

BES-Net Trialogue on Pollinators, Food Security and Rural Development

Action Document on Pollinators, Food Security and Rural Development, Eastern Europe



Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety





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The Biodiversity and Ecosystem Services Network (BES-Net) is a capacity sharing “network of networks” that promotes dialogue among science, policy, and practice for more effective management of biodiversity and ecosystems, contributing to the long-term human well-being and sustainable development. The Network is supported by face-to-face capacity building activities (the BES-Net Dialogues), a matchmaking facility, and a cutting-edge web portal – with all components mutually reinforcing. BES-Net is hosted by UNDP GC-RED.

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ACRONYMS

| | |
|---------|--|
| BES-Net | Biodiversity and Ecosystem Services Network |
| BiH | Bosnia and Herzegovina |
| BMZ | German Federal Ministry for Economic Cooperation and Development |
| CBD | Convention on Biological Diversity |
| COP | Conference of the Parties |
| EFSA | European Food Safety Authority |
| EPI | European Pollinator Initiative |
| EU | European Union |
| FAO | The Food and Agriculture Organization of the United Nations |
| GC-RED | Global Policy Centre on Resilient Ecosystems and Desertification |
| GDP | Gross Domestic Product |
| GE | Genetically Engineered |
| GEF | Global Environmental Finance |
| GIS | Geographic Information System |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| GM | Genetically Modified |
| GMO | Genetically Modified Organism |
| GOG | Government of Georgia |
| IPBES | Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services |
| ISAAA | International Service for the Acquisition of Agri-Biotech Applications |
| IUCN | International Union for Conservation of Nature |
| MEP | Multidisciplinary Expert Panel |
| NBSAP | National Biodiversity Strategies and Action Plans |
| NGO | Non-Governmental Organisation |
| ORF-BD | Open Regional Fund for South-East Europe – Biodiversity |
| UNDP | United Nations Development Programme |
| WWF | World Wide Fund for Nature |



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STATEMENTS FROM THE ORGANIZERS



“The role of pollinators is irreplaceable. The issue of pollination, conservation of pollinators and food production requires increased attention as our countries are characterized by considerable species and ecosystem diversity, which provide a wide range of goods and services to local communities. Integration of biodiversity conservation measures and issues related to conservation and sustainable use of pollinators into sectoral policies, especially into agriculture and forestry sector, is extremely important for long-term biodiversity conservation, economic security, and social and local communities’ well-being.”

Edita Đapo
Minister,
Ministry of Environment
and Tourism, Government
of Federation of Bosnia
and Herzegovina



“Local knowledge in Central and Eastern Europe is showing that there are key indicators of decline and problems with both wild and managed pollinators, critical for local crop economies. While the region experiences continuous land-use changes including the rapid expansion of urban and semi-urban areas, there is an opportunity here to strengthen rural development through pollinator-friendly policy and practice that enhances the resilience of farmers and communities.”

Sukhrob Khoshmukhamedov
Deputy Resident Representative,
UNDP Bosnia and Herzegovina



“Many pollinated plants are a key source of essential nutrients. Regions of the world already facing food shortages and nutritional deficiencies may be especially hard hit by the global decline of bees and other pollinators. This topic is therefore important to us in our support to countries on sustainable development pathways in the context of the 2030 Agenda. We are very proud of holding our first regional Trialogue on Pollinators, Food Security and Rural Development in Bosnia and Herzegovina and stand ready to support the implementation of action agenda generated through Trialogue in the region.”

Anne Juepner
Manager,
Biodiversity and Ecosystem
Services Network (BES-Net)

Director,
UNDP Global Policy Centre
on Resilient Ecosystems and
Desertification

FEEDBACK FROM THE PARTICIPANTS



“Ministry of Physical Planning, Construction and Environmental Protection of the Canton Sarajevo is recognized in the Trialogue as representatives of the authorities that respect and appreciate the conservation of biodiversity within which we pay great attention to the pollinators. We express our readiness to continue to participate in, and together with our experience and activities contribute to, the Trialogue Action Document, with the opportunity of capacity building in the field of biodiversity and ecosystem services.”

