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Saiga vs. Human? Observations from a participatory scenario-building process in Western Kazakhstan

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ABSTRACT

In this contribution, the author scrutinises his observations from co-facilitating and observing a participatory scenario-building exercise based on the Resilience Framework methodology in a steppe area of Western Kazakhstan. This workshop format was applied by a consortium of partners from the United Kingdom, Kazakhstan, Germany, and Mongolia to map various land use and conservation issues in this part of Central Asia (CA) and elaborate scenarios for a more socio-ecologically sustainable development of the social-environmental systems (SES) in question. The two workshops in Uralsk, Kazakhstan, in March and April 2025 largely drew attention to the conflict between pastoralist herders and farmers – the majority of the local rural population – and the conservation objectives around the migrating saiga antelope populations that had soared up to 2.8 mln as of 2024 (Koshkina et al., 2026). With the local stakeholders, including representatives of farmer associations, livestock holders and rural administrations, the approach sought to gain a systemic understanding of the local socio-economic and political context, as well as carve out development scenarios including strategies to pursue to achieve them. The article not only describes some of the key observations from the workshop cycle, but also inspects several epistemological issues regarding knowledge generation processes worthy of additional analysis.

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1. Introduction

The study of social-environmental systems (SES) requires a deep understanding of their complexity, interconnections among their key elements and, in particular, of human-environment interactions as major drivers of ecosystem change. Inclusion of different stakeholders – like farmers, pastoralist herders, local state administration decision-makers, to name just a few – in locally embedded and applied research and knowledge production, as well as engineering strategies for sustainable change can yield pivotal insights (Spies et al., 2025; Allington et al., 2018). First, the qualitative participatory approach provides added value in terms of locally available expertise on key aspects of ecosystem services, resources and land use, including potential conflicts not immediately evident from applying only qualitative and ethnographic research. Second, the participatory approach potentially fosters the ownership of change management efforts among local dwellers, as well as their commitment to and trust in future rural development processes inaugurated by international actors, civil society organisations (CSOs) and state agencies, i.e. stimulates the local-to-national and even -to-international evolution.

The article draws on the participatory stakeholder process in Western Kazakhstan (and Eastern Mongolia) under the SNAPP (Science for Nature and People Partnership) Network. It started off with a series of workshops in Uralsk, the administrative centre of Western Kazakhstan Region (Oblast), between mid-March and late April 2025. An adjusted methodological approach designed by the University of Oxford's Foresight4Food team was applied (Foresight4Food, 2025). Along with experts in participatory stakeholder research from the UK, Germany and Kazakhstan, those workshops included local Kazakhstani as well as international and national specialists in rangeland ecology and participatory stakeholder research, in addition to a diverse pool of stakeholders comprising farmers, pastoralists and local administration representatives from four districts (Kaztalov, Zhanibek, Bokeyorda, and Zhangala) of the target oblast. The purpose of the events was, first, to map the context of social-environmental systems in the study area and, second, to define and review (more sustainable) future rural development scenarios in a region affected by post-Soviet socio-economic decline, institutional transformations and climate change.

