**Idea Generation Form | UN Food Systems Summit - Action Track 3**

The goal of Action Track 3 is to Boost Nature-Positive Production at Scale to globally meet the fundamental human right to healthy and nutritious food while operating within planetary boundaries.  
  
Action Track 3 aspires to:  
1. Protect natural ecosystems against new conversions for food and feed production  
2. Sustainably manage existing food production systems to the benefit of both nature and people  
3. Restore and rehabilitate degraded ecosystems and soil function for sustainable food production

**1.1. Please name an idea for an action/solution/vision for food system transformation in the context of Action Track 3 that could be taken or scaled up? (max 1 sentence)**

**Establish a transformational global Initiative for Mobile Pastoralism Valuing Rangeland Variability.**

**1.2. Is this a new concept or a concept for up-scaling?**

This is a new concept.

1.3. Please give a short description of the idea (max 1⁄4 page)

**Beyond viewing agriculture as separated from nature**

Modern agriculture, including livestock, has been built on the assumption of a distinctive difference between humanity and nature, and attempts to emancipate food production from the variability of the natural environment. Setting the boundaries of the food production system so as to exclude the natural environment has placed the latter out of sight, effectively turning nature into a dumping ground for externalities.

With global climate change upon us, there is little doubt that the separation from nature was just a fiction maintained by keeping a methodologically narrow focus. A highly variable natural environment is the norm and variability is increasing with climate change to the extent that it can no longer be negated.

**The systemic role of pastoralism**

Today, some of the most evident lessons for producing food by working *with* nature are found in traditional pastoral systems. These mobile systems are run by some half a billion people operating in most of the grazing ecosystems worldwide, from the edges of the Sahara to the Arctic Circle, maintaining grazing-dependent natural rangeland ecosystems and often connecting them with agricultural areas in complex forms of crop-livestock integration and circular economy. Rangelands are all forms of grazing ecosystems, including tundra, savannas, grassland and desert margins, and cover an estimated 50% of the world’s land surface. Pastoral systems worldwide are very diverse, reflecting the diversity of the ecosystems they use, but they all share the same operational logic.

Grazing by migratory herbivores is a fundamental component of many of the world’s ecosystems. In most of these ecosystems, livestock moving along expertly managed grazing itineraries has functioned as a very efficient proxy. Key ecosystem services provided by mobile pastoral systems include seed dispersal, landscape shaping and biodiversity structuring. Pastoralism contributes to food systems well beyond its livestock outputs. Many crops depend on livestock for its support to pollinators and for the role of manure in the recycling of organic matter and the restoration of soil fertility.

Rangelands and grasslands have been considered by outsiders in the past to be degraded forests and/or wastelands. Not so by pastoralists, nor by recent science. Increasing evidence from vegetation science shows that such landscapes were shaped by large, mostly presently extinct wild herbivores during the whole Quaternary. Today it is recognized that the natural state of such landscapes is dependent upon herbivory.

**The game-changing idea**

In the face of climate change, a growing number of producers and consumers in the Global North are looking for ‘nature-positive’ or agro-ecological ways of producing food. Meanwhile, producers in small-scale farming systems in the South, especially in mobile pastoralism, are under political and economic pressure from globalisation and national governments to abandon their sustainable specialisation and enter the outdated fiction of practising agriculture apart from nature.

This game-changing idea is about breaking free from this vicious cycle. The idea rests on the broader principle of ‘valuing variability’ in food systems as a necessary path to both sustainable agriculture (including aiming for higher productivity) and social justice in the face of climate change.

Whether nature's variability is a problem or an asset for food production depends on the strategy of production. Mobile pastoral systems have intrinsic properties that make them an ideal entry point for supporting and scaling up nature-positive production and natural restoration and regeneration of ecosystems. Mobility remains their most effective strategy.

**Supporting, scaling up and improving pastoral mobility**

Relative but sustainable stability in outputs can be achieved by matching the variability in potential inputs from the environment with the variability integrated in the processes of production. The absence of livestock mobility has historically led to rangeland degradation. Mobility reduces environmental externalities for both economy and ecology.