Amela Rokša
Expert for planning, managing
and using of natural resources
On behalf of Ministry of Physical
Planning, Construction and
Environmental Protection of the
Canton Sarajevo

“As a beekeeper and entomologist, this Trialogue meant a lot, as I was able to exchange thoughts and positions on the issues addressed with various key stakeholders. Returning back to the Republic of Moldova, I held a meeting with the beekeepers in the region to share the experience gained at the Trialogue. As a follow-up, on December 1, 2017, the Apiculture Forum organized by the National Association of Beekeepers in Moldova produced a paper on the pollination status at the regional level and the dangers that lead to the reduction of pollinating insect populations.”

Manic Gheorghe
Beekeeper/Habilitated
Doctor in Biology,
Republic of Moldova

“I would like to express my sincere gratitude to the organizers for the very well prepared first BES-Net Trialogue in Sarajevo. The significance of the event was well recognized at the Multidisciplinary Expert Panel (MEP) of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and Bureau meeting, which was held in a week after the Trialogue. Especially, the selected location of the first Trialogue was recognized as welcomed support for the efforts of IPBES to strengthen capacities in Eastern Europe.”

Senka Barudanović
Professor, Faculty of Science,
University of Sarajevo

I. INTRODUCTION

This Action Document is the result of the first BES-Net Trialogue which was held in Sarajevo, Bosnia and Herzegovina (BiH) on 18-20 October 2017 and involved fifty-two stakeholders from Albania, BiH, Georgia, Moldova and Montenegro.¹ The BES-Net Trialogues are multi-stakeholder dialogues among the three communities of policy, science and practice that focus on specific policy questions at the national and regional levels (See Box 1 for more details on the BES-Net Trialogue). In Eastern Europe, this cutting-edge facilitation event brought together scientists, local farmers, bee-keepers, Non-Governmental Organisations (NGOs) and policymakers from the agriculture, plant protection and environment sectors. Full list of participants in the event is available in Annex 1.

Over the three days in Sarajevo, the Trialogue fully achieved its objectives of raising awareness about the relevance of the global findings of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES); sharing knowledge across the policy, science and practice communities; identifying regionally and nationally-relevant risks and opportunities for pollinators and pollination; and generating commitment to collaboration and action to protect pollinators in order to ensure sustained agricultural and food production. Participants highlighted the fact that this was the first time that they had ever come together to focus on pollinators as the lens for understanding the link between ecosystem services, agriculture and rural development, and they found it a powerful call to action. On the last day, the High-Level Breakfast provided a rare opportunity for high-level government authorities and international donor partners in the region to discuss the key messages emerging from the dialogue and to engender their support for local policy proposals. Annex 2 provides an overview of the Trialogue programme.

BOX 1: BES-NET TRIALOGUE METHODOLOGY

The BES-Net Trialogues aim to address the current problem of the weak interface between science/traditional knowledge, policy and practice. Experience has shown that scientific reports and one-way transfer of information alone neither strengthen capacity nor lead to inclusive and effective decision-making.

The Trialogue, therefore, provides a constructive space to learn together, fostering inter-cultural understanding and inter-institutional coordination so that multiple stakeholders can: i) jointly frame the problems around biodiversity/ecosystem issues of common concern; ii) generate innovative solutions; iii) identify policy options within a given context, and iv) generate a commitment to concerted action.

Various innovative tools and approaches were applied during the First Regional Trialogue held in Sarajevo to ensure the quality of the interaction and cross-fertilization among all three communities of science, policy and practice. Prior to the Trialogue, extreme care was taken in the identification and preparation of participants and speakers in order to ensure a balance between countries, sectors and gender. The regional and national context was generated for the IPBES global assessment findings in the production of the Background Document which was peer-reviewed and then translated into all languages. The Background Document provided an equal starting point for all and was used as a reference tool throughout.