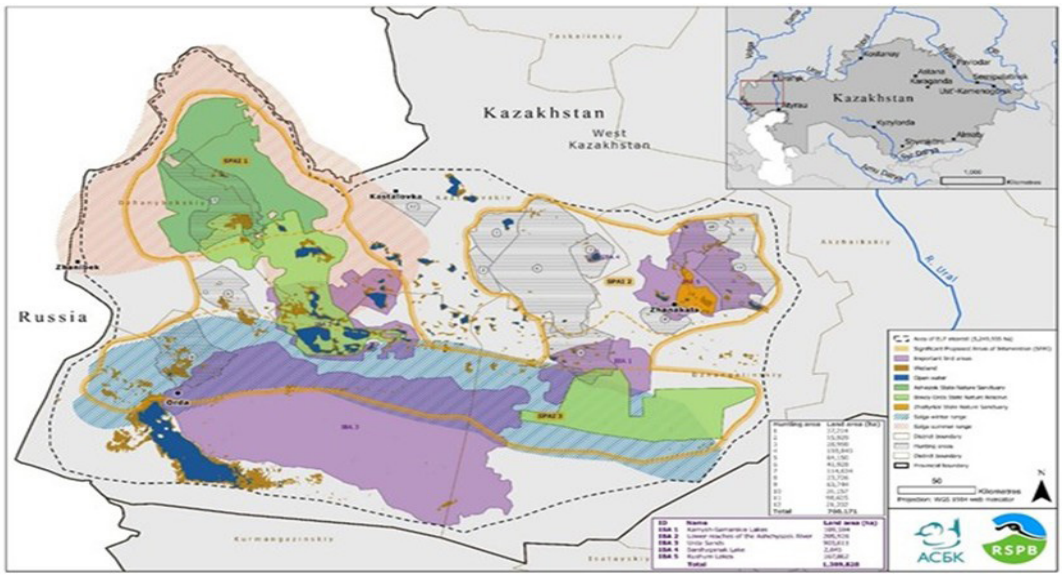

Figure 1. Study area in Western Kazakhstan.

The key challenge in the study area (Fig. 1) relate to the competition in resource availability and use (particularly, for pasture and haymaking lands, as well as scarce freshwater resources) between the livestock sector – as the backbone of local economy and responsible for the majority of people's livelihoods, on the one hand – and the sharply increasing saiga antilope population (saiga tatarica) population, on the other hand (Koshkina et al., 2026). A lesser point of contention revolves around the perceived risk of saiga spreading animal diseases among livestock (ibid.). The latter is due to the fact that saiga are mammals living in groups migrating over hundreds of kilometers across the Eurasian steppes.

The saiga populations in Kazakhstan and elsewhere traditionally demonstrate significant fluctuations (Grachev et al., 2009). Thus, poaching for saiga horn – on high demand in Chinese medicine in the 1960s and 1990s – had led to their near-extinction in many parts of the Eurasian steppe (Kühl et al., 2009). After the recovery of the Betpak Dala (Hunger Steppe) sub-population in the late 2000s and early 2010s, the respective saiga cohort dropped sharply by 200,000 in only a few days in May 2015, likely caused by hemorrhagic septicemia (Robinson et al., 2019). Ever since, the saiga population in Central and Western Kazakhstan have been notably growing, particularly thanks to the consequential efforts under the Altyn Dala Conservation Initiative. As per the 2024 aerial count, the local saiga population amounted to 2.8 mln (Koshkina et al., 2026), leading to human-wildlife interactions increasingly driven by land use conflicts with local agriculturalists and herders seeing their livelihoods threatened by overgrazing and potential animal disease propagation. Hence, the research question for the consortium was formulated as '[h]ow to optimise rangeland ecosystem management in Western Kazakhstan to harmonise the objectives of nature

conservation and agricultural development via analysing co-benefits and trade-offs offered by different development pathways?‘

The following section briefly explains the logic of the conceptual and methodological approach followed by the consortium partners during the workshop cycle. The remainder of the paper outlines the key methodological observations of the participatory stakeholder process and reviews trajectories making use of the insights for future participatory research.

2. Conceptual and methodological setup

The approach followed in this participatory stakeholder exercise was broadly defined as to rivet on social-ecological sustainability and resilience in the study area, i.e. four rural districts of Western Kazakhstan Oblast. Beyond the immanent conflict of interests between livestock-holders and wider rural population, on one side, and conservation goals with regards to the threatened saiga population, on the other side (Koshkina et al. 2016), the workshop process thematically sought to balance rural economies and ecosystem integrity. Thus, the aim was not to pre-assume the narrow human-saiga conflict as the major driving force for key social-environmental dynamics in the area.

Resilience, hence, in the given context can be defined from a range of perspectives – ecological/ecosystem, social, economic. It puts resilience in relationship to functioning of systems, and particularly the interaction of social and ecosystems. Conceptually, resilience – according to Holling’s classical definition (1973) – refers to a measure of the persistence of systems and their ability to absorb change and disturbance, and still maintain the same relationships between populations and state variables, or – as in our case – to lead to the productive coexistence between social and ecosystems without crossing certain disruptive thresholds. Thus, the focus of the applied participatory methodology follows a shift of attention in resilience research towards social-ecological systems (SES). Elinor Ostrom framed SES as complex systems that require a well-developed toolcase of methodologies in order for key variables under different governance systems to be adequately analysed (Ostrom, 2009). Yet, the complex nature of SESs means that they self-organise, and novel configurations can emerge due to nonlinear feedbacks and actor agencies. These features of integrated SESs can make managing them a challenge, but also forge opportunities for recovering or re-organising after a disturbance.