Pastoral mobility — managing grazing itineraries at a variety of scales so that livestock gain a better diet than they would without management — is the most evident example of variability embedded in the processes of production. Other elements providing the necessary adaptability are flexible land-tenure systems, high levels of domestic animal diversity within the herd, and reliance on complex learned behaviours as well as on genetic traits in livestock breeding.

Recognising, supporting, scaling up and improving the logic of matching variability in inputs with variability in production processes is key to secure relative but sustainable stability in outputs for modern food systems in the face of climate change. With regard to pastoral systems and their integration with crop farming and the wider economy, this starts from supporting, scaling up and improving pastoral strategic mobility.

**The proposed actions**

Establish a transformational global Initiative for Mobile Pastoralism Valuing Rangeland Variability. The initiative would be dedicated to supporting, scaling up and improving pastoral strategic mobility and its underlying logic of achieving relative but sustainable stability of outputs by matching variability of potential inputs with variability in the processes of production.

The initiative would identify benign or harmful policies and legislation, help share best practices, develop global certification standards, incentivize investments, and help build capacities of pastoralists to self-organise and represent themselves in local, national and global policymaking.

A minimum programme of work would include:

1. Legal recognition of pastoral strategic mobility both in-country (a successful example is the formalisation of the *vías pecuarias* in Spain) and across national borders on a regional scale (e.g. the transhumance passports in West Africa).
2. Legal status available for land users and communities who wish to manage rangelands through common property tenure, including ownership of buffer zones, and the notion of flexible boundaries.
3. Legal recognition of pastoralism as a form of land use and land development on an equal basis with crop farming (as, for example, in the Kenya pastoral development policy: Sessional Paper No. 8 of 2012).
4. Effective integration of pastoralist itineraries and infrastructures in the sustainable development strategies of the regions hosting this activity, enhancing the synergies with local economy and other productions such as crops, orchards, timber plantations, silvopastoral systems, etc
5. Celebrating pastoralism and programming exchange, educational and leisure events to boost the social links and trade-offs between mobile pastoralists and local communities.
6. Introduce traceability system for marketing of pastoral food products, which will certify its origin and source as healthy rangeland, healthy animals produced through environmentally friendly pastoralism.
7. Decentralised electricity supply, using solar and wind power from rangelands, with pastoralists benefitting from the royalties or being in a position to sell electricity generated on their communal land.
8. Systematically applying true cost accounting to livestock products worldwide, thus ensuring balanced and equitable trade in livestock products, both domestically and internationally.
9. Payment for ecosystem services provided by mobile pastoralism, including maintenance of pollinators for crops, seed dispersal and ecosystem maintenance.
10. Investment in mobility-friendly infrastructure, including basic services (health, education), 100% coverage of rural areas with mobile phone and broadband networks, mobile or on-demand water points (e.g. portable large-capacity water ‘bladders’ served by trucks in Sudan), marketing options and abattoirs, and repairing roads and bridges for accessing remote pastures.
11. Development of mobile and distant services (health, education) and mobile-phone based services to help with transportation, marketing, planning grazing itineraries and watering, providing weather forecast data for day to day pasture land management activities, sourcing feed supplements and veterinary products, and vocational training and professionalization of herders.
12. IPCC to update its formulas for calculating carbon sequestration from rangelands and other non-equilibrium ecosystems, and inclusion of the natural ecosystem flows of greenhouse gases such as CH4 or N2O as natural baselines of grazed ecosystems.
13. IPBES to comprehensively map ecosystems recognizing rangelands as a distinct category and the role of livestock in maintaining natural landscapes.

**Why does this solution align to the definition and criteria for a ‘game changing solution’ developed by the Summit?**

This solution recognises, supports and improves the logic of ‘valuing variability’: achieving relative but ecologically sustainable stability in outputs by matching variability in inputs with variability in processes. This is a major change from the approach of current conventional agronomic practices, because it avoids the high inputs, high fossil-fuel burden and large environmental impacts necessary to mitigate natural variability in industrialised production systems. When adopted, this approach will have far-reaching consequences, starting from a fundamental readjustment of parameters, indicators, scales of observations and procedures in the collection of public data on food systems (all of which have been developed with the assumption that a separation of agriculture from the natural environment is both desirable and possible).