The U methodology was adapted to take participants on the journey of holding, observing, sensing, presenting and then crystallising future action. A mixture of plenary, group work, open space technology and field visits were organized over the three days. In order to overcome knowledge, cultural, language and other barriers, carefully designed activities provided opportunities for sensory experiences, multiple evidence-based dialogues and collaborative problem-solving.



Care was taken to build an environment of trust to share concerns and ideas. Creative visual stimuli and materials were highly helpful in generating new insights and ensuring everyone's participation. Local pollination-dependent ingredients were also utilized for the meals served during the event which helped evoke the specific theme of the Trialogue, i.e. pollinator and pollination (Annex 3).

Opportunities were created for different types of leadership to emerge. Finally, the participants were involved in the co-production of an agenda for action at the regional and national level, which now forms the Regional Action Document on Pollinators, Food Security and Rural Development, Eastern Europe.



The present Action Document builds on the original Background Document on Pollinators, Food Security and Rural Development which was prepared in the run-up to the Trialogue.² The Background Document was based on the findings of the IPBES assessment report described above, in addition to a set of 10 semi-structured interviews with key stakeholder from the science, policy and practice community to consider the key features of the topic in Eastern Europe as well as policy gaps and policy opportunities tailored to five countries in the region: Albania, Bosnia and Herzegovina, Montenegro, Georgia and Moldova. The Action Document was developed in a collaborative way with all members of the Trialogue given the opportunity to review the description of the status of pollinators in their countries and to jointly identify important actions necessary to raise awareness, generate information and develop policy and changes to management practice. The Strategic Regional and National Actions for Pollinators, Food Security and Rural Development (Table 1) were developed in the Trialogue and reviewed online by participants and partners in the region and aim to be a roadmap for regional collaboration.



¹ For further details on the first BES-Net Trialogue, please visit <http://www.besnet.world/node/1936>.

² Available at <http://besnet.world/sites/default/files/event-document/BGdoc%20EN-online.pdf>.

II. KEY MESSAGES

Why are pollinators important?

- Globally, nearly 90 percent of wild flowering plant species depends, at least in part, on the transfer of pollen by animals. Plants are critical for the continued functioning of ecosystems as they provide food, form habitats and provide other resources for a wide range of other species (IPBES, 2016a).
- Pollinator-dependent crops rely on animal pollination for yield and/or quality to varying degrees. It is estimated that between 5-8 percent of current global crop production, with an annual market value of \$235 billion-\$577 billion (in 2015, United States dollars) worldwide, is directly attributable to animal pollination (IPBES, 2016a).
- Pollinator-dependent food products are important contributors to healthy human diets and nutrition. Pollinator-dependent species encompass many fruits, vegetable, seed, nut and oil crops, which supply major proportions of micronutrients, vitamins and minerals in the human diet (IPBES, 2016a).
- In the words of José Graziano da Silva, General Director at the Food and Agriculture Organization of the United Nations (FAO), in 2016:

“Pollinators services are an ‘agricultural input’ that ensure the production of crops. All farmers, especially family farmers and smallholders around the world, benefit from these services. Improving pollinator density and diversity has a direct positive impact on crop yields, consequently promoting food and nutrition security. Hence, enhancing pollinator services is important for achieving the Sustainable Development Goals, as well as for helping family farmers’ adaptation to climate change (FAO, 2016).”

- Finally, pollinators provide multiple benefits beyond food production. Their value also has an important cultural and social component. Many livelihoods and cultural practices depend on pollinators, their products and multiple benefits such as medicine, fibres, materials for musical instruments, the source of inspirations for arts, literature to name a few (IPBES, 2016a).

What is the problem?

