GSLEP

13 SUSTAINABLE ECONOMIES AND BIODIVERSITY CONSERVATION IN SNOW LEOPARD LANDSCAPES



THE GLOBAL SNOW LEOPARD AND ECOSYSTEM PROTECTION PROGRAM



INTRODUCTION



The ongoing loss and conversion of vast stretches of natural habitats across the world's lands, the overexploitation of wild plants and animals on land and in the oceans, pollution, climate change, and the resultant degradation of ecosystems have triggered а planetary environmental crisis and mass extinction of species (Dasgupta 2021). These changes have been precipitated by the predominant model of development that prioritizes economic growth expense of the at the environment. To arrest these changes, there is an urgent need for an approach that can promote economic development while also conserving biodiversity. This policy advisory lays out such a development model for snow leopard landscapes, which are typically multiple use areas and represent socialecological systems.

In 2017, under the leadership of the country's President, the Kyrgyz Government hosted the second International Forum for snow leopard and ecosystem conservation in Bishkek.

part of this As event. а Green Forum hosted Investment was to showcase the investment climate within snow leopard range countries and invite the private sector to explore investment opportunities ecologically in sustainable and non-destructive sectors. The Forum laid out an opportunity for bringing investments into snow leopard landscapes that complement the conservation action on the ground, rather than act against it. The need for development approach that а prioritizes conservation for economic development was highlighted. The Bishkek Declaration 2017, issued jointly by the 12 snow leopard range countries, identified the need to stimulate green investments and mainstream green while infrastructure, striving to undertake economic valuations of ecosystem services. This advisory follows up on the proceedings of the Green Investment Forum in 2017 and provides a thought framework for policy action.

THE CONSERVATION-FOR-DEVELOPMENT APPROACH

Global conservation efforts driven by protection and exclusion. and economic development driven by consumerism and economies of scale, have been locked in an adversarial relationship with negative consequences for each other (Folke 2006). This is where an alternate approach to global development, that synergizes economy with ecology, has the potential to help humanity move towards a more sustainable planet.

This policy advisory lays out an approach for economic development that is built on the conservation of biodiversity and the sustainable use of ecosystem services. Such an approach could ensure that harvest of natural resources stays within the limits of sustainability and planetary boundaries (Steffan et al. 2015). Rather than economies of scale, it focuses on economies of value, where premium commodity values are generated through their linkages with local ecosystems, cultures, sustainable use of ecosystem services, and contribution to biodiversity conservation.

THE VISION OF THE CONSERVATION-FOR-DEVELOPMENT APPROACH IS TO CREATE A TRANSFORMATIVE, SPATIALLY-EXPLICIT DEVELOPMENT MODEL THAT RELIES ON CONSERVATION AND SUSTAINABLE USE OF BIODIVERSITY AND ECOSYSTEM SERVICES (FIGURE 1.



FIGURE 1: THE THEORY OF CHANGE FOR THE CONSERVATION-FOR-DEVELOPMENT APPROACH

THE CONSERVATION-FOR-DEVELOPMENT APPROACH

IS MEANT TO BE SPATIALLY AND CONTEXTUALLY SPECIFIC, AND IT RESTS ON FIVE MAIN PILLARS DESIGNED TO SAFEGUARD BIODIVERSITY, CULTURE, AND ECONOMIC WELL-BEING. THE FIVE PILLARS, FURTHER DESCRIBED BELOW ARE:

1.A Spatially explicit conservation framework

- 2. Ecosystem services focus
- 3. Sustainable value enterprise model
- 4. Socio-economic inclusion
- 5. Wide-ranging partnerships.

The approach can be envisaged to have short and long term outcomes. The short-term outcomes would be to garner political support for the conservation-for-development approach; attract investors for resources and knowledge transfer; and motivate and support local communities and entrepreneurs to participate and take ownership. Government support, global investors, and local partnerships can lead to the longer term impact of protecting biodiversity while ensuring economic development and improved human well-being in the landscapes of interest.