Based on the assumed resilience dynamics and the underlying functions of social-ecological systems, the key goal of the workshop series was to devise land-use scenarios in close collaboration with local and national stakeholders. Such an approach would allow exploring different developmental pathways based on distinct

assumptions of social-ecological transformations in the given local context. The reasoning behind this core motivation for the workshop cycle was to engage local stakeholders in an informed, open and decidedly non-hierarchical discussion around perceptions of how the future might unfold. That included a participatory analysis of potential scenarios for their manifold implications in the study area that also drew attention to investigating the trade-offs and co-benefits inherent in different scenarios. From an environmentalist point of view, for instance, explorations of practice-oriented and policy-focused solutions to improving biodiversity conservation were prioritised, not least due to ecologists being among the organisers. That meant emphasising the importance of nature in balancing ecosystem service provision. Additionally, and closely related to that, the events intended to suggest to a broader public of stakeholders the first steps to nature conservation policies brought to fruition via cross-sectoral discussions. Furthermore, the exercise pursued to contribute to informed local management strategies, including spatial planning instruments. Last but not least, the workshops‘ outputs were to be fed into the global discourse through the 2026 International Year of Rangelands and Pastoralists.

The 1st workshop – held at M. Utemisov Western Kazakhstan State University, Uralsk, 13-14 March 2025 – brought together a diverse group of approx. 35 exclusively male participants: local decision-makers in the fields of agriculture, forestry, land and water use, wildlife inspection, agrarian (grain-producing) associations, corporate farmers and livestock holders, as well as the university‘s scientists. The workshop was facilitated by 6-7 experts from various Kazakhstani and international CSOs, scientific and research organizations. To an extent, facilitation was impeded by the physical absense of the key facilitators due to flight interruptions. While their online presence and guidance was ensured over the entire event duration, remote facilitation was disturbed by restricted communications, particularly, in the course of explaining central steps of knowledge mapping and scenario-building.

The 2nd workshop – initially scheduled for 28-29 April 2025 in the district centre of Kaztalovka – had to be relocated to Uralsk due to rumors of public meetings over the resource conflict between livestock-holders and growing saiga population to unfold in the initially planned location. A smaller group of approx. 15 participants, largely overlapping with the participants of the first event, arrived to the 2nd workshop in Uralsk, that allowed structuring and aligning the knowledge from Workshop 1, primarily focusing on scenario-building and profound discussion. The reflections in this article predominently relate to the observations from Workshop 1.

3. Key observations of the workshop process

The initial event in mid-March 2025 was in essence dedicated to participatory knowledge mapping of the SES in the study area. The aim was to draw stakeholders in

the workshop process in a decidedly non-hierarchic way to inspire knowledge production sensitive to the power disbalances between the key decision-makers from local state administration bodies, on the one hand, and individual farmers, herders, etc., on the other hand (also in Alff et al., this issue). The physically present workshop facilitators were primarily conservationalists on behalf of the Astana office of the Association for the Conservation of Biodiversity of Kazakhstan (ACBK) and the RSPB, the UK's largest wildlife conservation organization. Other UK-based head facilitators partook via Zoom making the core methodological communication reliant on online interpretion, hence at times challenging. While the offline facilitators were familiar to the local workshop audience due to years of collaborative research on rangeland ecology and saiga, an insider-outsider sentiment nonetheless remained throughout both events. The intended non-hierarchical workshop setup was likewise partly compromised by the seating configuration in the university's conference room – the inner table accomodated only 16-18 persons, with the second outer circle of chairs occupied by less powerful actors (assistants to state administration department heads, individual farmers, etc.). The relative absence of (smallholder) farmers, as only 2-4 were present during the initial round of introductions, made this stakeholder category appear underrepresented.