- Globally, there is a well-documented decline in some species of wild pollinators, and an important lack of data on the status of most wild species. Concerning managed species, honey bee numbers are generally increasing with local declines and important seasonal colony loss registered in several countries. As a result, there are losses of genetic diversity and local adaptations in honey bee populations. Populations of pollinators face multiple threats and there is a wide range of response options drawing from indigenous and local knowledge and science (IPBES, 2016a).
- The vast majority of pollinator species are wild, including more than 20,000 species of bees, some species of flies, butterflies, moths, wasps, beetles, thrips, birds, bats and other vertebrates. A few species of bees are widely managed around the globe, including the western honey bee (*Apis mellifera* spp.), the eastern honey bee (*Apis cerana*), some bumblebees, some stingless bees and a few solitary bees. The western honey bee is the most widespread managed pollinator in the world, and globally there are about 81 million hives producing an estimated 1.6 million tonnes of honey annually (IPBES, 2016a).
- Multiple causes are linked to the decline in pollinators such as land use change, intensive agricultural management, risks associated with pesticides and particular inputs (insecticides and herbicides) associated with Genetically Modified (GM) crops, pathogens, pests and predators, climate change, invasive alien species and the various interactions among these threats.

What is the problem in the region?

- In Central and Eastern Europe, where Moldova, Albania, Bosnia and Herzegovina (BiH), Georgia and Montenegro are located, there is little documentation of the biodiversity, economic, social and cultural values of most wild (bumblebees, solitary bees and hover flies such as: *Bombus lapidarius*, *Anthidium manicatum*, *Helophilus pendulus* among others [IPBES, 2016a]) and managed (*Apis mellifera* spp. and *Bombus terrestris* [IPBES, 2016a]) pollinators besides some estimations of the economic and social value of honey bees in some of those countries (UNDP 2017).



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- Pollinator decline and its link to food security are not seen as a priority topic and, therefore, not included in agricultural or environmental policies and plans.
- The region experiences continuous land-use changes, including land abandonment, disparate forest cover changes, and the rapid expansion of urban and semi-urban areas resulting from increasing rural-to-urban migration (Alix-Garcia *et al.*, 2016). The majority of rural smallholdings have unclear property rights and individually, they contribute to a low percentage of their country's Gross Domestic Product (GDP).
- National/international prioritisation of agricultural reforms and harmonisation with a move towards the aggregation of smallholdings to create large-scale, competitive farming is still not prominent in the region although it could be a potential future threat to pollinators due to changes in the landscape and creation of large-scale monocultures.
- The level of use of inputs (pesticides, fertilizers and their adjuvants) by small landholders is unclear.
- Overall, the regional context reveals the following specific features of the problem in these five countries. In the region, it seems that:
 1. There is little documentation of values of wild and managed pollinators besides honey bees;
 2. Pollinator decline is not a priority topic and this is mainly due to data availability or complexity for understanding the direct link between specific threats and pollinators decline;
 3. There is limited information about the status and trends of pollinators in the region;
 4. There is an underestimation of pollination's role in agriculture among different public and private agencies which is reflected in the gap in statistics and legislation regarding beekeeping development. Therefore, the beekeeping sector infrastructure is currently in poor conditions in certain countries.
 5. There is limited in-house capacity to tackle the problem at different levels;
 6. All five countries have similar drivers for pollinator decline such as land use change, inadequately integrated management of ecosystem services in general and share a similar political context including the alignment of agriculture, land and rural development policies to European Union (EU) standards and trade agreements which could change the local landscape in the future; and
 7. Their position on the two highly contentious and political issues raised by the IPBES global assessment: pesticides and GM crops, varies from country to country and in some of them, it is unclear.