FIVE PILLARS OF THE CONSERVATION FOR DEVELOPMENT APPROACH

1. SPATIALLY EXPLICIT CONSERVATION FRAMEWORK

the conservation-for-development approach, In the landscape of interest is designated as a special ecological zone and is mapped based on biodiversity values, ecosystem service stock and flows, land tenure and current human use. In partnership with local communities, relevant government authorities and other stakeholders, the landscape is categorized into three to four zones, somewhat along the lines of how protected area zonation is undertaken (Figure 2). Depending on the context, the critical wildlife zone and the ecosystem services stock zone could be combined into a single category. A zone-specific mitigation hierarchy is designed to ensure a net gain in measures of biodiversity and ecosystem functioning while meeting the goals of economic growth.

CREDIT: BEHZAD LARRY

FIGURE 2: MITIGATION HIERARCHY AND ZONATION MAPPING OF SPECIAL ECOLOGICAL ZONES UNDER THE CONSERVATION FOR DEVELOPMENT MODEL.



Critical Wildlife Zone

- Priority: Biodiversity and Wildlife Conservation
- Mitigation Hierarchy: AVOIDANCE
- No permanent infrastructure or habitation
- Research, monitoring and protection
- Regulated visits, temporary camping for research
- Very low intensity livestock grazing where necessary

Ecosystem Services Stock Zone

- Priority: Forest, Habitat and Ecosystem service Conservation
- Mitigation Hierarchy: AVOIDANCE / MINIMIZATION
- No activity that degrades or pollutes
- Ecosystem service stocks identified and protected
- Ecosystem services flow is ensured to downstream populations
- Research, monitoring and protection

Ecosystem Services Harvest Zone

- Priority: Ecosystem Services Harvest for Human Welfare
- Mitigation Hierarchy: MINIMIZATION / RESTORATION
- Livestock grazing, bee keeping, sustainable harvest of other ecosystem services such as clean water, etc.
- Research, monitoring and protection
- Low impact infrastructure in support of livelihoods

Economic Development Zone

• Priority: Industrial and Agricultural Production

- Maintain wildlife populations (Nc) at carrying capacity (K) over the long-term, enable conditions where birth rates (bc) exceed rates of mortality (mc), and rates of emigration (ec) are considerably higher than immigration rates (ic) to enable spill-over effects:
 - Nc ≈ K,
 - bc > mc,
 - ec >> I.
- Sustainable, energy efficient infrastructure
- Maintain wildlife populations (Nes) close to carrying capacity (K) over the long-term, enable conditions where birth rates (bes) exceed rates of mortality (mes), and rates of emigration (ees) are higher than immigration rates (ies) to enable spill-over effects: Nes ≈ K, bes > mes, ees > yes.
- Estimate the desirable wildlife population size (Neh), which will be a function of the trade-off between conservation and ecosystem service harvest objectives and ensure that populations are maintained around that level: -Neh = K f(H), beh + ieh ≥ meh + eeh, where f(H) is a function by which the wildlife population size is reduced below carrying capacity as a result of an acceptable level of harvest of provisioning ecosystem services.
- Mitigation Hierarchy: OFFSET Agro-Processing and other industry, special economic zones.

This approach of zonation, use and mitigation hierarchy can serve as the basis for conservation efforts and land use planning. Together, the critical wildlife areas and ecosystem service stock zone, for example, effectively serve the purpose similar to what a protected area typically serves.

The ecosystem service harvest zone allows for the sustainable use of natural resources (e.g. grazing, irrigation water, water for household purposes, medicinal plants, eco-tourism), while the dedicated to economic development zone is infrastructure. production, housing and other needs of enterprises. All enterprises set up in this zone must comply with this spatially explicit conservation and ecosystem services framework, in addition to meeting other relevant sustainability standards and certification. Unlike existing land use systems, however, in this model, the various zones and activities are typically linked and serve as resource catchments for each other.



2. ECOSYSTEM SERVICES FOCUS

In the conservation-for-development model, the focal landscapes are not viewed solely as engines for economic growth or sources of ecosystem services, nor are they envisioned to become inviolate areas for strict protection of biodiversity. Instead, they are viewed as coupled socialecological systems where biodiversity as well as ES stocks must be preserved, and ES flows used sustainably for human welfare and economic growth (Figure 3).

