environmental and social conditions, reproduced in each area according to its own local logic. Patterns of tension or cooperation, and possibilities for cohesion or fragmentation, can only be understood by looking at the relationships between resources, actors, and decision-making mechanisms within each specific context.

Morek, Suran, and al-Saan all demonstrate that agriculture is not a separate production sector but a space where resources, ownership, and social relations intersect within a long history of marginalisation and forced transformation. Land and water management here becomes an arena for daily negotiation over power, legitimacy, and justice, not just over production. In Morek, pistachio cultivation was once the main crop and the cornerstone of the local economy, before being displaced by grain, which offers higher returns. The area has also seen a deterioration in its relationship with the land more broadly. A lot of productive trees were lost to burning or cutting during the conflict, while the remaining trees were damaged by the capnodis beetle due to neglect of tillage and maintenance. With landowners absent or displaced, agricultural work was taken over by parties focused on harvesting rather than upkeep. This led to crop deterioration and direct damage to neighbouring land. Pests became difficult to contain within a single field, requiring collective effort across the entire agricultural area. The same applies to the indiscriminate use of pesticides without addressing the underlying causes of infestation: an emergency approach that does not eliminate the problem but merely defers it.

The loss of trees represents a shock to collective memory, which is often embodied in objects that carry the continuity of life: the tree that remained under the rubble for twelve years, the rosary that accompanied displacement, the key to a childhood home... all define a relationship with place and affirm its identity. Here, land is an extension of both personal and collective life, and farming is a practice of cultivating belonging. Reclaiming the land and reclaiming the self are, at root, the same act. This is captured in a phrase that encapsulates the intertwining of economics and identity: "If the pistachios are doing well, then we and our children are doing well." This phrase links agricultural recovery to the restoration of one's

relationship with oneself. Any agricultural intervention is judged by its ability to engage with memory as a political resource.

The issue deepens with land ownership. Illegal transfers during the conflict, exploitation of owners' absence, and the sale of land to others have created a divide between returnees and long-term residents. This divide goes beyond legal dispute and has become a tension rooted in memory and identity. The problems in Morek have been described as the most complex: there have been instances of revenge, and some returnees have sold their land to repair their homes, a need compounded by poor adaptation to drought and rising feed costs. All of this threatens social cohesion and calls for shared rules of coexistence that go beyond conflict resolution to define who holds decision-making power and how it is exercised. In the meantime, the Pistachio Office agricultural cooperative, with 82 members, is attempting to resume operations under a shareholding system. It had previously been hampered by farmers' fear of declaring land ownership due to the threat of extortion. The cooperative has already sought to import a production line and expand its services, but trust remains scarce, making any collective effort a test of the community's capacity for recovery.

In and around Suran, from Tayyibat al Imam to Maardis and Qomhane, there is a wide agricultural variety: wheat, barley, legumes, vegetables, walnut, peach and apricot orchards, livestock pastures, and poultry farms. But this diversity has become a source of vulnerability due to the declining water level of the Orontes River. Productivity in some areas has dropped significantly, ancient walnut trees have been cut down, and some farmers have resorted to irrigating with sewage water despite knowing the risks. This has led to the spread of disease and insects and the contamination of soil with heavy metals. Managing scarcity has itself become a source of health and environmental threats, and survival has necessitated

practices that harm both public health and social relations. This is exacerbated by the indiscriminate use of fertilisers and pesticides, the long-term effects of which farmers are well aware, with some describing it as akin to suicide. Yet viable alternatives remain out of reach. The situation is made worse by the absence of effective agricultural extension services: authorities issue licences but provide no technical guidance. Awareness of the risks has become merely a mental burden that produces no change.

Four interconnected local dynamics are observed in Suran. First, there is a diverse social and professional structure encompassing farmers, working women, a veterinarian, traders, volunteers, returnees, and people with technical and educational expertise. Values of cooperation and belonging coexist with caution, mistrust, and exhaustion, making every agricultural decision an extension of an already strained social condition. Second, a single shared well, low rainfall, and the absence of government institutions have driven haphazard drilling, turning water into a source of conflict and making regulation increasingly difficult. Third, in the open green plains, decisions are visible and irreversible, making every farming choice a cumulative action with direct consequences for production, relationships, and safety. Fourth, resources are understood locally as a shared system encompassing water, land, livestock, human resources, and financial institutions, making their management a matter of collective organisation where the economic and political are inseparable. This raises the persistent question of who determines access and distribution in light of weak institutions. Associations provide only seeds and fertilisers, unions lack political leverage, and civil society organisations offer direct support without follow-up or structural investment. The result is a vacuum managed through informal arrangements, where social cohesion depends on actors' ability to establish common rules of engagement.

Finally, al-Saan seems the most exposed to the pressures of the agricultural crisis. Residents feel historically marginalised and believe they deserve greater attention, particularly given that neighbouring villages with similar conditions receive better treatment. They perceive the agricultural crisis as an extension of broader social injustice and view the state as a source of deprivation rather than a guarantor of rights. According to official Syrian classifications, al-Saan falls within the fourth agricultural stability zone, with average rainfall of no more than 190mm, and is steadily declining toward the fifth zone, where rain-fed agriculture is no longer viable. Production has effectively reached zero in a large number of fields. The area relies solely on shallow wells, as drilling new ones is prohibited, and the cost of a water tanker can reach 500,000 Syrian pounds (around 38 USD), forcing farmers to buy drinking water rather than irrigation water. This is compounded by poor seed quality, high prices, rising fuel and fertiliser costs, expensive animal feed, limited grazing land, trader monopolies, and weak markets. Together, these pressures have driven a shift away from agriculture toward trade and crafts as more stable activities, reshaping the local economy and reducing the role of farming in daily life. Al-Saan is nonetheless distinguished by a stronger sense of social cohesion: the local council plays an active role in service delivery and conflict resolution. This raises a genuine question about whether strong social bonds can serve as a sufficient regulatory mechanism in the absence of resources.