As mentioned earlier, one of the initial core exercise motivations was to not foreground the conflict around haymaking, pasture land and water resources between local farmers and livestock holders, on the one hand, and the multiplying saiga population, on the other hand. Rather, it was intended to concentrate thematically on the broader, more systemic and complex resilience, as well as the dynamics of the SES functioning in the case study area. Thus, a more result-open approach, i.e. translating the impacts on livelihoods produced by the post-Soviet socio-political and -economic transformations into scenario building was deemed more effective, making local voices heard. However, this intention did not entirely work out as expected for several reasons detailed below.

Firstly, due to locally well-known ecologists associated with saiga conservation perceived by the workshop participants as key facilitators, the human-saiga conflict dominated much of the event's agenda, and was by and far conceived as the main socio-ecological challenge in the area. For instance, much of the beginning of the first workshop day was dedicated to reviewing the saiga-related conservation efforts. This was not well-met by several of the more outspoken participants. Even a presentation by one of the workshop organizers that focused more broadly on land-use conflicts in the given area, not particularly drawing on the saiga-human conflict, was hijacked by workshop participants putting saiga overpopulation as the rural populations main problem. A common phrase, coined by one of the candid participants (a farmer association head) – suggesting strong ties between the interests

of saiga conservation and the state, and repeatedly brought forward throughout the workshop series, was: „Ecologists are the advocates of the saiga… no, wait, they are the state prosecutors even!“ Generally, over the course of the exercise, a lot of discontent with the status quo of the government's passivity, particularly, pertaining to the issues caused by the expanding saiga population was articulated, overshadowing a more sophisticated assessment of social-environmental changes in the area. As the above participant framed it: „There has been a lot of talk about formulating ‚sustainable development', yet for us it means nothing anymore… it became a red flag. We, humans, get neglected against the background of the saiga protection agenda.“

Generally, there was a lack of understanding among the audience regarding how policy-making and implementation work in Kazakhstan. That was why the conservationalists among the facilitators were frequently accused of siding with the saiga and working against the local community. Confronted with such accusations, the facilitators repeatedly argued that they could only suggest solutions to the government, but have limited influence on government decision-making processes. That enemy scheme along the saigas-ecologists-state governance axis – while far from exclusive to this case study (König et al., 2020) – still reigns much of the thematic public discourse inside the country (Koshkina et al., 2026), and is rarely expanded or substituted with a debate on far-flung land and water use matters.

During the event, the facilitators had to regularly push the participants for a wider set of explanations beyond the saiga issue as critical for local development. For instance, after a presentation of the organising team – dedicated to land cover alterations in the study area between 1984-2010 – the participants were asked to identify the drivers for visible transformations. One participant claimed, that „[t]he dissolution of large-scale farms in the 1990s had led to tens of thousands of smallholders overusing pastures without pasture rotation.“ Another participant added that the livestock headcount in the desert areas of the target region had changed significantly: „While the sheep herds had plummeted due to vegetation cover reduction, in certain areas horse numbers on the contrary had grown by 300%.“ The same farmer claimed that „[i]n pre-Soviet times, the situation was similar to today, i.e. that it was more of the ‚standard' (sustainable) condition, as Soviet large-scale farming had massively transformed the area, and today 10,000 smallholders work their own way.“

When the audience was split into break-out groups using an adapted World Cafe approach and asked about the complexes of issues that drove the social-environmental changes in the area, the competition of pastoral land and water resource use with saiga (conservation) came up first, with the challenges related to climate change (incl. lower precipitation, increasing droughts, etc.) identified in the second place, and infrastructural deficits (e.g., lack of processing facilities for livestock products, lack of fencing for protecting pastures from saiga overgrazing) voiced only the third.

Secondly, over the course of the workshop, among the participants there persisted some level of uncertainty as to the actual event goals, and as to what extent the event correlated with their individual expectations. Furthermore, on various occasions the participants had difficulties addressing the tasks posed by the facilitator team. For example, during the moderated break-out group work – three groups of 4-6 participants – the audience were asked to identify the key drivers of change for the upcoming scenario-building exercise. In the discussions, a varying range of themes was discussed, but the participants struggled with pinning them down, especially while trying to scale down to the local context. Rather general issues were raised as matters of concern, e.g., degradation of soils and pastures due to uncontrolled resource overuse by herders, climate change, and remote location of the study area deep in Kazakhstan-Russia borderlands.

