

SwedBio - a knowledge interface on resilience and development at Stockholm Resilience Centre

Summary

Earth's biological resources are vital to humanity's economic and social development. Biodiversity¹ and biological resources² provide the basis of life-support functions and resilient ecosystems³ and deliver vital ecosystem functions and services⁴ such as food, water purification, soil fertility and climate regulation. Ecosystem services are the basis for human wellbeing and survival. These services, and the biodiversity on which they are based, are crucial resources for the world's poorest people. They contribute to local livelihoods, and economic development. They are essential for the achievement of a post-2015 development agenda, and the Sustainable Development Goals as they have been discussed so far including ending poverty, ending hunger, achieving food security and improved nutrition, ensuring availability and sustainable management of water and for taking urgent action on combating climate change and its impacts. In addition ecosystems are a central component of many belief systems, worldviews and identities.

Overwhelming evidence, summarised comprehensively in the Millennium Ecosystem Assessment⁵, has clearly demonstrated that humans have changed ecosystems more rapidly and extensively in the last 50 years than in any other period in history. This is also emphasized by recent research⁶ on the new trajectory of the Anthropocene, where graphs referred to as the Great Acceleration, clearly illustrate the unprecedented impact of human activities on a planetary scale. This has contributed to substantial net gains in human well-being and economic development, but at the cost of large and increasing degradation of the majority of ecosystem services.⁷ According to the Convention on Biological Diversity (CBD) 2014 Global Biodiversity Outlook 4, species that have been assessed for extinction risk are on average moving closer to extinction. Nearly a quarter of plant species are estimated to be threatened with extinction. Crop and livestock genetic diversity continues to decline in agricultural systems.⁸ Since the agreement of the CBD's Strategic Plan on Biodiversity in 2010, encouraging steps have been taken around the world to tackle biodiversity loss at many levels. Nevertheless, it is clear that, on their current trajectory, they will not be sufficient to meet most of the Aichi Biodiversity Targets of the CBD's Strategic Plan by the deadlines committed to.⁹

SwedBio was established by Sida in 2002 to meet the growing international concern regarding negative effects on biodiversity and the need for joint policies and strategies to deal with global environmental challenges. SwedBio was first hosted by the Swedish Biodiversity Centre (Centrum för Biologisk Mångfald/CBM), a Centre founded jointly by the Swedish University for Agricultural Sciences (SLU) and Uppsala University, and in 2011 SwedBio moved to the Stockholm Resilience Centre (SRC) at Stockholm University. The Stockholm Resilience Centre is an international centre that advances transdisciplinary research for governance of social-ecological systems with a particular emphasis on resilience.¹⁰

The focus and objectives of SwedBio have been modified during the years of implementation and after the move to SRC in 2011, SwedBio has developed into an independent programme and since then no longer serves as an expert function to Sida. During the programme period 2011-2015, SwedBio has developed into a programme with increased emphasis on the 'knowledge interface' role - facilitating connections across knowledge systems and cultures. This role involves bridging between scientists, practitioners, and policy makers, with the intention to contribute to improved understanding, knowledge generation, management and good governance of social-ecological systems. One of SwedBio's intentions is thus to contribute to an improved dialogue culture in the scope of SwedBio's work.¹¹

An external evaluation of SwedBio was conducted during 2014 for the 2011-2013 phase, which was overall very positive of SwedBio's results and impacts. Some adjustments have been made in the proposal 2016-2019 in line with recommendations from the evaluation, for example to strengthen the communication and documentation of methods in the programme for further dissemination.

The Development Objective (Vision) for SwedBio 2016-2019 is shared with SRC's vision: "A world where social-ecological systems are understood, governed and managed, to enhance human well-being and the capacity to deal with complexity and change, for the sustainable co-evolution of human civilizations with the biosphere." The SwedBio Programme Objective (Mission) is to: *"Enable knowledge generation, dialogue and exchange between practitioners, policymakers and scientists for development and implementation of policies and methods at multiple scales – which contribute to poverty alleviation, equity, sustainable livelihoods and social-ecological systems rich in biodiversity that persist, adapt and transform under global change such as climate change."*

To reach the Programme Objective and, ultimately, the Development Objective, SwedBio will work with the two interlinked Components: 1) Knowledge Interface, and 2) Collaborative Programme (see figure 1). In these components, SwedBio will work on the following Thematic Focal Areas:

- Livelihoods, Food and Health
- Cities and Biodiversity
- Biocultural Diversity
- Climate Change and Ecosystems
- Values and Governance
- Assessments and Indicators

SwedBio will work within all these themes in an integrated manner and with the following Functional Focal Areas:

- Dialogues and Learning
- Art and Culture
- Communication and Training

SwedBio will continue to work with and learn from partners in policy, practice and research communities, including SRC's researchers, to develop, describe and apply methods for the programme. SwedBio will continue to use and develop methods such as dialogues, knowledge generation and shared learning within policy and practice processes.