Water management across all three areas reveals a significant regulatory vacuum. Wells are drilled haphazardly and without licenses, with some areas recording as many as four wells within forty dunams (around 10 acres). The water table is being severely depleted despite widespread awareness of the risks. Some actors have attempted belated control measures: counting wells, allowing unlicensed ones to operate, adopting irrigation methods ranging from flood irrigation to tap, drip, and sprinkler systems (with considerable waste), and supplying some unlicensed wells with solar energy. The situation is worsened by the

drying up of springs historically used for drinking water and by policy shifts such as restricting cotton cultivation to the Ghab Plain. Water management has become an arena where urgent need meets an absence of rules, and individual decisions accumulate into collective problems. This reflects a broader governance failure. Local councils play a limited role in agricultural affairs, cooperation between unions, organisations, and farmers is weak, and agricultural education is poor. The region oscillates between slow long-term government planning and emergency organisational interventions with no follow-up or capacity building. Traditional knowledge remains dominant while modern technologies are scarce, often due to limited finances and low awareness. Drought-resistant crops such as cactus and the Qaysi olive have been introduced in limited ways but have not yet become widespread practice.

Women's roles in agriculture vary by local context, reflecting their differing positions within the production system. In al-Saan, women have a more visible presence in economic life, with documented cases of women claiming inheritance rights and participating in small businesses that contribute to household income. In Morek and Suran, women's land ownership rights are largely limited or unestablished, though a few women do own land. Women in agriculture generally remain laborers without access to training, despite some individual successes and increased attempts at engagement since the fall of the Assad regime - this may point to tentative shifts in how people relate to institutions and to one another. Here, possibilities for peacebuilding and trust-building emerge in issues that demand collective action, such as pest control and water management. Formalising partnerships through documented communal agreements could establish clearer rules for how people work together. Creating spaces for dialogue, knowledge exchange, and the framing of agricultural practice could turn farming into an entry point for reorganising relations between actors. These possibilities are real, but they will persist alongside tensions, contradictions, and limitations that no intervention can dissolve as long as institutions remain weak.

II. The Agricultural Crisis as a Window into Changing Social Relations

This section draws on simulation games that allowed agricultural issues to be reproduced within a condensed interactive environment, breaking them down into analysable moments. This condensation made it possible to observe the relationship between agricultural factors and social structures at a detailed level, particularly around key social tensions. It also allowed for tracking how attitudes shift, how trust forms, and how cooperation or competition evolves as circumstances change within each game. What follows is not a general description of the three regions but an analysis of the dynamics that unfolded within their corresponding spaces.

The data suggest that agriculture appears as a site where social, economic, and political structures are continuously shaped by accumulated loss, scarcity, and uncertainty. When a farming season fails completely and a farmer reaps nothing from what they planted, the result is a direct withdrawal from agriculture toward other sectors. Land becomes an insufficient basis for sustaining livelihoods, stability, or family continuity. This shift is accompanied by a decline in communication among relatives and community members, revealing that economic productivity was never purely material: it implicitly functioned to maintain social networks and the forms of daily interaction built on mutual dependence.

This is intertwined with a long-standing sense of marginalisation, frequently expressed: the region is neglected, afflicted, and deserving of greater attention. Residents understand the agricultural crisis, manifested in drought, high production costs, and absent services, as an extension of broader social injustice. The decline

in production is linked not only to reduced rainfall but also to the depletion of groundwater without replenishment, turning the crisis into an implicit indictment of how resources are used and managed within the community itself. Agricultural practices become part of the crisis, and a collective understanding of harm emerges in which environmental factors and human decisions are inseparable.

Return after displacement radically changes the function of land. Some returnees are forced to sell portions of their land to repair their homes, while others discover that their land has been illegally sold or transferred. The difference between forced and voluntary sale carries both ethical and political weight. In Suran, disputes related to the 1958 Agrarian Reform Law persist, with claims from original landowners and their heirs resurfacing alongside ongoing discussions about the legal frameworks needed to regulate them. In al-Saan, another form of inequity is present: farmers have not been exempted from land rent despite losing their entire harvest, fuelling a deeply negative perception of the state as something that deepens the crisis rather than resolves it. Agricultural loss also carries a profound emotional dimension, particularly with the destruction of pistachio trees, which registers as a blow to memory, identity, and continuity. People describe having grown up with the trees and being destroyed alongside them.

Scarcity generates daily tensions on multiple levels: disputes over resource distribution, irrigation scheduling, pesticide use, land use, and the haphazard use of water and wastewater which raises concerns about pollution among neighbours. Damaged infrastructure compounds this. A shared irrigation canal requiring fifteen days of repair can become a flashpoint between competing needs: watering livestock, supplying farmers, and domestic use. The harm is not distributed equally. Priorities and capacities fragment across groups,

and health and environmental risks spread unevenly, particularly with the spread of disease and rising soil alkalinity.

In al-Saan, there is fierce competition over water, skirmishes over pumping rights and priority, and escalating tension between farmers and livestock herders. Individual solutions, even effective ones, are rejected because they deepen disparities and increase resentment. Competitive behaviour appears even in the absence of a direct threat (in the balloon exercise, during one simulation game, participants destroyed each other's balloons despite the possibility that everyone could survive, and this eventually gave way to a new framing of the crisis as a collective threat from which there is no individual escape, marking a mindset shift from competition to shared fate).

In Suran, the crisis permeates family life and the market. Brothers dispute over land, families conflict over whether to sell or invest, domestic violence rises with economic hardship, and a growing sense of class division sets in as the middle class disappears and poverty spreads, leaving only a small well-off minority. When water levels drop, participants split between accepting reduced production and striving to maintain previous levels. In such circumstances, selling livestock emerges as a way to relieve pressure, even at high prices. The real test of social cohesion, it turns out, comes in moments of shared loss rather than abundance. Some crises make cooperation unavoidable: individual interventions simply are not enough. Tensions also emerge around marketing: whether to sell wheat to the state or hold it back, whether to move surplus through unconventional channels or resist a transformation that would radically reshape economic and social life. The haphazard drilling of wells deepens these fault lines, creating clear winners and losers. The investor, the well owner, the drilling company, and the solar energy supplier all benefit, while owners of older wells and ordinary villagers suffer, particularly in terms of drinking water. Decision-making becomes

fragmented between quick solutions with high environmental costs and slower, more sustainable ones that are nonetheless harder to initiate. Most participants are aware that short-term private gains will become long-term collective threats. Early decisions made without adequate information or soil analysis produce conflicts of interest and block cooperation. When a well is contaminated and a child dies, an agricultural decision becomes a matter of public safety. A lack of expertise also proves decisive: crops were destroyed instead of weeds, the wrong pesticide killed thirty-year-old trees, and one farmer admitted he did not know when to plant soybeans. Knowledge itself is unevenly distributed.