The approach thus involves (i) developing a comprehensive understanding of society and land tenure, and an economic and sociocultural valuation and mapping of the landscape's ES, (ii) creating a management system that optimizes the use of ES for welfare while conserving biodiversity, and protects peoples' identify and their sacred spaces, promotes societal welfare, and increasesing the resilience of the social-ecological systems, and (iii) setting up enterprises that comply with the management system and other sustainability and certification systems mandated and overseen by the governance and management bodies.

LANDSCAPE ZONE ECOSYSTEM SERVICE HUMAN WELL-BEING





FIGURE 3: AN ECOSYSTEM SERVICES BASED REPRESENTATION OF THE CONSERVATION FOR DEVELOPMENT MODEL (EDZ: ECONOMIC DEVELOPMENT ZONE, ESHZ: ECOSYSTEM SERVICES HARVEST ZONE, ESSZ: ECOSYSTEM SERVICES STOCK ZONE, CWZ: CRITICAL WILDLIFE ZONE).

3.SUSTAINABLEVALUEENTERPRISE MODEL

Central to the conservation-for-development approach would be a set of ecologically sustainable commercial enterprises that prioritize value over scale. For instance, local traditional strengths in agriculture can be combined with a range of innovative technologies and practices to develop a host of organic and environmentally less damaging products ranging from vegetables and fruits, fibre, to processed products (Fernandez et al. 2013). These products can tap into the rapidly expanding community of consumers in the global as well as growing regional markets (Rahmaniah et al. 2020). Local experience in livestock management, when combined with a range of meat or dairy packing, storage and transport technologies, can afford an alternative to industrial scale animal production, and allow for the possibility of developing niche businesses that offer a range of unique products (Howe et al. 2018). There will be a need for the development of a well-trained workforce with a diverse set of industry specific vocational skills, appreciation of sustainability science and more technology general expertise and business management capabilities. Enterprises set up to impart training in these skills, while generating value for the local communities, can also form a vital component of the economy.

4. SOCIO-ECONOMIC EQUITY

The conservation-for-development approach recognizes that social, economic, political, and ecological issues are interconnected. Socio-economic inequality can lead to increased environmental degradation. Critical in this approach is the inclusion of various sections of the local societies, across different societal barriers and power structures, and other relevant stakeholders. Local entrepreneurs are supported to create value-focused businesses that, in addition to generating profits, benefit a larger proportion of local community members through employment or training.





5. WIDE-RANGING PARTNERSHIPS

Participation of international networks of experts and institutions is vital for the economy. In an increasingly globalized world, the transfer and application of technologies developed in one part of the world to businesses in another part can often unlock synergies and value for local and global economies. Local enterprises can benefit from obtaining access to specific technologies and approaches in soil, water and crop management, conservation, and training that have been developed in other markets or regions.

MUTUALLY BENEFICIAL COMMERCIAL PARTNERSHIPS WITH GLOBALLY EXPERIENCED COMPANIES CAN HELP LOCAL ENTREPRENEURS INTRODUCE NOVEL BUSINESS MODELS AND CREATE UNIQUE VALUE PROPOSITIONS FOR GLOBAL AND LOCAL CUSTOMERS.

Financial investments will be of utmost importance for growth of the enterprises. Recent times have seen encouraging growth in the community of global conservation financers driven by the need to preserve natural ecosystems while utilizing them for economic development. A range of innovative financial instruments, that include debt, equity and grant funding have been employed (Berghöfer et al. 2017). Such opportunities could help fulfill investment requirements of this green economy. Investors in this community range from highnet-worth individuals to foundations and sovereign funds.