Under the Component 2 Collaborative Programme SwedBio contributes to organisations working on issues related to SwedBio objectives, in "developing countries" (low income countries and least developed countries¹²). The work of partners in the Collaborative Programme will be reported under the respective thematic focal area. SwedBio has well-established routines for handling contributions under Sida funds. In line with the recommendation from the evaluation made of SwedBio in 2014, SwedBio/SRC are applying for an increased budget for the Collaborative Programme for the Phase 2016-2019. SwedBio has a potential to contribute to many more initiatives within the Collaborative Programme and with larger amounts, since it is more cost effective to handle larger amounts for each contribution.

For the proposal 2016-2019, the total amount SwedBio/SRC are applying for related to the SwedBio Programme is 141.2 MSEK, or with 2016 as an example 35 MSEK divided into 7 MSEK for Component 1. Knowledge Interface, and 28 MSEK for Component 2. Collaborative Programme.

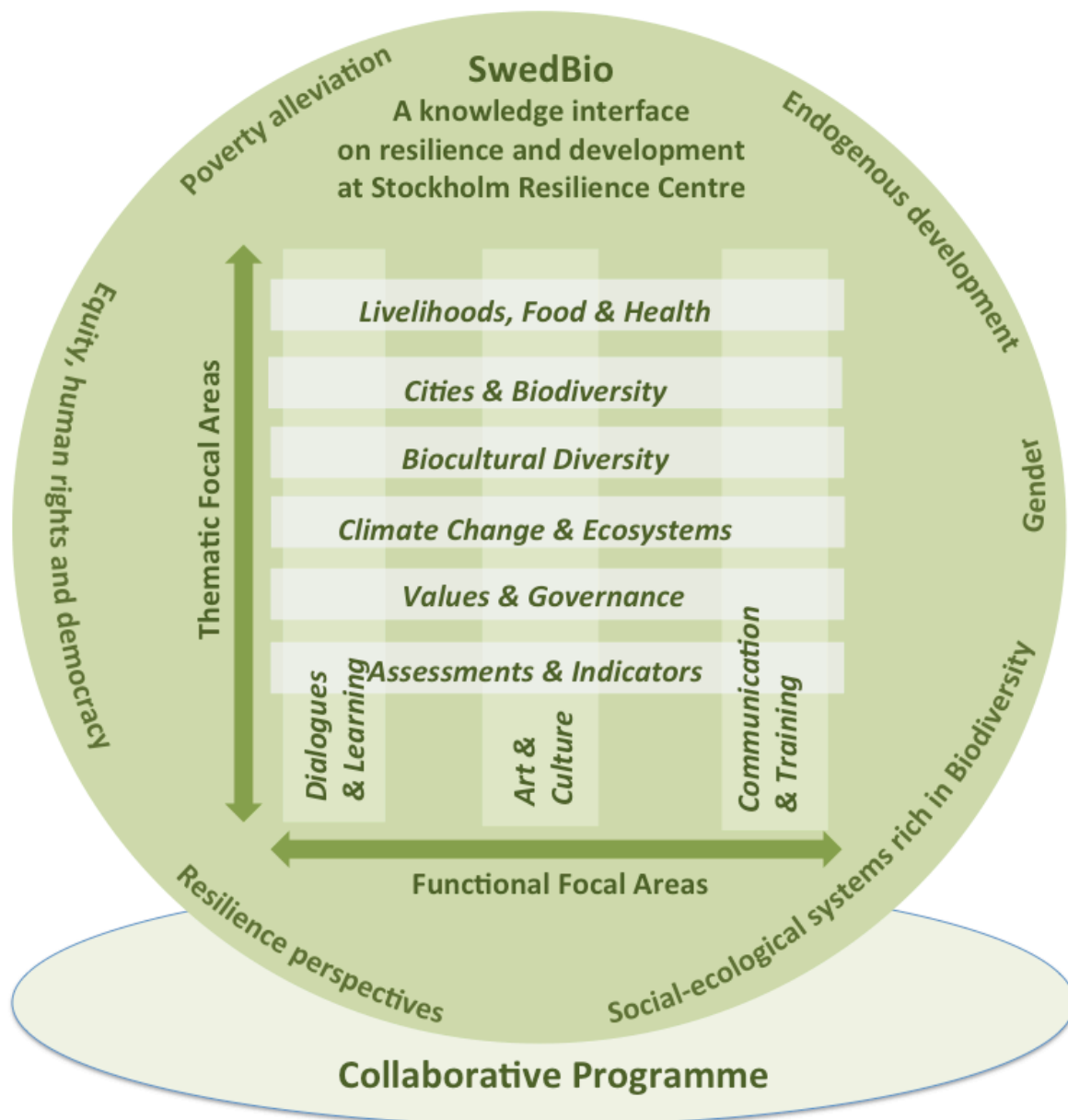


Figure 1. SwedBio's Components 1. Knowledge Interface (the darker green circle in the figure) and 2. Collaborative Programme (the lighter green circle that forms the ground in the figure) for 2016-2019, showing the Thematic and Functional Focal Areas, and the crosscutting issues (in the circle around).

Component 1. Knowledge Interface

Goal Component 1 – To contribute to development and implementation of policies and methods at multiple scales, through knowledge generation, dialogue and exchange between practitioners, policymakers and scientists, that contributes to SwedBio's objectives.

Expected Result 1 – SwedBio has under the thematic and functional focal areas contributed to reach the Goal of Component 1, verified through the indicators.

Expected outcomes of the focal areas in the Knowledge Interface

Thematic Focal Areas:

Livelihoods, Food & Health (including nutrition)

Expected outcome is that SwedBio for the period 2016–2019 in the knowledge interface and together with partners has contributed to equitable and sustainable governance and management of social-ecological systems, in the land- and seascape, that sustain and promote improved livelihoods, food security and human health.

Cities & Biodiversity

Expected outcome is that SwedBio for the period 2016–2019 in the knowledge interface and together with partners have contributed to urban planning with ecosystem services, and sustainable urban farming in social-ecological systems in the rural/urban landscape.

Biocultural Diversity

Expected outcome is that SwedBio for the period 2016–2019 in the knowledge interface and together with partners among indigenous peoples and local community organisations, have contributed to better governance and management of social- ecological systems and biocultural diversity, and to increased respect and recognition for indigenous and local knowledge related to biodiversity.

Climate Change & Ecosystems - adaptation and mitigation