In Morek, technical needs are intertwined with the fear of losing orchards, a willingness to share expertise, patience, and a deep attachment to the land. Listening to stories of displacement and land loss builds a sense of shared responsibility among those working in agriculture. During negotiations, stark differences emerged between large and small farmers, but personal narratives shifted the terms of entitlement beyond purely economic calculations. The symbolism of old and new keys captures two different relationships to land: one rooted in continuity and identity, the other treating land as a disposable asset. The logic of competition reorders values, placing profit and integrity in tension, while cooperation proves to be more important for success and sustainability than the volume of resources alone.

Despite all these pressures, cooperation does not disappear. It takes different forms: gatherings at the threshing floor, help during fires, traditional songs, food sharing such as *namoura* and *qarada*, but also more contemporary forms like WhatsApp guidance groups, field days, mutual aid funds, *beit al-mouneh* (food stores), and reconciliation committees. This occurs, however, against a backdrop of declining trust in official institutions: agricultural extension

services, cooperatives, and the Farmers' Union. The result is a push toward self-reliance that limits the capacity to address shared challenges. The confinement of women's roles to home-based production, their absence from decision-making, and the near-total absence of youth in some areas while they are strongly present in others, all point to imbalances in how roles are distributed within the agricultural economy, with real consequences for sustainability. Agriculture thus becomes a sector through which scarcity, loss, disease, pollution, conflict, ownership, and displacement shape trust, identity, memory, and gender roles, making every technical decision a direct intervention in the fabric of social relations.

III. Exclusion and Inclusion in Governance and Resource Management

In this section, governance refers to patterns of decision-making in agricultural communities, and how these patterns are reproduced or circumvented in daily practice, particularly under conditions of scarcity and unequal access to resources. Governance takes shape gradually through decisions made under pressure, where patterns of resource allocation intersect with patterns of social influence that determine who has the right to manage those resources. As decisions accumulate, governance redistributes “influencing power,” and exclusion occurs as an indirect consequence of processes that appear technical or neutral on the surface.

In this context, simulation games allowed for the exploration of these dynamics from within. Governance was not presented as a theoretical concept but as mechanisms of defining priorities and negotiating decisions when interests diverge. As discussion moved from the abstract to the concrete, it became possible to observe how power actually forms, not only through institutions but through the interplay of different forms of influence: technical know-how, accumulated experience, social position, and access to resources.

This interplay produces negotiations in which the capacity to influence is unequal. Decisions are not determined solely by those with technical know-how, but also by whoever can define the problem, who is recognised as a legitimate participant in the process, and who remains outside it.

The data reveal that agricultural governance not only manages imbalances but also actively reproduces them. Decision-making

power does not reside with local actors. As one participant put it, “the real decision-maker is the Directorate of Agriculture.” This limits farmers’ ability to shape their own circumstances and ties them to a system detached from their immediate realities. Agricultural research, meanwhile, was described as “locked away in drawers”: knowledge exists but is gathering dust in offices and filing cabinets, and thus unavailable for use. There are also persistent disagreements over subsidy distribution, described as poorly targeted, with a widespread sense that those making decisions are far removed from actual farming practice. This overlaps with interventions by organisations that have deepened inequalities between groups, and with the continued influence of major merchants and landowners. The entanglement of economic and administrative power leaves distribution “lost between desks and departments.”

The simulation in al-Saan reveals that governance takes shape across multiple levels of power that extend well beyond formal institutions to include resource ownership, social status, and the ability to define the crisis itself. This is evident in the objection to treating “high numbers of wells” as a positive indicator, given that more than half are unusable or saline. The very definition of the problem is contested. In another simulation, governance appears as an unequal relationship between those who make decisions and those who bear their consequences: participants described feeling “estranged from their rights” and asked, “What fault do local people bear for how their area is officially classified?” This points to the arbitrary nature of technical expertise, classification criteria dating to the French Mandate, and the cessation of development projects since the 1950s. Injustice accumulates over time, and classification fairness becomes a favour that can be granted or withheld rather than a right. Local knowledge about soil and crops is meanwhile constrained by regulatory frameworks that are not grounded in reality.

In Suran, epistemic authority, social status, capital, and procedural control all overlap. Collective decision-making emerges from an unequal negotiation over who is heard and who is alienated. The clearest example is the conflict between a traditional agricultural engineer relying on long experience, low costs, and quick results, and agricultural researchers who argue that his very practices have contributed to soil degradation. Another discussion reveals that banning overgrazing, despite its environmental benefits, has harmed livestock herders, showing that what appears fair at the community level may be unjust for a specific group within the community. The absence of agricultural information leaves space for the logic of quick profit, as expressed by one investor, while landowners are left to acquire technical know-how on their own. The absence of oversight and coordination leads some agricultural decisions to produce health crises.

In Morek, governance begins with defining resources before regulating them. Water is understood as a vital resource requiring protection and equitable distribution. Seedlings represent the continuity of life. Preserving local seeds and traditional practices such as rainwater harvesting carries agricultural memory. Justice here takes the form of recognising a historical relationship to the land rather than quantitative redistribution. Furthermore, resources are understood to include intangible elements: trust, time, and social bonds. Transparency emerges as a practical governance tool, with the publication of production data reducing uncertainty and enabling voluntary concessions. Ongoing local dialogue frameworks are essential, as temporary agreements cannot hold without a supporting organisational structure. Soil analysis shifts understanding from symptoms to causes: saline irrigation and poor drainage at the immediate level, and weak agricultural extension and poor resource management at a deeper level. The data show high salinity, organic matter deficiency, and mineral imbalances,

alongside practices such as excessive fertiliser use, repeated cropping, poor organic fertilisation, and leaving soil exposed. Saving the soil is understood as a collective effort, particularly given the weak response from civil society. Soil problems are also linked to broader historical policies: the settlement of nomadic populations, the end of seasonal migration, grazing pressure, and desertification. With limited funding, the question of who manages solutions and with what powers becomes pressing. This points to the need for a representative framework that includes small farmers, women, youth, experts, and governmental bodies, organised around data collection, negotiation, resource management, and accountability. Collective decision-making maintains a higher degree of acceptance even where power imbalances persist.

