

FARMERS AND LOCAL EXPERTS' PERCEPTIONS ABOUT AGRICULTURAL SOLUTIONS AND PROBLEMS IN THE HOMOKHÁTSÁG REGION - A CASE STUDY OF THE KECSKEMÉT AREA

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INTRODUCTION

The Homokhátság region is undergoing a profound ecological decline, marked most visibly by rapid desiccation and a critically falling groundwater level. This environmental shift threatens the sustainability of the entire region. To understand how local agricultural actors navigate this crisis, our research examines local perceptions and adaptation strategies. Drawing on qualitative, semi-structured interviews with farmers from different generations and local experts in the Kecskemét area, we identified a significant socio-ecological divide. While water scarcity is universally recognized as the primary constraint on agricultural production, the responses and proposed solutions vary across different groups of interviewees.

ECOLOGICAL CRISIS

The interviews paint a stark picture of the landscape's reality. The problem is no longer just a lack of water, but the complete desiccation of the landscape and air, described by one respondent as a "desert experience".

Drastic water level drop can be seen for decades and the resting groundwater level has sunk so deep that the roots of plants can no longer reach moisture.

The current crisis is not solely due to climate change. Interviewees heavily criticize past and present water and landuse management practices that treated water as an "enemy," using canal systems to quickly drain the landscape instead of retaining it. "If the climate changes at this rate, the landscapes here will become unsuitable for agriculture within 20-30 years and will only be destinations for „sand tourism” (Figure 1.).



Figure 1. An alternative photorealistic look of the landscape around Kecskemét in twenty years according to the interviewee's vision.

Source: based on content analysis of the interviews with Gemini Pro

GENERATION GAP

Older farmers deeply rooted in small-scale family agriculture report a growing sense of fatigue and resignation as they view the crisis through the lens of eroding livelihoods and chronic challenges. Traditional farming methods and crops such as corn are now considered financial dead-ends. Even asparagus, which is viewed as one of the last bastions able to survive in the sandy soil, is becoming less profitable due to rising costs for fertilizer, foil, and labor. The situation is worsened by the fact that the traditional knowledge of elderly farmers is dying out and young people are migrating away due to the heavy physical demands of agriculture, meaning the maintenance of farms now heavily relies on foreign guest workers, which adds to the overall uncertainty. To survive market vulnerabilities, some older farmers are turning to community-supported agriculture like box systems to establish a direct connection with conscious consumers who accept seasonality, though many would still not recommend this lifestyle tethered to the land to their children.

Many prioritize market efficiency, invest in solar energy, and utilize precise, environmentally conscious irrigation. A major theme among innovative young farmers is the abandonment of plowing and artificial fertilizers. To rebuild soil life and retain moisture, they utilize deep mulching that is forty to fifty centimeters thick, alongside composting and branch shredding. Because traditional fruit trees like peaches and apricots are failing due to spring frosts and drought, younger farmers are experimenting with drought-resistant, late-blooming varieties like pawpaw and persimmon. They also advocate for grove culture, planting trees to provide essential semi-shade for other plants. To secure their financial future, these young farmers actively break away from large wholesalers who break prices, focusing instead on direct sales and local processing.

THE EXPERT PERSPECTIVE AND SYSTEMIC BARRIERS

While farmers focus on field-level survival, local experts emphasize that the current reliance on groundwater irrigation is structurally unsustainable. Experts advocate for a radical shift in land-use strategy that includes reducing water-intensive crops, expanding extensive grazing, and implementing landscape-scale rewilding. Above all, they highlight comprehensive water retention and the future importance of local-level water management as their most critical professional recommendations. They argue that water must be actively managed at the community level and allowed to go out into the landscape to fill depressions and replenish the soil. A major obstacle to these ecological solutions is the rigid administrative and subsidy system, as current regulations often mandate clean arable land or clean forests, effectively making innovative models like permaculture and agroforestry difficult to sustain officially. Furthermore, decision-makers are perceived as being distanced from the landscape, thinking only in administrative categories.

CONCLUSION

Our research concludes that a persistent gap exists between these differing perspectives. Experts call for cooperative governance, long-term bioregional planning, and ecological restructuring, however, farmers remain skeptical of these top-down visions due to low institutional trust, past administrative failures, and a heavy reliance on family networks as their primary safety net. A sustainable transition in the Kecskemét area depends entirely on bridging this divide. To secure a viable future for the sandy areas, the ecological visions of experts must be aligned with the practical, survival-oriented strategies of the farmers. This alignment requires state-supported landscape reconstruction that explicitly prioritizes crucial water retention strategies and localized water management, alongside the development of more resilient market chains and the renewal of local food systems. „Increasing water surfaces is key to improving the microclimate” (Figure 2.).



Figure 2. A vision for local water conservation based on interviews.

Source: based on content analysis of the interviews with Gemini Pro