Expected outcome is that SwedBio for the period 2016–2019 in the knowledge interface and together with partners have contributed to equitable governance and ecosystem management for sustainable livelihoods, adaptation, mitigation and disaster risk reduction related to climate change, through analysis and measures related to resilience and social-ecological systems.

Values & Governance

Expected outcome is that SwedBio for the period 2016–2019, in the knowledge interface and together with partners, has contributed to integrating the value of ecosystems across government and society, and to the development and implementation of policy, economic and legal instruments for equitable governance and appropriate traditional and innovative approaches, including safeguards, for financing of social-ecological systems rich in biodiversity.

Assessments & Indicators

Expected outcome is that SwedBio for the period 2016–2019 in the knowledge interface and together with partners have contributed to method development, dissemination and implementation of social-ecological systems related assessments and indicators.

Functional Focal Areas:

Dialogues & Learning

Expected outcome is that SwedBio for the period 2016–2019 in the knowledge interface and together with partners have contributed to: collaborative learning, knowledge generation, dialogue and exchange of experiences and worldviews between actors and knowledge systems for development and implementation of policies and methods at multiple scales, that contributes to SwedBio's objectives.

Art & Culture

Expected outcome is that SwedBio for the period 2016–2019 in the knowledge interface and together with partners have contributed to an increased use, visibility and recognition of arts and culture to stimulate equitable dialogue, creative problem solving of, and engagement in, global challenges related to biodiversity, resilience and social-ecological systems.

Communication & Training

Expected outcome is that SwedBio for the period 2016–2019 in the knowledge interface and together with partners have contributed to: facilitate knowledge generation, collective learning and knowledge sharing and dissemination through effective communication and training.

Component 2. Collaborative Programme

Goal Component 2 – *To support strategic initiatives of relevance for SwedBio's objectives, and to collaborate with and learn from these initiatives to contribute to the Thematic and Functional Focal areas in the Knowledge Interface Component.*

Expected Result 2 – *SwedBio's contribution to strategic initiatives has generated results, in accordance with their own objectives and in line with SwedBio's objectives, and joint learning with these initiatives has contributed to the Knowledge Interface Component, as verified by the indicators.*

Expected outcomes of the focal areas in the Collaborative Programme

Thematic focal areas:

Livelihoods, Food & Health (including nutrition)

Expected outcome is that SwedBio for the period 2016–2019 has contributed to partners to: have fostered equitable and sustainable governance and management of social-ecological systems, in the land- and seascape, that sustain and promote improved livelihoods, food security and human health.