Across all three regions, governance involves a continuous balancing act between interconnected indicators: water, soil, social cohesion, public safety, economic stability, and trust. Improving one may come at the cost of another, making every decision a trade-off rather than a solution. Agricultural knowledge is drawn from multiple sources: experienced farmers, extension services, agricultural suppliers, university research, and laboratory analysis. There is a constant process of sorting between inherited practices worth keeping and new ones worth testing or adapting, requiring a balance between local experience and scientific expertise (The cultivation of safflower and cactus is cited as one example of the value of indispensable local expertise).

Managing scarcity requires linking any intervention to standards of feasibility, equitable distribution, and verification. Proposed approaches vary: an institutional approach working through committees and rules; a community-based approach prioritising representation, expertise, and integrity; and a broader approach that sees resources within a network encompassing people and

institutions alike. Yet decision-making power remains concentrated among those with influence and status. This gap is visible in the inclusion of vulnerable groups in databases without actual service delivery, and in widespread accusations of favouritism, abuse of position, and bias in aid distribution, all of which erode trust. Efforts at rebuilding point in a different direction: electing neighbourhood representatives with detailed knowledge of local needs, conducting periodic evaluations, offering investments through public tenders, appointing an accountant and legal advisor, and using media as a transparency tool.

Across the regions, influence and money consistently outweigh expertise in shaping agricultural decisions. In Morek, the influence of merchants and landowners persists, as well as tensions between returnees and long-term residents which are compounded by unreliable agricultural guidance. In Suran, committees formed after the fall of the regime operate outside their mandates and reproduce favouritism through aid distribution. In al-Saan, decision-making is concentrated in the Directorate of Agriculture, which controls licensing, the allocation of cultivated areas, and well-drilling without engaging local communities, while farmers themselves tend to act individually despite the collective nature of the challenges. The result is fragmented governance shifting between multiple centres of power with no unifying framework, with resource management remaining more tied to access to power than to competence. Rebuilding governance requires shifting the centre of gravity from influence to representation, from individual decision-making to collective organisation, and from controlling resources to managing the relationships that surround them.

IV. Existing Forms of Cooperation: What the Current System Gets Right

Despite tensions and multiple imbalances, the analysis shows that participants developed practical forms of collaboration from within the crisis itself. In the case of al-Saan, discussion moved from complaints about tractor service monopolies to workable solutions: standardising ploughing prices, creating a joint cooperative fund, and setting priorities based on crop type. This marked a shift from individual, monopolistic pricing to collective, standardised pricing. In water management, participants proposed plans to rationalise water use and redistribute crops, recognising that scarcity is a shared threat. They also suggested rebuilding trust by publicly announcing distribution schedules and introducing a social mediator to manage tensions. In livestock management, participants proposed a system based on quantitative allocation and documented procedures, shifting trust from personal relationships to rules and procedures. This approach extended to favouring collective negotiation or collective rejection of external bids, rather than individual marketing decisions that deepen divisions. Simple tools such as WhatsApp groups were seen as useful for sharing experiences and strengthening cooperation. In conflict management, some defined the solution as restoring relationships rather than simply addressing harm. For example, when sheep enter a neighbour's land, the issue is resolved through dialogue and mediation and the preservation of social ties.

In Suran, participants reached agreements that allowed work to continue despite differing views. They proposed joint plans that included an integrated agricultural cycle, combining organic and chemical fertilisers, fair water distribution, and crop diversification.

As water levels declined, they developed approaches based on allocating resources by land size and crop type. This later expanded into collective responses when wells dry up, such as forming committees to regulate drilling, planting less water-intensive crops, installing water meters, using modern irrigation techniques, and deepening wells. On the economic and social level, participants proposed a solidarity fund managed through family representatives, along with fines to regulate collective behaviour. They introduced the idea of social capital, defined as a network of trust, relationships, resources, skills, and land. They distinguished between short-term aid, such as bread distribution, and long-term support through small projects. Suggested projects included fish farms, production lines, solar-powered wells, and agricultural nurseries. The latter could create jobs, including for women, linking cooperation to stability and reducing migration. Discussions also stressed the importance of confidentiality, respect, and guaranteed participation, making dialogue possible even when some participants feel unheard. To address health risks linked to water pollution, participants proposed cooperative measures focused on public safety, including regulating fertiliser use, separating water sources, and ensuring safe waste disposal. More broadly, they linked low productivity to limited rainfall, poor water management, scarce resources, and harmful practices. These factors were seen as contributing to declining vegetation, damage to livestock, migration, and threats to food security. The concept of resources was expanded to include land, water, energy, expertise, and relationships with communities, organisations, and traders.

In Morek, participants developed a vision of cooperation that began with creating a shared space for dialogue before proposing any solutions. Early interaction proved decisive in building trust and encouraging participation. Ground rules were agreed, including respect for others' opinions, no interruptions, balanced participation,

and time limits. As discussions progressed, participants moved from identifying needs to offering expertise, patience, and other intangible resources, strengthening a sense of shared responsibility. To address gaps between needs and resources, they proposed fair systems for distributing water and seedlings, along with clearly defined roles. Transparency was seen as essential, with calls to publish production data to reduce uncertainty and encourage voluntary compromise. Participants suggested establishing permanent local dialogue councils to sustain discussion and review agreements. In soil management, they proposed combining practical knowledge with technical expertise: improved drainage, drip irrigation, composting, salt-tolerant crops, and disciplined water management. They also proposed forming a community-run committee that includes small farmers, women, youth, experts, and official representatives, with clear responsibilities for negotiation, resource management, data collection, and accountability. Even when competitive issues were introduced, disagreements remained manageable, allowing work to continue. This reflected a basic level of procedural cooperation based on the understanding that sustainability depends more on cooperation and decision-making than the volume of resources alone.