At the end of the exercise, three key concerns were prioritised: climate change causing land degradation, lack of alternative livelihoods other than livestock, water deficit/shortage. In reaction, the facilitators once again brought the attention of the audience to the ultimate workshop's goal, i.e. scenario-building, and that the focus should be on formulating ‚manageable' local-context challenges to subsequently address them via the corresponding scenarios, specifically: a) How can land be managed better to withstand climate change, ensure water security and amend (former) poor land management? and b) How to forge additional/complementary livelihoods in Western Kazakhstan? After repeated questions of what the workshop was about, one of the facilitators stated: „We aim to identify, based on your knowledge, long-term scenarios that may guide government decision-making."

Certain bafflements emerged while working on the second more advanced workshop's task – scenario brainstorming. The group found it challenging to grasp the uncertainties associated with imagining (hypothetically picturing) the study area 25 years into the future, according to the task. The audience were divided into break-out groups (A, B, C, and D) to define and discuss scenarios as per the criteria of four sectors of the scenario matrix (Fig. 2) indicating increasing/decreasing investment, sustainable/no management of saiga along the axis.

In the presentations thereafter, starkly differing scenarios came out – from extremely optimistic (close to wishful thinking) to extremely hopeless (almost fatalist ones of ‚business as usual'). Whereas Group D claimed that without investment into agriculture there would be no agriculture at all, and that it would consequently lead to food insecurity and burgeoning poverty, Group B brought to the table the highly unrealistic scenario with positive outcomes in almost all aspects. In their turn, Group A ‚saw' the region fragmenting in the future, in case of no control of the saiga population and shrinking investment. Group C envisioned the status quo remaining due to the main parameters not changing in the future.

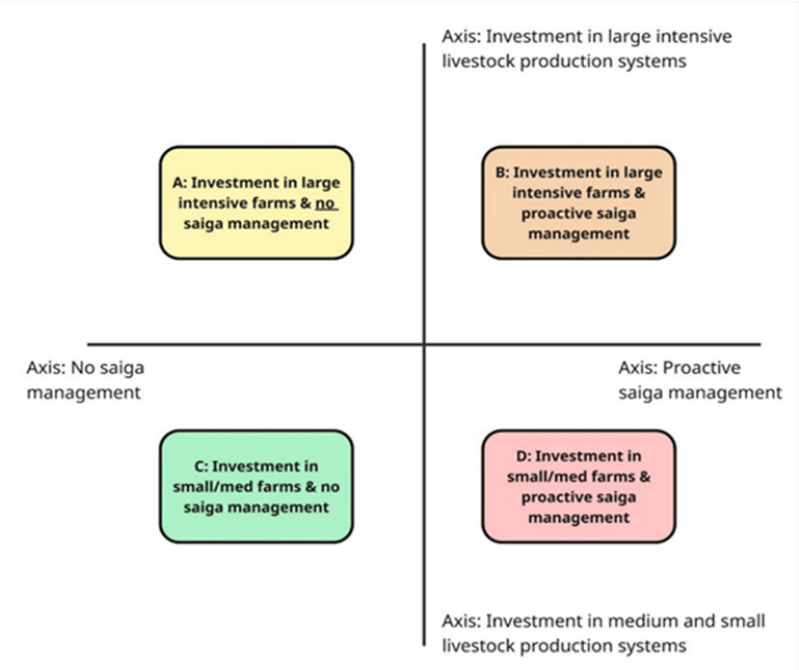

Figure 2. Identified and discussed scenarios (SNAPP 2025).

Thirdly, the participants had excessively high expectations of the workshop's results, on the one hand, and a sort of oversaturation with participatory approaches and scenario-building that allegedly would lead nowhere, on the other hand. Combined, this led to frustration over the expected outcomes of the event and scenario-building exercise, more generally. In the course of the workshop, one of the most outspoken participants stated: „What effect will the strategies/scenarios that we are working on today and tomorrow have on our future? How will they be practically introduced in our reality?" And, specifically addressing the facilitators: „I came with high hopes this morning. But, frustratingly, as of now no (sustainable) solution benefitting the human population of Western Kazakhstan Oblast was presented to us." At another point in time during the event the participant demanded „a more operational approach […] beyond the scenarios developed by the colleagues from the Western Kazakhstan University." Allegedly, similar scenario-building exercises (about saiga issues) took place in Astana over the last years. In response to that, one of the facilitators explained that the workshop was not entirely about the human-saiga conflict but took a broader and more systemic approach. The participant, apparently upset, replied that „the farmers in the area were put in the situation that made them solely responsible for sustainable pasture management (utilising personal financial resources), whereas the decision-makers up to the national government level cared less about the saiga issue and the destruction they caused."