Cities & Biodiversity

Expected outcome is that SwedBio for the period 2016–2019 has contributed to partners to: build local government capacity for improved local implementation of the Aichi Biodiversity Targets in cities across rapidly urbanizing Africa.

Biocultural Diversity

Expected outcome is that SwedBio for the period 2016–2019 has contributed to partners among indigenous peoples and local community organisations and their networks to: have contributed to better governance and management of social-ecological systems and biocultural diversity, and to increased respect and recognition for indigenous and local knowledge related to biodiversity.

Climate Change & Ecosystems - adaptation and mitigation

Expected outcome is that SwedBio for the period 2016–2019 has contributed to partners to: foster equitable governance and ecosystem management for sustainable livelihoods, adaptation, mitigation and disaster risk reduction related to climate change, through analysis and measures related to resilience and social-ecological systems.

Values & Governance

Expected outcome is that SwedBio for the period 2016–2019 has contributed to partners to: integrating the value of ecosystems across government and society, and developed and implemented policy, economic and legal instruments for equitable governance and appropriate traditional and innovative approaches, including safeguards, for financing of social-ecological systems rich in biodiversity.

Assessments & Indicators

Expected outcome is that SwedBio for the period 2016–2019 has contributed to partners to: advance method development, dissemination and implementation of assessments and indicators.

**Functional Focal Areas:
Dialogues & Learning**

Expected outcome is that SwedBio for the period 2016–2019 has contributed to partners for: collaborative learning, knowledge generation, dialogue and exchange of experiences and worldviews between actors and knowledge systems for development and implementation of policies and methods at multiple scales, that contributes to SwedBio's objectives.

Art & Culture

Expected outcome is that SwedBio for the period 2016–2019 has contributed to partners to: using arts and culture to stimulate equitable dialogue, creative problem solving of, and engagement in, global challenges related to biodiversity, resilience and social-ecological systems.

Communication & Training

Whereas all contributions under the Collaborative Programme contain elements of Communication and training, SwedBio's third Functional Focal area: Communication and Training is not a specific Focal Area under the Collaborative Programme.

Cross-cutting issues and Guiding Principles for knowledge collaborations

SwedBio's knowledge interface role involves collaborations with partners which require guiding principles on how to handle knowledge respectfully and transparently. The process of developing these Guiding Principles for knowledge collaboration will be undertaken in the same manner as most collaborations, including the multi actor dialogues, in a process together with partners. The Guiding Principles are therefore a living document, as Appendix to Annex 1: Criteria for receiving support from SwedBio. They will apply for work undertaken in the Component 1 Knowledge Interface as well as for Component 2 Collaborative Programme. The procedures for how the Guidelines will be applied are included in the Annex 9: Rules of procedures and routines for SwedBio.

In addition to the Guiding Principles for knowledge collaboration, there are cross-cutting perspectives that underpin and should be analysed in all SwedBio's operations (see also figure 1):

Resilience perspectives - Resilience can be defined as the capacity of a social-ecological system to withstand perturbations from e.g. climate or economic shocks and to rebuild and renew itself afterwards, without shifting into a qualitatively different state. Resilience has increasingly been acknowledged as an important factor in determining ecosystems' capacity to continue generating ecosystem services in a world increasingly influenced by global environmental change. There is a strong correlation between biodiversity and an ecosystem's resilience, and its ability to deliver ecosystem services.^{xiii}

Social-ecological systems^{xiv} rich in Biodiversity - Social-ecological systems are linked systems of people and nature. The term emphasizes that humans must be seen as a part of, not apart from, nature — that the delineation between social and ecological systems is artificial and arbitrary. Scholars have also used concepts like 'coupled human-environment systems', 'ecosocial systems' and 'socioecological systems' to illustrate the interplay between social and ecological systems. The term social-ecological system was coined by Fikret Berkes and Carl Folke in 1998^{xv} because they did not want to treat either the social or ecological dimension as a prefix, but rather give the two same weight during their analysis.