At a broader level, the findings reveal complex forms of collaboration across knowledge, institutional, and cultural domains. Participants proposed creating a “living document” of shared norms that distributes responsibility among stakeholders and evolves through negotiation. In knowledge-related discussions, they combined scientific and local experience across topics such as pesticides, green fertilisation, pruning, wastewater, local crop varieties, laboratory analysis, and remote consultations. They also worked through which practices to keep, test, or adapt. Institutional collaboration appeared in proposals such as agricultural dispute committees, local fines, regulated mill operations, collective pest control such as capnodis, and facilities for compost production. These ideas

developed into operational plans involving local committees, water storage, laboratories, pest management systems, financial funds, infrastructure, energy use, value chains, barter systems, water filtration, and drought-resistant crops. At the cultural level, participants proposed preserving and sharing agricultural knowledge through *zajal* (folk oral poetry), booklets, posters, and other literary forms that reinforce collective memory as a basis for cooperation.

Participants also described cooperation rooted in everyday social life beyond resource management. They pointed to existing practices such as attending funerals without invitation, helping families move, and providing financial support during crises like fires, illness, or surgery. They suggested creating a cooperative emergency fund based on subscriptions, which could also support small joint investments, especially for practitioners who lack capital. This spontaneous cooperation was closely tied to seasonal, collaborative agricultural work: sowing and harvesting wheat and barley, planting vegetables, harvesting pistachios in July, August, and September, harvesting olives in October and November, and fighting fires in grain fields. These seasonal activities are intertwined with cultural practices such as *nammourat al-hasad* (celebratory end-of-harvest sweets), *al-qarada* (giving workers a share of produce), *futour al-hassad* (sharing dates and yogurt as a communal breakfast), giving alms immediately after the harvest, as well as seasonal songs and chants. Participants proposed strengthening this cultural foundation through community-led associations, disaster response committees, joint agricultural planning, and media-sponsored events such as pistachio festivals. They also highlighted existing initiatives that reflect this approach, including financial incentives for collecting the capnodis beetle in Morek, field schools for producing organic fertiliser from vegetable waste, now discontinued, conservation agriculture experiments in al-Saan, which proved effective despite setbacks due to water scarcity, and the food store in Suran, which

exemplifies linking production to processing and marketing. The capnodis example shows how agricultural challenges become collective when individual success depends on the actions of others. This encourages organised cooperation when support is available. Overall, cooperation emerges from the combination of clear rules, transparency, social networks, shared knowledge, cultural practices, emerging institutions, and the ability to keep disagreements within manageable limits. This opens the possibility of turning existing informal practices into a more evolved, self-conscious, and well-structured system, where cooperation becomes less a response to crisis and more an ongoing way of organising the relationship between people, land, and resources.

V. What the Simulation Games Reveal

Simulation games are an interactive analytical tool that emerged from early work in the social and economic sciences to understand decision-making in complex situations where variables cannot easily be isolated or tested directly. Over time, they evolved from technical tools used in planning or training into spaces that simulate social reality itself, including its power relations, unequal access to resources, and different forms of knowledge. These games place participants in compressed environments where pressures are intensified, time is shortened, and consequential decisions cannot be postponed. This makes it possible to track how positions are formed, how they shift, and how interests are defined and redefined through interaction.

These tools do not simply produce answers to “what should be done.” They also reveal “how actors actually behave” when confronted with crisis conditions. They make it possible to observe the gap between stated positions and real behaviour, and to see how understandings of justice or responsibility shift as individuals shift between roles or directly face the consequences of their decisions. The games also help surface tensions that are often absent from theoretical discussions: hesitation, withdrawal, rigid adherence to positions, or willingness to compromise.

Simulation games have been used in different contexts to study resource management and build local cooperation mechanisms, with broadly similar effects. In Ghana, for example, simulations helped develop local agreements on water use by testing the consequences of individual behaviour. In Brazil, shifting roles within the game led to more collective understandings of justice. In France, participatory

simulations supported the development of shared rules for resource management through negotiation. In Uganda, experiments showed that the impact can be deeper and more sustained when simulations are embedded in broader processes of action and organisation.

What these cases share is not similar solutions, but a shared insight into the nature of the problem itself: resource-related crises cannot be reduced to material scarcity alone, but are shaped by how relationships between actors are organised, who holds decision-making power, how trust is built, and how differences are managed. As such, simulation is less a tool for producing solutions than a space for examining the conditions that make solutions possible or impossible.

The games also made it possible to shift from asking “What is happening in these areas?” to a more complex set of questions: How do actors behave when directly confronted with these circumstances? How do their attitudes change as they move between different roles? And does their sense of justice or injustice remain fixed when they encounter the crises of others from the inside? These questions emerged through behaviour, tension, and moments of hesitation, concession, or entrenchment that accompanied each round.

In al-Saan, the simulation games revealed a trajectory that begins with tension and gradually moves toward attempts at collective organisation. From the outset, the crisis was framed as “fierce competition for water between agricultural activities,” manifested in “skirmishes over pumping rights and priority.” In the early stages, one farmer expressed that his individual commitment was “useless if everyone else was indifferent,” while another pointed to the “lack of seriousness and commitment among farmers.” This exchange reflects a collective paralysis rooted in mutual distrust, despite everyone’s awareness of the gravity of the situation.

As the interaction progressed, the nature and content of the discussion shifted. Participants moved from complaints to proposals, and attempts began to take shape to organise work through tools such as a “policy document” laying out a division of roles and follow-up mechanisms. Pressure reproduced tension at certain moments, particularly with the escalation of drought and friction between farmers and livestock herders. But collective responses also emerged: an “emergency water conservation plan” and “crop redistribution,” suggesting that the same pressure that generates tension can drive organisation if reframed as a shared fate. The interactions also revealed that some agreements can be superficial, driven by social pressure rather than genuine consensus, particularly when decisions directly affect livelihoods such as reducing herd size. This perfectly simulates how social cohesion can sometimes mask unresolved disagreements. Agreement within the interactive space does not guarantee its stability outside it. The value of local knowledge emerged through the friction between different knowledge systems within the same space. Tension arose repeatedly between what was framed as modern technical knowledge and experiences rooted in inherited traditional practice, with the former tending to serve as the benchmark against which other knowledge was measured. This disparity did not always surface as open conflict. More often it appeared in the hesitation or lack of confidence some participants felt when expressing what they knew, as though it needed to be translated or validated before it could count as “sufficiently technical” to enter the discussion. This balance began to shift when the exercises moved from discussing solutions to examining the methods of knowledge itself. When questions were raised about reading the land, observing weather patterns, tracking winds, and interpreting soil and plant behaviour, local knowledge stopped appearing marginal. It emerged as a precise and cumulative system producing daily decisions under conditions of uncertainty. It returned to the centre of the discussion.