Notwithstanding the vicissitudes, in conclusion the workshop did generate valuable insights on the social-ecological dynamics in the study area – e.g., on livestock shifts and environmental change – that, however, were often overshadowed by the eminent human-saiga conflict dominating the public discourse in the target part of rural Western Kazakhstan.

4. Discussion and future research

The previous section analysed the dynamics and limitations of the participatory workshops held in Western Kazakhstan in March 2025 designed to map, in a participatory way, SES's profile and engage diverse stakeholders in scenario-building. While the events were intended to foster a non-hierarchical and inclusive environment, the essay illustrates how socio-political histories, entrenched power imbalances, and long-standing human-saiga conflicts shaped the exercise in ways the organisers had not fully anticipated.

As evident from the above, a major hardship in terms of deploying participatory methods is associated with existing hierarchies. Despite the explicit intention to ‚level the power field', the workshop setting itself – both physically and socially – failed to fully neutralise the pre-existing nexus of relations among conservationalists, other alleged outsiders, and local inhabitants. The conference room arrangement – that, by default, placed the most ‚influential' actors at the central table and relegated ‚lower-status' persons to the outer seating circle – subtly reinforced the hierarchy from the outset. Such authority-reproducing setup was occasionally challenged by break-out sessions, yet became decisive again in plenum sessions. More significantly, the group predominantly comprised officials and representatives of administrative bodies, with smallholder farmers – possessing crucial knowledge and experiences – underrepresented. That imbalance inevitably influenced what voices were amplified and what concerns dominated, sidetracking the discussions towards institutional perspectives and grievances voiced by more ‚powerful' actors.

The second and, perhaps, more decisive factor was the symbolic presence of saiga conservationists. Even though the workshop sought to broaden the thematic focus beyond the human-saiga conflict, the facilitators' identities as ecologists associated with conservation work positioned them, in participants' eyes, as representatives of the state-backed conservation agenda. That perception shaped the polemic's tone and content: participants repeatedly redirected conversations toward the saiga issue, frequently expressing frustration with what they viewed as government inaction and the ecologists' complicity or influence in decision-making. The recurrent phrase that "ecologists are the advocates of the saiga, even the prosecutors," captures a deep-seated antagonism in the region's public discourse. Such enemy fram-

ing – saiga-ecologists-state – overshadowed more nuanced deliberations on land-use change, climate impacts, and socio-economic restructuring, despite the facilitators' attempts to widen the analytical lens.

Interestingly, the event observation allowed pinpointing the moments when the audience articulated more complex structural explanations for local environmental change. Those included: the post-Soviet fragmentation of collective farms, alterations in livestock composition (such as a sharp decline in sheep and a dramatic rise in horses), and the cumulative legacy of Soviet-era land management. However, even such broader reflections tended to be framed against the backdrop of stressors caused by the saiga population growth or were overshadowed by the emotional and political potency of the saiga conflict.

The third pivotal theme was the cognitive difficulty that the participants experienced with scenario-building as a method – they often struggled to identify specific drivers of change, scale their concerns down to the local context, and articulate manageable problems appropriate for scenario development. That difficulty was compounded by unclear expectations regarding the event goals, as multiple participants were unsure of what their input would achieve, how scenarios would translate into policy, or why scenario-building was the chosen approach. Consequently, the scenario outputs widely varied – from optimistic and unrealistic visions to bleak or almost fatalistic projections – reflecting both the uncertainty the group felt about the future, as well as their ambivalence toward the exercise per se.