Cross-cutting values that underlie and should be analysed in all SwedBio's operations are:

Poverty Alleviation - There are strong interrelated links between poverty, livelihoods and biodiversity. By addressing drivers of biodiversity loss, the vicious circle where loss of biodiversity creates vulnerability and poverty can be broken. Thus, the general SwedBio

approach to poverty alleviation is that strengthened livelihoods based on good governance of social-ecological systems that are rich in biodiversity, is one contributing factor that can create opportunities for alleviating poverty. In many cases it is a prerequisite for success in efforts made.

Equity, Human Rights and Democracy - SwedBio has an important role to contribute to strengthened democracy and the rights perspective in all our activities. SwedBio works with a rights-based approach that analyzes power structures in society, the rights of the individual and the duties of states throughout the development process. The approach rests on the basic human rights principle of equal dignity and rights for all human beings, and is therefore also a tool for discovering and fighting discrimination. It includes poor and marginalised peoples' perspective, gender equality and the empowerment and protection of vulnerable groups. In this work, SwedBio is also learning from and guided by policy's for democratic development and human rights in Swedish development cooperation, such as principles on non-discrimination, participation, openness and transparency, and accountability^{xvi} for applying a human-rights based approach^{xvii}.

Respect for and promotion of indigenous and local knowledge helps in the realisation of human rights, self-determined development, and culturally appropriate pathways for strengthening local resource management, livelihoods and well-being. Inclusion of indigenous peoples and local communities and their knowledge in decision-making contributes to increased attention and respect for the knowledge, and thus for support to its influences on practices and policies. In policy-making, one can build on existing knowledge and governance systems, which have developed over time and that may entail adaptive responses to change and continued learning. This can enhance and strengthen social-ecological resilience. This approach is strengthened by SwedBio's contributions to facilitating indigenous peoples and local communities' participation and learning in policy-making processes related to resilient social-ecological systems at local, national and up to global levels.

SwedBio's continuously evolving (living document) Guidelines for knowledge collaborations can be seen as an example of how SwedBio work to further mainstream equity and human rights perspectives in its procedures related to its knowledge collaborations, building on existing frameworks and principles and SwedBio's and partners experiences and lessons learned from such collaborations.

Gender - SwedBio's work is guided by a Gender and Development (GAD) perspective, recognising the need for deeper understanding of the different roles of poor rural women and men as managers of ecosystems. SwedBio will work for enhanced attention to these aspects in the international policy processes related to biodiversity and ecosystem services where SwedBio is active. SwedBio will also continue analysing and emphasising gender aspects in all its supported initiatives, as well as continuing to have a dialogue with partners about GAD. SwedBio's most important source of work related to gender and resilient social-ecological systems comes perhaps from our partners. Many of them have a long and rich experience in working with gender and biodiversity issues, in the field, in international negotiations, and also through conducting studies on the issue.

Endogenous development - Endogenous development is based on local peoples' own criteria for change and their vision for well-being based on the material, social and spiritual aspects of their livelihoods but in a constant and dynamic interface with external actors and the world around them. Endogenous development seeks to overcome a western bias by making peoples' worldviews and livelihood strategies the starting point for development. Endogenous development moves beyond integrating traditional knowledge in mainstream development and seeks to build biocultural approaches that originate from local peoples worldviews and their relationship with the earth. Organisations can support and strengthen the endogenous

development that is already present within the communities, promoting the interface between tradition and modernity. In doing so, endogenous development emphasises the cultural aspects within the development process, in addition to the ecological, social and economic aspects.^{xviii}

Annex 1. Criteria for receiving support from SwedBio

SwedBio has a Collaborative Programme and can support a limited number of strategic initiatives. In order to receive support and establish collaboration, please read through the criteria for support prior to contacting us for further details.

1. SwedBio can only fund initiatives that are relevant to the objectives of SwedBio at Stockholm Resilience Centre:

- Development Objective (Vision):** *"The vision of the Stockholm Resilience Centre is a world where social-ecological systems are understood, governed and managed, to enhance human well-being and the capacity to deal with complexity and change, for the sustainable co-evolution of human civilizations with the biosphere."*
- Programme Objective (Mission):** *Enable knowledge generation, dialogue and exchange between practitioners, policy makers and scientists for development and implementation of policies and methods at multiple scales – which contribute to poverty alleviation, equity, sustainable livelihoods and social-ecological systems rich in biodiversity that persist, adapt and transform under global change such as climate change.*

2. SwedBio provides financial support to a limited number of strategic initiatives that perform activities related to SwedBio's objectives.

3. SwedBio supports international organisations, institutes, universities and civil society organisations, including indigenous peoples and local communities organisations, in particular regional and global networks of these kinds of organisations, with projects and programmes of regional and global relevance, primarily based in developing countries (OECD DAC list of low income countries and least developed countries^{xix}), and that are implementing activities in developing countries.