This changed the dynamics of the room. Some participants shifted from hesitant listeners to key voices in the discussion, with greater confidence in presenting themselves as producers of genuine knowledge rather than simply people with personal experience. Technical knowledge did not disappear, but it was no longer the only legitimate reference point. In Suran, the agricultural crisis appeared as a complex situation in which environmental pressures intersected with imbalances in how priorities were set and roles distributed. From the outset, the agricultural situation was described as a “sector burdened by environmental pressures,” where “water scarcity and high fuel costs” combined to limit farmers’ capacity to respond. In the early stages, a gap emerged around the starting point: is the problem technical or organisational? Solutions such as “drip irrigation and canal lining” were proposed, but it was noted that their impact would be limited without “coordination with local associations,” reflecting an understanding that technical solutions are not sufficient without an enabling organisational structure. This came through in remarks about “insufficient cooperation between stakeholders” and “the need for fair distribution of subsidies,” pointing to a problem not of resource scarcity alone but of how resources are managed and who determines their allocation. As the scenarios progressed, attempts to reorganise relationships between actors began to take shape, most notably a proposal to “form a water management committee that includes farmer representatives,” a suggestion that signals awareness of the need for local representation as well as its current absence. Economic pressures within the game reignited tensions at certain points, particularly with “rising feed prices and declining grazing land,” fuelling “conflict between livestock herders and farmers” and redrawing lines of division within the community. Attempts emerged to redefine the terms of cooperation, with proposals for “collective awareness campaigns” and “stronger cooperative work among farmers,” marking a shift from treating the crisis as an individual problem to treating it as a collective responsibility. At a deeper

level, the interactions revealed that the debate was not only about how to solve the problem but about who holds the right to define it and decide on it. This is visible in the gradual shift from proposing solutions to questioning the frameworks through which resources are managed: dismantling governance as a negotiated power relation.

In Morek, icebreaker exercises helped break down formal barriers, with the exchange of stories described as having “built invisible bonds between participants” that allowed the discussion to move from caution to trust. At the outset, participants were asked to bring something from nature that carried inherited knowledge and symbolised their connection to the land (a branch, a handful of soil, etc.). These objects carried living memory transmitted through bodies before words. In sharing them, participants relived entire paths of learning, observation, and experience, and the land emerged as an extension of lineage and livelihood rather than a separate resource. This shifted the discussion. Land was no longer merely a factor of production but something carried and passed down. As participants expressed their needs and concerns, they moved beyond technical considerations toward something more layered: “the fear of losing the orchards,” “the desire to offer personal experience, patience, and memories tied to the land.” The interplay of interest and memory redefined need itself, no longer a lack of a resource but a threat to an entire relationship with a place. These objects passed from hand to hand, carrying mutual recognition, a transfer of trust, and an acknowledgment that what one person holds in knowledge and experience can be passed to another. Participants were no longer playing roles in a simulation but acting within a web of relationships unfolding in real time before them. The land was no longer a subject of debate but a medium that reshaped the relationships between people, turning the interaction from a negotiation over resources into a space for building bonds based on recognition, trust, and shared fate. Moving into resource analysis, water was presented

as a “vital resource requiring protection and equitable distribution,” and seedlings were described as a “symbol of the continuity of life.” A collective understanding emerged that the gap between resources and needs could only be addressed by reorganising the relationships between those who use them. In the solutions design phase, a proposal for a “memory bank of local seeds” emerged, combining agricultural sustainability with the preservation of memory alongside technical solutions such as rainwater harvesting, reflecting a broader vision of agriculture’s role in community survival. The most revealing moments came during the negotiation phase, when one farmer said he had started by “defending his own interests” and then changed his position after hearing the story of a small farmer who “depends on a limited number of trees” to survive. In another session, one participant said that “scarcity is not a curse, but the mother of invention,” while another noted that resources include “trust, time, and social relationships” alongside material ones. Transparency proved decisive: publishing production data led to “the disappearance of much of the uncertainty” and allowed participants to “see the full picture and make voluntary concessions,” suggesting that access to information can reshape how actors relate to one another and open pathways to cooperation.

At the master game level, the games moved into a space where different experiences intersect. Participants shifted from representing their own realities to engaging directly with the realities of others. Agriculture became a terrain where “justice, power, organisation, trust, and knowledge” are all in play simultaneously, and scarcity became a genuine test of a community’s ability to manage both its resources and its relationships at once. As roles and regions shifted, so did the understanding of the crisis. The sense of victimhood had initially been confined to each community’s own experience, but when participants were brought into contact with others facing different circumstances, the perspective broadened. The feeling of injustice did not disappear, but it lost its singular character and became part of a more complex

understanding: one that allows for recognising inequality without reducing it to a single location, opening the door to cooperation without denying real differences. Cooperation did not emerge automatically from recognising the crisis. It took shape as a possibility under certain conditions. In the early stages, each group sought to “protect its own ideas or resources,” creating visible tensions. But these tensions did not stop the interaction. Discussion and negotiation continued, and it became clear that tension was part of the process of reaching understanding. Cooperation stabilised only when it was linked to clear rules, transparent information, and a framework that ensured implementation. It unravelled when proposed solutions generated new disparities or deepened mistrust.

The interactive format facilitated this shift. Participants took on roles and positions they would not normally hold, allowing them to explore different stances, including confrontational ones, without direct cost. This opened the door to forms of interaction that conventional discussion does not allow. The interactions also revealed that knowledge is not neutral but part of power relations. This was evident in “the conflict between the traditional agricultural engineer and other participants,” where solutions were evaluated not on technical merit but on their ability to hold within the social fabric. The production of knowledge is itself a process of negotiation, not simply the transfer of existing expertise. One unexpected outcome was that the interaction began to reshape relationships. “Regional divisions receded, new connections formed, and messages of support were exchanged,” suggesting that these games were not only a tool for analysing reality but a space for partially remaking it.