**What is the existing evidence supporting the argument that this solution will work, or at least that it will achieve the initial outcomes described above?**

Evidence of the possibility of achieving relative but ecologically sustainable stability in outputs by matching variability in inputs with variability in processes has been in the public domain for many years. It can be found in the scientific literature on high-reliability systems (i.e. the work of Emery Roe and Paul Schulman) and in the study of livestock breeding and mobility in pastoral systems (i.e. the work of Maryam Niamir-Fuller, Roy Behnke and Ian Scoones, Jean Boutrais, Saverio Krätli, Nikolaus Schareika, Brigitte Kaufmann, Michel Meuret and Fred Provenza, amongst several others. A recent paper by Emery Roe bridges the two domains and provides a thorough conceptual framework (Pastoralists as Reliability Professionals and Pastoralist Systems as Infrastructure).

The positive ecological outcomes of livestock mobility have been reviewed extensively in the work of Pablo Manzano. Evidence of the role of mobile pastoral systems in mitigating climate change, and the shortcomings of conventional methods for assessing livestock systems’ contribution to climate change — all designed with the assumption that agricultural production is separated from nature — is also substantial. Starting from several publications by the International Union for the Conservation of Nature (IUCN), the ongoing work by the FAO multi-stakeholder platform Livestock Environmental Assessment and Performance (LEAP), and the recent proposal of an ‘ecosystem approach’ for measuring the carbon footprint of pastoral systems working with nature (by CIRAD scientist Mohamed Abibou Assouma and colleagues).

**What is the current and/or likely political support for this idea?**

The politics around pastoralism are complex, but interest has been growing at all levels, especially in relation to climate change and social justice/conflict. In the last five years, there has been growing recognition of the importance of pastoral systems and the economic value of pastoral mobility, including by international scientific institutes like CIRAD, Australian Rangeland Society, and ILRI; major development players and UN agencies (World Bank, FAO, IFAD, UNDP, UNESCO and UNEP); national development agencies like AFD (France), DFID (UK), GIZ (Germany),international NGOs like IUCN, TNC, Oxfam, MISEREOR (the development agency of the German Catholic Bishops), Diversearth, Plateau Perspectives; and Producer Groups such as Confederation Paysanne Francaise, SEVA of India, Union of Indigenous Nomads of Iran, European Shepherds Network, Eastern and Southern African Pastoralist Network, Kyrgyz Jayity, Magallanes Farmers Association of Chile.

In Africa, the African Union produced a Policy Framework for Pastoralism ten years ago. Kenya produced its first policy in 2012. A *Pastoral Development Policy* has recently been launched in Ethiopia, acknowledging the economic and ecological importance of mobile pastoralism, and that failing to support it in the past was a mistake. In South Africa, commercial farmers are dropping their fences to allow herders to move through larger spatial scales, and the demand for professionalized herders has increased significantly.

Local and national pastoralist social movements such as cooperatives, unions and associations are growing all over the world. Nevertheless, pastoralists continue to be less represented in global processes such as the SDGs and UNFSS, because they lack a global voice. Global farmer’s organizations that engage with UN processes often miss the key issues relevant to mobile pastoralism and avoid controversial issues such as farmer-herder conflicts. Indigenous peoples’ groups effectively represent pastoralists, but not all pastoralists consider themselves as indigenous minorities.

In the last twenty years, these pastoralist social movements have produced numerous formal declarations, in an attempt to gain a voice in the policymaking processes that affect their livelihoods. In virtually all such declarations, pastoralists have asserted their expertise as livestock professionals and called for a fundamental rethinking of pastoral development. Top priority has been given to a call to stop and reverse the undermining of pastoralist mobility and the conversion of rangelands to other uses. In 2010, the Mera Declaration by 160 women pastoralists from 32 countries stressed women’s role as specialist producers in pastoral systems.

Last autumn the FAO Committee on Agriculture (COAG) and the FAO Council endorsed a resolution submitted by the Government of Mongolia for the designation of a UN “International Year of Rangelands and Pastoralists” (IYRP) in 2026. Raising awareness on pastoralism in all its forms, including mobile pastoralism, is a core issue being proposed for this International Year.

**Additional details on potential solution**

2.1. Is this idea primarily about protecting natural ecosystems, sustainably managing existing food production or restoring and rehabilitating degraded ecosystems?