4. Support is mainly given to initiatives that are involved in learning and co-development of knowledge, including research and education, SwedBio can not fund scientific research per se, but collaborations between policy makers, practitioners and scientists. See "Guiding principles for knowledge collaborations" Appendix 1.

5. SwedBio can contribute to participation of organisations in meetings and workshops, but mainly organisations coordinating participation from several southern-based groups and countries.

6. SwedBio does not sponsor individuals with either e.g. research grants or to participate in meetings/workshops

7. SwedBio does not support organisations or projects that are only of national character i.e. all supported work must have regional and global relevance and links.

8. All supported entities must be managed by recipients with adequate organisational structure and management capacity (transparent, accountable, and democratic, with a balanced representation of relevant parties, including gender).

9. Priority for support is given to initiatives that do not receive substantial support from other Swedish sources and especially not for the same purpose.

10. SwedBio usually does not enter into a contribution if there are no other donors. For shorter projects or contributions to participation of developing country actors in international negotiations or other relevant meetings SwedBio can consider being the only donor.

Appendix 1 to “Criteria for receiving support from SwedBio”

Draft Guiding principles for knowledge collaborations

SwedBio, 2015-02-23

This a living document that will be continuously updated over time, in consultation with SwedBio partners under the Collaborative Programme, SRC researchers, and others.

Introduction

The aim of SwedBio role, as a “knowledge interface” is to facilitate connections across knowledge systems and cultures, such as local, indigenous, policy makers and scientific knowledge. This role involves bridging between scientists, practitioners, and policy makers, with the intention to contribute to improved understanding, knowledge generation, management and good governance of social-ecological systems. One of SwedBio’s intentions is thus to contribute to an improved dialogue culture in the field of SwedBio’s work. In this endeavor, it is important to have a clear framework and transparent principles and procedures to guide the motivation, character, and intent of the various collaborative initiatives undertaken between SwedBio, its partners under the collaborative programme, research scientists, indigenous peoples and local communities as rights holders and knowledge holders, as well as other actors that are involved in interactions with SwedBio. The document is a work in progress, and it is anticipated to be continuously revised over time. These guiding principles are applicable in all SwedBio's collaborations, under the Thematic and Functional Focal Areas, for the Component 1, Knowledge Interface, as well as Component 2, Collaborative Programme.

All sharing of knowledge has to be based on Free, Prior and Informed Consent (FPIC), through the whole Process. Existing frameworks and guidelines that are important starting points in SwedBio’s work are e.g.; the international human rights framework, including the UN Declaration of the Rights of Indigenous Peoples^{xx}; the CBD Tkarihwaí:ri Code of Ethical Conduct^{xxi}; the Akwé: Kon guidelines for impact assessment^{xxii} as well as relevant guidance from the Nagoya protocol on Access and Benefit-sharing.^{xxiii} IPBES is in the process of developing its own rules and procedures for how to create synergies across knowledge systems, and how to use ILK in assessments.^{xxiv} This is also a process where SwedBio is involved and that is contributing to our learning.

In successful knowledge collaborations across knowledge systems and cultures the attitudes framing the exchange are essential. Some primary principles are *respect* for diversity, *trust*, *reciprocity* and *equal sharing*.^{xxv}

Transparent open communication and mutual sharing and learning are important, and should integrate emancipatory processes. The collaborators should consider how they might wish to manage:

- Expectations - for example, through reflection and evaluation at different stages to ensure expectations are realistic and attainable;
- Timeframes - for example, by planning for necessary financial and human resources, time required to engage with relevant actors, and adapting to changing circumstances;
- Information - including process documentation and safeguarding sensitive or restricted information which includes an understanding on which information is sensitive and which should not be included in the collaboration, or disseminated further;
- Mutual learning and mutual sharing – usually in SwedBio’s collaborations there is a mutual learning taking place but if that is not so clear, for example when taking up actors time - consider to give something back at the immediate occasion, it can be in economic terms, or to share knowledge of use, as agreed with actors, such as sharing of literature, a seminar, teaching in schools or institutions.

Keeping these general management considerations in mind, SwedBio focuses on some of the following principles for knowledge collaborations:

Participation & Representation

Collaborations should create space for meaningful and culturally appropriate participation of representatives of social groups. All collaborations should begin with clarity on how to manage who should be involved and for what purpose in the collaborations.^{xxvi} It is important to have a transparent process and manage expectations.