Finally, the observations and findings described herein highlight a certain tension between expectation and weariness. Some participants arrived with high hopes for the workshop's potential to generate actionable solutions. Simultaneously, there was an apparent 'fatigue' stemming from previous participatory exercises that, in their view, produced little tangible change. That ambivalence led to pointed expressions of frustration, questioning the practical value of scenario-building,, and calling for more "operational approaches" addressing immediate livelihood concerns, particularly those related to pasture management and impacts of growing saiga population. The facilitators' insistence on a systemic and long-term perspective often clashed with participants' desire for concrete near-term interventions.

In sum, the workshop experiences documented illuminate the difficulties of implementing participatory future-oriented approaches in contexts marked by entrenched conflicts, certain mistrust, institutional ambiguity, and social grievances. While the events in question aimed to democratise knowledge generation, structural and symbolic factors limited the extent to which diverse voices could shape the process. The dominance of the saiga conflict – both substantively and emotionally – revealed that the socio-environmental challenges could not be easily reframed utilising methodological design alone. Effective participatory work in such settings requires not only technical and sensible facilitation skills, but also keen insight of local polit-

ical ecologies, perceptions of authority, and the socio-historical transformations that have taken place over the past decades.

One of the avenues for future research worthwhile exploring in the context of participatory studies of this kind includes epistemological violence. This term from the decolonisation and knowledge sociology literature refers to indirect and systemic violence inflicted through control, marginalisation, or invalidation of knowledge and ways of knowing. The concept describes how dominant knowledge systems can silence, suppress, or even erase the experiences and perspectives of less powerful groups through institutional and discursive mechanisms. Within the framework of the current case study, the workshop setup – paving a certain way or system of knowledge generation, rather than a given set of knowledge – could be considered a symptom of epistemological violence and, hence, appears worth invesigating in more detail, i.e. challenging the participatory nature of this kind of event settings and focusing on the positioning of workshop facilitation in framing and prioritising knowledge.

5. Conclusion

This article has highlighted both the potential and the limitations of participatory stakeholder research approaches for understanding and managing social-environmental systems in contexts shaped by uncertainty, conflict, and unequal power relations. Drawing on a series of stakeholder workshops conducted in Western Kazakhstan in early 2025, the research demonstrated that efforts to collaboratively map SES dynamics and develop future land-use scenarios are deeply influenced by the socio-political past, entrenched perceptions of authority, and ongoing human-wildlife tensions. Although the methodological design intentionally sought to foster inclusive and non-hierarchical dialogue, the workshop process revealed how structural and symbolic factors can constrain the realisation of these goals in practice.

The above findings demonstrate that the hierarchies within the workshop space – both literal, such as seating arrangements, and figurative, such as institutional affiliations – had unintendedly reproduced pre-existing divisions between local actors, administrators, and conservation experts. The dynamics influenced not only those who spoke and whose concerns became central, but also the overall vector of discussions. Smallholder farmers holding critical experiential knowledge of rangeland dynamics were underrepresented, while more powerful and vocal discourses came to subdue scenario-building and debate. Thus, the workshops risked reinforcing rather than challenging the existing asymmetries in knowledge production, despite their participatory intent.

A central lesson of this research is the overwhelming prominence of the human-saiga conflict in shaping local interpretations of SES change and stakeholder

interactions in Western Kazakhstan. Despite facilitators' efforts to expand the analytical scope towards more sophisticated and systemic drivers – including climate change, post-Soviet institutional restructuring, and land-use transformations – the symbolic presence of saiga conservationists deeply influenced audience perceptions. Certain participants viewed ecologists not as neutral subject-matter experts but as de facto ambassadors of state conservation interests. That framing repeatedly skewed the deliberations back to grievances related to saiga overpopulation, pasture degradation, and perceived governmental inaction, overshadowing opportunities to explore the multi-dimensional drivers of resilience as well as long-term socio-ecological pathways.

The exercise also illuminated significant methodological challenges associated with scenario-building as a participatory tool. The event audience struggled to scale problems down to the local context, visualise distant futures and uncertainties underlying the proposed scenarios, as well as understand how their contributions would alleet policy. Combined with skepticism stemming from the past experiences with similar exercises, high expectations for tangible outcomes generated certain frustration and moments of disengagement. The tailored scenarios ranged widely – from aspirational visions detached from current realities to pessimistic projections reflecting the lack of trust in institutional responsiveness.

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