OPERATIONALIZATION

то HELP OPERATIONALIZE THE CONSERVATION-FOR-DEVELOPMENT APPROACH IN SNOW LEOPARD LANDSCAPES, THE GSLEP SECRETARIAT AND PARTNERS HAVE CREATED A PLATFORM AND BRAND IDENTITY (EQUAL ONE) FOR SUSTAINABLE ECONOMIC DEVELOPMENT ENTERPRISES LINKED TO CONSERVATION. SUCH A COMMON PLATFORM AND BRAND IDENTITY CAN HELP IN THE UPTAKE OF THIS CONCEPT ACROSS DIFFERENT SECTORS, AND SCALES - RIGHT FROM THE ON-GROUND IMPLEMENTATION TO POTENTIAL POLICY SUPPORT. KEY CHARACTERISTICS OF SUCH A PLATFORM AND THE **BENEFITS THAT IT CAN PROVIDE INCLUDE:**

- An opportunity for dialogue Help people to connect with among stakeholders (individuals, influencers and communities) and institutions (governments, organizations and brands) for co-creating a way of doing business that is sensitive to natural habitats (people, animals and plants).
- Aggregate existing knowledge and experiences from different projects and create useful resources that can facilitate colearning
- Make the idea bigger by building а network of beneficiaries, many of whom become the community of cobelievers and partners. They, in turn, grow the program with their knowledge, assets and resources, portfolio of products and services, their passion and ideas, and their influence.
- Offer different forms of needbased support to local entrepreneurs or communities to help build businesses that ecologically sensitive, are socially Inclusive, culturallv relevant, and bring economic benefits.
- Increase trust with investors and buyers by ensuring transparency and traceability of the value chain, quality control of products and services, and ecological, social and economic sustainability.

others doing similar work and sharing the same values, support each other, learn from each other and grow together. It can facilitate knowledge and resource exchange with others who need them and/or can benefit from them to achieve their social and environmental sustainability goals. The beneficiaries could be projects people, individuals or or groups, institutions or enterprises, creators or catalysts.

- potential • Support entrepreneurs from local communities with funding and resources. Range countries, GSLEP Partners and international financial institutions may consider investing in supporting such local startups. Range countries may consider inducting the Equal One framework in their projects and policies.
- Develop metrics to measure social, economic and ecological impact and document efficacy of specific interventions, projects and the larger vision.

REFERENCES

- Berghöfer, A., L. Emerton, A. Moreno Diaz, J. Rode, C. Schröter-Schlaack, H. Wittmer, and H. van Zyl. 2017. Sustainable financing for biodiversity conservation: A review of experiences in German development cooperation. UFZ Discussion Paper. Helmholtz-Zentrum für Umweltforschung (UFZ), Leipzig.
- Dasgupta, P. 2021. The Economics of Biodiversity: The Dasgupta Review. London: HM Treasury
- Fernandez, M., Goodall, K., Olson, M. and Méndez, V.E. 2013. Agroecology and alternativeagri-food movements in the United States: Toward a sustainable agri-food system. Agroecology and sustainable food systems 37:115-126.
- Folke, C., 2006. The economic perspective: conservation against development versus conservation for development. Conservation Biology 20(3): 686-688.
- Howe, C., E. Corbera, B. Vira, D. Brockington, and W.M. Adams. 2018. Distinct positions underpin ecosystem services for poverty alleviation. Oryx 54(3): 375 – 382. https://doi.org/10/1017/S0030605318000261
- Steffen, W., K. Richardson, J. Rockström, S.E. Cornell, I. Fetzer, E.M. Bennett, R. Biggs, S.R. Carpenter, W. De Vries, C.A. De Wit, and C. Folke. 2015. Planetary boundaries: Guiding human development on a changing planet. Science 347(6223). https://doi.org/10.1126/science.1259855

Suggested Citation:

Mishra, C., Murali, R., Agvaantseren, B., Alexander, J.S., Fiechter, M., Jumabay Uulu, K., Kabaeva, B., Nawaz, M.A., Shahzad, T., Suryawanshi, K., Tursunkulova, B., Visid Uulu, U., Neelkandhan, M., Seth, S., Sharma, K. 2022. Sustainable economies and biodiversity conservation in snow leopard landscapes- No.13. In: Background papers for policy recommendations, Global Snow Leopard and Ecosystem Protection Program. Bishkek, Kyrgyz Republic. Pp. 10.



WWW.GLOBALSNOWLEOPARD.ORG



GLOBALSNOWLEOPARD



@GLOBAL.SNOW.LEOPARD.PROGRAM

GSLEP_SECRETARIAT