This idea is primarily about sustainably manage existing food production systems to the benefit of both nature and people.

**2.2. Who are the main actors to put this solution in place?**

Policymakers (government), producer groups, civil society, pastoralist communities and peoples, and the scientific and research community.

2.3. What governance level needs to be addressed?

Global (e.g. UN environmental conventions), Regional, National and Local.

2.4. [If answer on 2.3.] Could you please name the interventions needed on the appropriate governance level?

This idea requires a global scale intervention, and therefore, could be one of the outcomes of the UNFSS. Governments, civil society and other stakeholders would be asked to contribute to the financing of the Initiative. Activities and actions would be carried out at all governance levels as exemplified above. The exact organizational structure needed to implement and govern the Initiative requires further elaboration, but could be built on existing financing structures.

**Global level:** UNFCCC and FAO to incorporate the neutral character of pastoralism-derived GHG emissions and the positive role of carbon fixation in rangelands managed by pastoralists in their evaluations. UNCBD, UNCCD and IPBES to incorporate scientific evidence on the real extent of grazed ecosystems, including ecosystems with alternative states previously interpreted as deforested areas. UN Agencies to disaggregate data so as to categorize pastoralists separately from farmers and other land users, and thereby to gather statistics relevant to pastoralism. Overall, create sufficient flexibility and options for commensurability in appraisal mechanisms and guidelines for the generation of relevant public data, to allow the necessary adaptation at national level (see national level).

**Regional level:** Lobby for veterinary health policies for the world’s different regional commerce blocks to stop undermining mobile pastoralism and favour instead mobile livestock production systems through adequate proven tools. Extend transnational cooperation models (such as ECOWAS or IGAD protocols for transhumance) to other regional blocks with transboundary pastoralism, including provisioning and marketing routes. For developed countries, recognize the ecosystem services provided by mobile pastoralism by specifically supporting their practice and reducing the differential profit-making with more polluting livestock production methods.

**National level:** Protect pastoralist mobility, including both transhumant routes and mobility not involving gazetted corridors. Adopt legal frameworks capable of representing and protecting the forms of flexible/negotiable, and intermittent/seasonal use of the land functional to the performance of pastoral systems and their integration with crop farming systems and the wider economy. With people in pastoral systems as the modelling entry point, develop ways of providing basic/social services in contexts where operating with high levels of variability is the norm (as such contests are on the increase). Overall, adapt mechanisms of appraisal for the generation of public data (procedure, parameters and indicators, scales of observation) to make them capable of representing pastoral systems and more broadly food production systems operating as part of nature (nature-positive), that is in contexts where high levels of variability are the norm.

2.5. Will the idea involve a specific group of people (women, young people, etc)?

In principle, every group is involved. However, ’valuing variability’ is likely to be particularly advantageous for women and youth. The ongoing pressure to shift pastoralists away from their traditional nature-positive approach to production and into the nature-negative globalised approach hits particularly hard women and youth.

**2.6. What is the innovative approach in this idea (e.g. new technology, process innovation)?**

This idea is about process innovation. Achieving relative but sustainable stability of outputs by matching the variability of potential inputs from the natural environment with variability strategically integrated in the processes of food production — starting from pastoral systems where this approach is already particularly developed and manifest. We are proposing a conceptual framework for ‘valuing variability’ and an implementation mechanism: the Initiative for Mobile Pastoralism Valuing Rangeland Variability.

Increasing mobility of livestock on rangelands through mobile pastoralism can meet the challenges of increasing climate variability. Furthermore, maintaining healthy rangelands through sustainable pastoralism will rehabilitate grasslands and ensure continued functioning of such ecosystems as effective carbon sinks. There are multiple innovations and technologies that will be required to enable this transformation, including changes to land tenure legislation, technological decentralization, and innovative financial mechanisms.

**2.7. Are any of the 'lock-ins' below blocking the success of the solution you are proposing?**

'Lock-ins refer to the vicious cycles that will need to be broken if a transition towards diversi:ed, agroecological systems is to be achieved. The eight 'lock-ins' described below are examples of key mechanisms locking industrial agriculture in place, regardless of its outcomes, to help you answer this question (Source: IPES Food – From Uniformity To Diversity 2016).