Women & Gender

Women and men have different roles in many aspects of life. Integrating a gender 'lens' or 'dimension' in the entirety of the collaborative process will better enable the facilitation and support team and other key actors to understand, accommodate and support the specific rights, roles, needs, and aspirations of more marginalised groups (which often includes women)^{xxvii}. SwedBio refers to various guidelines and tools for mainstreaming gender, see for example: The Gender website of the Convention on Biological Diversity^{xxviii} and "Women and men in development, Analysing gender", Sida 2003.^{xxix}

The Multiple Evidence Base approach (MEB)^{xxx}

The MEB approach emphasizes complementarity and equitable and transparent processes for connecting across knowledge systems. Fundamental values such as respect, trust, reciprocity, and equal sharing need to characterize all interactions at all scales. MEB emphasizes that it is important to establish frameworks to promote and enable equal and transparent connections between knowledge systems, to level any power dynamics, to empower communities, in order to fulfil the potential of knowledge synergies for equitable ecosystem governance. To enable successful synergies across knowledge systems, there is a need for intercultural dialogues, which promote credibility and legitimacy. The MEB is an approach for generating the levels of trust and respect required for dialogues leading to changing mental models and widened perceptions of how knowledge systems can cross-fertilize among all knowledge holders. The development of procedures concerning problem definition, assessment processes, and the evaluation of findings needs to involve co-design, co-generation and collaboration with relevant actors from the onset.^{xxxi}

Indigenous Peoples and Local Communities' Rights, including the Right to Free, Prior and Informed Consent

Knowledge collaborations need to have respect for and realisation of the rights of Indigenous Peoples and local communities, including their right to provide or deny free, prior and informed consent (FPIC) regarding activities that take place on their lands and territories, or otherwise affect them. The decision to provide or withhold FPIC is an on going process, not a single moment or one - off event. At any stage of engagement with external actors, a community has a right to seek more information, say "no", or withdraw entirely. Customary means of consensus-building or other forms of decision-making can be used as the basis for culturally appropriate FPIC processes. By definition, FPIC processes must respect the community's timelines and self-determined processes and must not be driven or influenced by project proponents.^{xxxii}

Indigenous & Community Ownership

Knowledge collaborations should preferably be driven and created by Indigenous Peoples and local communities, or in collaboration with Indigenous Peoples and Local Communities (IPLCs). If created by others the principles specified here are important to follow. Power relations between Indigenous peoples and local communities and dominant societies are often highly imbalanced and inequitable. Collaborations should aim to be emancipatory, participatory, and representative of local realities. It recognises that indigenous peoples' and local communities' relationships with their territories and areas are an integral source of their identities, cultures and well - being. The emphasis on Indigenous methodologies and approaches lays the

foundations for bridging complementary systems of traditional indigenous and mainstream knowledge (as in the MEB Approach above). Since often knowledge generation through for example collaborations between scientists and practitioner lead to new knowledge, data or information, it should be made clear at the beginning of any collaboration who owns any information or data generated from the collaboration.^{xxxiii}

¹ Biological diversity (biodiversity) means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. (Article 2 of the Convention on Biological Diversity)

² Biological resources include genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity. (Article 2 of the Convention on Biological Diversity)

³ Resilience can be defined as the capacity of a social-ecological system to withstand perturbations from e.g. climate or economic shocks and to rebuild and renew itself afterwards, without shifting into a qualitatively different state. Resilience has increasingly been acknowledged as an important factor in determining ecosystems' capacity to continue generating ecosystem services in a world increasingly influenced by global environmental change. There is a strong correlation between biodiversity and an ecosystem's resilience, and its ability to deliver ecosystem services, although little is known quantitatively about how much and what kinds of biodiversity can be lost before the resilience is eroded.

⁴ Ecosystem services are the benefits that people receive from ecosystems. Some of these, such as the Provisioning services (or goods) like food, timber and fresh water, are well-known and routinely included in assessments. Others, such as the Regulating services of carbon storage and sequestration, watershed protection, storm protection and pollination, or Supporting services, i.e. the natural processes such as nutrient cycling and primary production, or the Cultural services of recreation and spiritual values, are often overlooked (Millennium Ecosystem Assessment, 2005).

⁵ MA (2005) Millennium Ecosystem Assessment, Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC.

⁶ Steffen, W., W. Broadgate, L. Deutsch, O. Gaffney, C. Ludwig. 2015. The Trajectory of the Anthropocene: the Great Acceleration. The Anthropocene Review.