In the second round of the collective level, the focus shifted from discussion to testing the ability to design systems. While there was broad agreement that public resources require equitable management, translating this into distribution mechanisms revealed deep

disagreements about who holds decision-making power, how decisions are made, and who ensures their implementation. The interactions also showed how fragile cohesion can be under pressure, with instances of misinformation and arbitrary decision-making. In the case of a damaged irrigation canal, the disagreement was not about the objective but about the order of priorities, suggesting that in conditions of scarcity, conflict centres on how loss is distributed rather than on the principle of cooperation itself. Simulating corruption within committees opened a discussion about accountability, extending to proposals for community accountability sessions, neighbourhood representation, and periodic evaluations: a shift from rejecting authority to attempting to restructure it. Discussions around “rights” and “duties” revealed that justice is not a fixed concept but an ongoing negotiation, shaped by position, role, and experience.

In this context, land-based cultural practices surfaced: gathering at the threshing floor, celebratory end-of-harvest sweets, and giving alms immediately after the harvest. These are existing mechanisms for organising cooperation and mutual support, carrying within them forms of justice that can be built upon. They were not presented as ready-made alternatives but as signals that communities already possess rudimentary self-organising tools, even under scarcity, and that reactivating them could contribute to restoring social relations. What emerged across all these levels is that agricultural crises do not only produce resource shortages. They reshape relationships, expose the limits of trust, and show how power forms within interaction. Awareness of a problem, it turned out, does not automatically translate into action. What changed in these games was not the problems themselves but the participants’ position within them, and how they defined their relationships, interests, and the conditions for cooperation. The games became an opportunity to test how change might happen, to understand what blocks it, and to reflect on what it takes to translate values into decisions within a new political imagination.

VI. Recommendations

First: Recommendations Based on the Simulation Games

Experience has shown that the absence of participatory spaces and fair negotiation mechanisms limits the potential for cooperation and perpetuates unjust patterns in resource management. The following recommendations offer approaches to redistributing influencing power, strengthening representation, and building fairer and more organised forms of collective action, in service of more sustainable and context-sensitive resource management.

● **Building representative and binding collective decision-making mechanisms**

Decision-making is concentrated within narrow circles where certain actors hold influence, knowledge, or resources, excluding broad segments of the community and undermining the prospects for consensus or adherence to decisions. There is a need for local decision-making structures (such as committees or platforms) built on genuine representation of diverse groups: small farmers, working women, youth, returnees, and livestock herders. This representation must go beyond formal presence and extend to real influence over decisions. Any collective decision concerning water management, pest control, or input distribution should be contingent on achieving this inclusive representation.

This would shift the centre of gravity from individual influence to collective participation, improving decision quality and strengthening trust among stakeholders.

● **Establishing clear collective rules for resource management**

Shared resources such as water, pesticides, and wells are often managed through individual decisions with collective consequences, generating conflicts of interest and escalating tensions. We recommend developing publicly available local protocols for resource management, covering water allocation, irrigation scheduling, pesticide use, and well drilling. These protocols should include clear standards, monitoring mechanisms, and procedures for appeal and review.

This would reduce the likelihood of short-term individual gains becoming long-term collective losses, foster a sense of organised and equitable resource management, reduce the risk of escalation, and strengthen the capacity for collective crisis response.

● **Redistributing agricultural knowledge as a tool of power**

Agricultural knowledge is not equitably distributed and is sometimes used as a tool for influence and power-grabbing, limiting the ability of certain groups to participate meaningfully in decision-making. We recommend creating horizontal knowledge-sharing pathways based on peer exchange among farmers and stronger connections between different areas (such as Morek, Suran, and al-Saan), through accessible tools such as field days, learning groups, and the documentation of local experience. This would reduce knowledge monopolies and strengthen the capacity of less powerful actors to influence decisions around resource management and production.

● **Building procedural trust rather than relying on personal trust**

Trust based on personal relationships, or on the standing of existing institutions, is insufficient in contexts marked by division or eroded

institutional legitimacy. Personal trust requires individual bonds, and institutional trust depends on the status or reputation of the entity. A third kind of trust is needed: one grounded in clear and verifiable procedures, independent of particular individuals or entities. This includes practical tools such as publicly announcing distribution decisions, publishing production and allocation data, documenting agreements, and involving local mediators in conflict management. This would build what might be called “procedural trust,” where cooperation rests on transparent and reviewable rules, enabling joint action even amid mutual suspicion or distrust of institutions.

● **Managing scarcity through social negotiation, not technical solutions alone**

Moments of distributing loss under conditions of scarcity are a genuine test of social cohesion, with tensions rising sharply in the absence of agreed standards of fairness. We recommend establishing local negotiation mechanisms to regulate the distribution of scarce resources (such as water, feed, and inputs). These mechanisms should include setting collective priorities, establishing agreed fairness criteria, and conducting periodic reviews of decisions. This would help transform scarcity from a source of conflict into a space for organising collective action.

● **Making simulation games, an ongoing tool for dialogue and negotiation**

Deeper learning happens through practical interaction within the games, not through theoretical discussion alone. Simulation games are an effective space for reshaping dialogue and negotiation patterns. We recommend integrating these games into regular meetings and local learning platforms, and developing simplified versions that communities can use independently. This would embed

behavioural and negotiation-based learning into sustainable daily practice, providing a safe and neutral space for actors to test different roles, understand divergent perspectives, and build incremental understanding away from the pressures of immediate reality.

● **Assessing the social impact of technical solutions before implementation**

Some technical solutions, however effective they appear, can generate new tensions if their social consequences are not considered. Any technical intervention, whether well drilling, pesticide use, or the introduction of new technologies, should be subject to a prior social impact assessment and collective discussion before implementation. This ensures alignment with the interests of different actors and reduces the risks of applying technical solutions in isolation from their social context.

● **Recognising intangible heritage as a fundamental resource in agricultural organisation**

The relationship to the land is shaped by an accumulated intangible heritage encompassing collective memory, social relations, and local history tied to ownership, agricultural work, and traditional practices. This heritage cannot be reduced to its economic or productive dimensions. We recommend recognising and integrating it into collective organising processes and development interventions, as a factor that shapes how actors behave, how decisions are made, and how ready communities are to engage in collective solutions. This would contribute to designing more context-sensitive interventions that account for the compatibility of technical solutions with local patterns of belonging, identity, and history.