*CHOOSE*

— Path dependency – industrial agriculture requires significant upfront investments, in terms of equipment, training, networks and retail relationships, and often requires farmers to scale up. Once these investments and structural shifts have been made, it is increasingly difficult for farmers to change course

— Export orientation – as industrial agriculture has spread, generating abundant supplies of uniform, tradable crop commodities, trade has taken on disproportionate political importance. Specific supply chains (e.g. for animal feed, for processed food ingredients) have become increasingly export-oriented and export-dependent

— Expectation of cheap food – retailers have become increasingly reliant on the cheap and flexible supply of uniform commodities that industrial agriculture is uniquely positioned to provide

— Compartmentalized thinking – highly compartmentalized structures continue to govern the setting of priorities in politics, education, research and business, allowing the solutions offered by industrial agriculture to remain at center stage

— Short-term thinking – key players in food systems are often required to deliver short- term results, thus neglecting long term advantages of diversified agricultural practices not visible immediately

— ‘Feed the world’ narratives – all narratives based around ‘feeding the world’ predispose us to approach the question in terms of global production volumes of mainly energy-rich, nutrition-poor crop commodities. This means that industrial agriculture continues to be seen as the solution

— Measures of success – the criteria against which farming is typically measured - e.g. yields of speci:c crops, productivity per worker - tend to favor large-scale industrial monocultures

— Concentration of power – the way food systems are currently structured allows value to accrue mainly to a limited number of actors, reinforcing their economic and political dominance, and thus their ability to influence the governance of those systems

— Other:

All of these choices are relevant to this Initiative.

Another “lock-in” is the continuing misperception and misunderstanding of pastoralism, which is viewed as a backward archaic way of life, but should be seen as a nature-based, culturally appropriate, and sustainable livestock production system.

2.8. Is this idea applicable to a particular geography, demography, landscape or other type of setting (e.g. country, high- or low-income countries, aquaculture)? If so, please specify.

The logic of valuing variability is actually relevant to all food production in the face of increasingly variable natural environments. However, this particular Initiative for Mobile Pastoralism Valuing Rangeland Variability is meant to be applied to all mobile pastoral systems worldwide – which at last count, covered more than 75 countries.

2.9. Where is this idea coming from and what organization is driving the thinking on this concept? (Please include a citation to a document, if applicable, or the name of a person or organization, webpage)

Key documents

Allen-Diaz, B., F.S. Chapin, S. Diaz, M. Howden, J. Puigdefábregas, and M. Stafford Smith. 1996. "Rangelands in a changing climate: Impacts, adaptations, and mitigation." In *Climate Change 1995. Impacts, Adaptations and Mitigation of Climate Change: Scientific-Technical Analyses*, edited by R. Watson, M. Zinyowera and R. Moss, 131–158. Cambridge: Cambridge University Press.

Assouma M.H., Hiernaux P. Lecomte P., Ickowicz A., Bernoux M. and Vayssières J. 2019. Contrasted seasonal balances in a Sahelian pastoral ecosystem result in a T neutral annual carbon balance. *Journal of Arid Environments* 162: 62–73. <https://doi.org/10.1016/j.jaridenv.2018.11.013>

Bond W.J. 2019. *Open Ecosystems: ecology and evolution beyond the forest edge*, Oxford University Press. <https://doi.org/10.1093/oso/9780198812456.001.0001>

IIED. 2015. *Valuing Variability. New perspectives on climate resilient drylands development*, IIED, London. <http://pubs.iied.org/pdfs/10128IIED.pdf>

IFAD 2018. *How to do. Engaging with pastoralists – a holistic development approach*, IFAD, Rome. <https://www.ifad.org/documents/38714170/40318624/Pastoralism_HTDN.pdf/a47903bb-939c-4d54-9664-1ecebb96316a>

Johnsen, K.I., M. Niamir-Fuller, A. Bensada and A. Waters-Bayer, 2019. *A case of benign neglect: Knowledge gaps in the sustainability of pastoralism and rangelands,* UNEP. <https://www.unenvironment.org/resources/report/case-benign-neglect-knowledge-gaps-about-sustainability-pastoralism-and-rangelands>