⁷ The Millennium Ecosystem Assessment was a report ordered by UN and involved more than 1,360 experts worldwide. Their findings provide a state-of-the-art scientific appraisal of the condition and trends in the world's ecosystems and the services they provide and options for sustaining ecosystem services. MA (2005) Millennium Ecosystem Assessment, Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC.

⁸ Secretariat of the Convention on Biological Diversity (2010) Global Biodiversity Outlook 3. Montréal, 94 pages.

⁹ Secretariat of the Convention on Biological Diversity (2014) Global Biodiversity Outlook 4, Montréal,

¹⁰ Resilience refers to the capacity of a social-ecological system both to withstand perturbations from e.g. climate or economic shocks and to rebuild and renew itself afterwards.

¹¹ Literature in the field includes: "The magic of dialogue; transforming conflict into cooperation", Yankelovich, D. http://www.amazon.com/Magic-Dialogue-Transforming-Conflict-Cooperation/dp/0684865661#reader_0684865661; "The argument culture: moving from debate to dialogue", Tannen, D. http://www.amazon.com/Argument-Culture-Moving-Debate-Dialogue/dp/0679456023#reader_0679456023

¹² The DAC list of ODA recipients. Factsheet - January 2012, www.oecd.org/dac/stats/daclist

^{xiii} Adapted from Resilience and Sustainable Development: Building adaptive capacity in a world of transformations (Skriftserie 2002:1)

^{xiv} Resilience is the capacity to deal with change and continue to develop. Social-ecological systems are linked systems of people and nature. The term emphasizes that humans must be seen as a part of, not apart from, nature.

^{xv} Berkes, F., and C. Folke, editors. 1998. Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience. Cambridge University Press, New York.

^{xvi} Sida, 2010. Change for Freedom: Policy for democratic development and human rights in Swedish development cooperation, 2010–2014. Sida/Swedish Ministry of Foreign Affairs, Stockholm.

^{xvii} Sida, 2012. A Human Rights Based Approach to Sustainable Development. Available at: <http://sidaenvironmenthelpdesk.se/wordpress3/wp-content/uploads/2014/05/HRBA-and-Sustainable-development-121216.pdf>

^{xviii} http://www.compasnet.org/?page_id=36

^{xix} The DAC list of ODA recipients. Factsheet - January 2015, www.oecd.org/dac/stats/daclist

^{xx} http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

^{xxi} <http://www.cbd.int/traditional/code.shtml>

^{xxii} <http://www.cbd.int/doc/publications/akwe-brochure-en.pdf>

^{xxiii} <http://www.cbd.int/abs/>

^{xxiv} http://www.ipbes.net/images/documents/plenary/third/information/INF_2/IPBES_3_INF_2.pdf

^{xxv} Tengö, M., and P. Malmer (eds). 2012. Dialogue workshop on knowledge for the 21st century: Indigenous knowledge, traditional knowledge, science and connecting diverse knowledge systems. Usdub, Guna Yala, Panama, April 10–13, 2012. Workshop Report. <http://www.stockholmresilience.org/21/policy--practice/swedbio/dialogues/guna-yala-dialogue.html>

^{xxvi} Natural Justice Biocultural Community Protocols: A toolkit for community facilitators. www.community-protocols.org.

^{xxvii} Developed from The Community Conservation Resilience Initiative Methodology, May, 2014, http://globalforestcoalition.org/wp-content/uploads/2014/06/New-Last-CCR-Initiative-methodology_May-2014.pdf

^{xxviii} [http://www.cbd.int/gender/;](http://www.cbd.int/gender/)

[http://www.cbd.int/doc/pa/tools/In%20Search%20of%20the%20Lost%20Gender.pdf;](http://www.cbd.int/doc/pa/tools/In%20Search%20of%20the%20Lost%20Gender.pdf)

^{xxix} http://www.sida.se/contentassets/bd6dd050fca742ab8c5689fea5b5adc8/analysing-gender_939.pdf

^{xxx} <http://www.stockholmresilience.org/21/policy--practice/swedbio/dialogues/guna-yala-dialogue/multiple-evidence-base.html>

^{xxxi} Tengö et al. Connecting Diverse Knowledge Systems for Enhanced Ecosystem Governance: The Multiple Evidence Base Approach, *AMBIO* 2014, 43:579–591

^{xxxii} Developed from The Community Conservation Resilience Initiative Methodology, May, 2014, http://globalforestcoalition.org/wp-content/uploads/2014/06/New-Last-CCR-Initiative-methodology_May-2014.pdf

^{xxxiii} Developed from The Community Conservation Resilience Initiative Methodology, May, 2014,

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