Second: Supporting Recommendations (Technical and Sectoral)

The fundamental challenge lies in organising the relationships through which solutions are produced. The recommendations below offer an approach to reorienting agricultural interventions and tools, including technologies, extension services, inputs, finance, and marketing, according to the values of representation, negotiation, transparency, and balance.

● Integrating agricultural technologies within collective resource management frameworks

Agricultural technologies are often adopted individually, limiting their effectiveness and generating tensions around resource use. We recommend integrating these technologies within collective resource management frameworks that coordinate their use, link them to shared rules, and ensure equitable distribution, transforming them from individual solutions into tools that support cooperation.

● Redesigning agricultural extension as an interactive space grounded in local experience

There is a clear gap between available agricultural knowledge and its practical application, particularly given farmers' reliance on inherited expertise and their limited access to modern knowledge. We recommend redesigning agricultural extension as an interactive space built on peer exchange among farmers and the linking of theoretical knowledge to local practice, rather than a one-way service delivery model.

● Organising access to agricultural inputs through transparent and representative mechanisms

Access to agricultural inputs is shaped by unfair factors related to financial capacity, personal connections, or proximity to decision-making centres. We recommend organising input distribution through transparent mechanisms with publicly declared criteria and local representation, reducing favouritism and strengthening trust among stakeholders.

● Activating cooperatives as spaces for coordination and decision-making

Existing cooperative structures are weak or limited in impact despite a genuine need for collective coordination. We recommend activating cooperatives or developing alternative organisational models that function as spaces for coordination and self-organisation, particularly in marketing, resource allocation, and agricultural planning.

● Linking financial interventions to collective organising mechanisms

Individual financial interventions risk deepening inequalities among farmers without generating sustainable collective impact. We recommend linking such interventions to collective mechanisms, such as joint plans, cooperative initiatives, or mutual commitments among beneficiaries, to strengthen impact and reduce the reproduction of existing inequalities.

● Developing collective marketing models based on clear rules

Marketing is typically done individually, which raises costs and weakens producers' bargaining power. We recommend developing

collective marketing models, such as associations or shared platforms, built on transparent rules for pricing and profit-sharing, ensuring fairness among producers and reducing the potential for conflict.

● **Investing in local capacity beyond technical skills**

Many challenges are not primarily about a lack of technical know-how but about weak capacity for managing disagreement, negotiating, and making collective decisions. We recommend investing in building local capacities in negotiation, conflict management, and collective planning. These are essential skills for managing shared resources and sustaining interventions in conditions of scarcity and competing interests.

Conclusion

What this paper reveals is not the existence of an agricultural crisis in need of solutions, but a deeper structure concerning how people live together under conditions of scarcity, pressure, and eroding trust. This structure became visible with particular clarity within the safe interactive spaces of simulation games, which allowed participants to test their positions, negotiate, and redefine their interests under conditions that approximated reality without its direct cost. Through this unconventional form of analysis, the agricultural crisis shifted from a technical problem to a set of relationships being continuously remade. What the situations in Morek, Suran, and al-Saan make clear is that these communities, despite the disruptions and pressures they have endured, still carry a living and effective social capital: cooperation at funerals, gatherings at the threshing floor, WhatsApp guidance groups, mutual aid funds, pest control initiatives. All of these are indicators that the capacity for cooperation exists and needs frameworks to organise and extend it. Cohesion is not built from scratch; it is recovered from within existing relationships and experiences, once they are given fair and clear shape.

Within this context, agricultural decisions can no longer be read as isolated technical acts. The timing of irrigation, the choice of pest control method, the way water is distributed: these are all moments in which power is distributed, justice is tested, and it is determined who has a voice and who is pushed to the margins. Scarcity does not only reveal a shortage of resources, but also the fragility of the arrangements that govern access to them. When these moments are managed without clear rules, they become sources of tension and division. When they are organised through transparent and accountable mechanisms, they become an entry point for rebuilding trust.

The interactive spaces showed that communities do not lack the tools for thinking or acting. What they lack are the frameworks that organise these tools and connect them to tangible outcomes: from discussions about rights and responsibilities, to questions about values and their sources, to the recovery of moments of gathering around the land, to collective action against pests.

In a similar vein, peacebuilding does not follow paths in isolation from daily life; it takes shape within it. Including women is a way of redistributing knowledge, experience, and power - particularly the expertise formed in the field, in managing seasons, and in running a household, all of which belong at the decision-making table rather than at the margins. This does not only add new voices, but also redefines what counts as knowledge and what counts as valuable.

Perhaps the most concentrated insight is the shift in the question from producing knowledge to preserving it. Documentation, whether through lyrics, poems, or printed booklets, is a collective act that protects memory from dispersal and anchors knowledge within everyday consciousness and language. Rhythm, metaphor, and printed text are tools that make knowledge a shared resource. In this way, preserving agricultural memory becomes part of building peace, because it allows experience to accumulate and gives communities continuity without the threat of being erased with each new crisis.

At the master game level, which brought together participants from all three areas, a poem emerged from the collective interaction itself, linking the land to pain and condensing the agricultural crisis as a lived experience rather than a technical problem. Knowledge is a means of keeping the relationship between people and their land alive and shared, and it carries a dimension of justice: justice for local expertise so that it is not marginalised, justice for memory so that it

is not erased, and justice for farmers so that they are not left facing each new season without protection.

Agriculture here is not a sector that can be reformed in isolation. It is an arena for shaping the conditions of shared life. Through water management, dealing with pests, organising collective work, and preserving knowledge, it becomes clear whether there is a community capable of reproducing itself as a community and therefore of surviving, or whether there are only isolated individuals competing over a resource that keeps diminishing.

This paper does not offer a conclusion to a process but the beginning of a theoretical and political effort that thinks of agriculture as a practical entry point for rebuilding trust, justice, and social cohesion through daily details that can be organised and repeated. The road is still long, and the challenges will not disappear, but all the foundational conditions are present: living local knowledge, a desire to cooperate, and a capacity to adapt. What needs to be built is the framework that protects these elements and gives them the ability to survive and grow.

Agriculture cannot be reduced to food production. It is a relationship between people, between them and the land, between the past they carry within them and the future they pursue. From within this relationship, a peace can take shape that renews itself with each season, deepens with each piece of knowledge preserved, strengthens with each decision made collectively, and grows with each relationship that is tended rather than left to wither.