Manzano P., White S.R. 2019. Intensifying pastoralism may not reduce greenhouse gas emissions: wildlife-dominated landscape scenarios as a baseline in life cycle analysis. Climate Research 77: 91-97. <https://doi.org/10.3354/cr01555>

Manzano-Baena P., Salguero-Herrera C. 2018. Mobile Pastoralism in the Mediterranean: Arguments and evidence for policy reform and to combat climate change. Mediterranean Consortium for Nature and Culture, Geneva. <https://tinyurl.com/yalgh87o>

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Misereor 2019. *Pastoral Development Orientation Framework*. Misereor, Aachen. <https://www.misereor.org/fileadmin/user_upload_misereororg/publication/en/accesstoland/pastoral-development-orientation-framework.pdf>

Meuret M. and Provenza F. (eds) 2014. The Art and Science of Shepherding. Tapping the Wisdom of French Herders, ACRES, Austin, TX.

Roe E. 2020. *A New Policy Narrative for Pastoralism? Pastoralists as Reliability Professionals and Pastoralist Systems as Infrastructure*, STEPS Working Paper 113, IDS, Brighton. <https://www.ids.ac.uk/publications/a-new-policy-narrative-for-pastoralism-pastoralists-as-reliability-professionals-and-pastoralist-systems-as-infrastructure/>

Scoones I. 2019. What is Uncertainty and Why Does it Matter? STEPS Working Paper 105, STEPS Center, Brighton.

Several organizations (as of 30 May 2021)

Association Française de Pastoralisme (France)

BIOCULT (Biocultural Heritage and Local Development Center) of the University of Molise (Italy)

Bundesverband Berufsschäfer (German Association of Professional Shepherds) (Germany)

Burren Programme and Burrenbeo Trust (Ireland)

Camel Charisma, Pvt. Ltd., India

CELEP, Belgium

Concejo de la Mesta (Spain)

Fondazione Uomini e Territori (Italy)

Fundación Entretantos (Spain)

Global Change and Conservation Lab, University of Helsinki, Finland

Global Diversity Foundation, UK

International Institute for Environment and Development (IIED), UK

ILRI

LPP, India

PASTRES, Institute of Development Studies (IDS), UK

RECONCILE, East Africa

Rete APPIA per la Pastorizia' (Italian Network for Pastoralists 'APPIA’) (Italy)

Spanish Platform on Extensive Livestock Farming and Pastoralism (Spain)

Transhumancia y Naturaleza, Spain

Yolda Initiative, Turkey

Zsolt Molnar, head of Traditional Ecological Knowledge Research Group (of Centre for Ecological Research in Hungary), in personal capacity

Webpage

<https://iyrp.info>

2.10. Do you have any other comments, including evidence or arguments in support or against?

In many countries, reviving, upgrading and protecting pastoral mobility and rangeland variability will face challenges, not least because of existing misperceptions, harmful policies and subsidies, and a legislative structure that cannot accommodate common property tenure. It is also unfortunate that pastoralists continue to be seen either as victims or as villains – whether this be related to climate change, land degradation, or conflict resolution.

But pastoralism benefits around 1.3 billion people along the value chain worldwide. Rangelands support 50 per cent of all global livestock production. The world’s future cannot afford to neglect pastoralists and rangelands anymore.

3. Additional details on submitting person

Dr. Maryam Niamir-Fuller is the Vice Chair of the International Support Group (ISG) for the International Year of Rangelands and Pastoralists (IYRP). She is the former Director of UNEP’s Division for the Global Environment Facility, and SDG Special Advisor. This proposal was drafted by Saverio Krätli (PASTRES), Pablo Manzano (HELSIUS), Maryam Niamir-Fuller, and Ann Waters-Bayer (CELEP) and has been submitted on behalf of the ISG, a world-wide coalition of more than 165 organizations that support the Mongolian Government’s efforts to designate the IYRP, of whom 47% are national NGOs, 16% are global and regional NGOs, 17% are producer groups, 17% are scientific and research institutions, and 1% are business entities. Several UN agencies also support the coalition. For more information please visit <https://iyrp.org>.

3.1. For tracking purpose, please add your name, role, organization and contact data

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