Strategic Regional and National Actions to Address the Problem

There is a wide range of globally recognised response options to address the threats linked to pollinators decline³. During the Eastern European Trialogue on Pollinators, Food Security and Rural Development, the participants undertook a series of working group exercises to identify and collectively agree upon the following strategic regional and national actions to address the problems that pollinators face. The participants have adapted the IPBES assessment table format (see Table SPM1 [IPBES, 2016b]) to organize their strategic policy and practice responses and provide an overview of the actions identified. The participants in the Trialogue acknowledged the critical role that pollinators play in food production, biodiversity conservation, and rural development. They acknowledged deep concern about the status of wild and managed pollinators in the Eastern European region and the need for both more data and integrate sectoral policies, particularly in agriculture, to address the problems. Some of the most important calls for action from the Eastern European Trialogue included: the need to build awareness on the role and status of pollinators and the need for enhanced regional networking. The Trialogue has called for: i) the creation of a regional hazard monitoring and early warning system to share information on invasive species, disease, and environmental pollution; and ii) the formation of a joint Eastern European Initiative for pollinators, based on the results of the Trialogue, in support of the Convention on Biological Diversity (CBD) International Initiative on Pollinators. Forming an initiative requires preceding steps, including communication between relevant governments and reaching consensus on a common approach to the Coalition in time for the upcoming Fourteenth meeting of the Conference of the Parties (COP 14) to CBD in 2018. Given a lack of similar regional (biodiversity) strategies, the participants agreed with international organisations and partners the need for help and support in the technical and communicational aspects of forming this initiative.

³ See IPBES (2016b) Table SPM 1.

TABLE 1. STRATEGIC REGIONAL AND NATIONAL ACTIONS FOR POLLINATORS, FOOD SECURITY AND RURAL DEVELOPMENT

| AMBITION | STRATEGY | POLICY AND ACTION RESPONSES NATIONAL AND REGIONAL (TAKEN FROM GROUPWORK. GROUPS A & D, B & C COMBINED REGIONAL AND NATIONAL STRATEGIC RESPONSES TO DRIVERS OF CHANGE AND THREATS) | INSTITUTION/ PERSON RESPONSIBLE | DEADLINE |
|---|---|---|--|----------------|
| TRANSFORMING SOCIETY'S RELATIONSHIP WITH NATURE | REGIONAL NETWORKING BETWEEN COMMUNITIES OF SCIENCE, POLICY AND PRACTICE | REGIONAL | | |
| | | Foster communication between governments in the region and reach consensus on a common approach to a regional coalition for pollinators | | |
| | | Strengthen capacity for, and technical aspects of the formation of this regional coalition initiative through support from international organisations and partnerships | | CBD COP14 2018 |
| | INTEGRATE PEOPLE'S DIVERSE KNOWLEDGE AND VALUES INTO MANAGEMENT | Form a joint Eastern European initiative for pollinators, based on the results of the Trialogue, as part of the CBD Initiative on Pollinators | | |
| | | Give more information to farmers on drivers of change and threats such as GMO, pesticides | | |
| | | Generate more information on wild pollinators | | |
| | | Arrange regional meeting on knowledge and values of pollinators | | |
| | | NATIONAL | | |
| | | ALBANIA | Establish a database of experts according to the area expertise to implement multifunctional/integrated projects | |
| | | Increase awareness at a grass-roots level on pollination and pollinators related issues | | |
| | BiH | Strengthen indigenous and local knowledge that fosters pollinators and pollination | | |
| | GEORGIA | Collect information about local practices on pollinators and bee-keeping | | |
| | | Undertake awareness-raising activities in villages and in schools | | |
| | LINK PEOPLE AND POLLINATORS THROUGH COLLABORATIVE CROSS SECTORIAL APPROACHES | REGIONAL | | |
| | | Strengthen regional cooperation with the development of a joint regional project to implement the conclusions of the Trialogue | | |
| Establish regional cooperation for raising awareness on pollinators and joint action | | | | |
| Raise awareness through the dissemination of the Trialogue Action Document amongst Ministries of Environment and Agriculture, Universities and NGOs | | | | |
| NATIONAL | | | | |
| | | Promote findings of IPBES and Trialogue through radio and TV interviews at national and local level | | |
| ALBANIA | | Organise a Conference in the spring of next year with the focus on pollination and the bee situation in Albania and bring together other actors - scientists, governments, practitioners and farmers to have more impact. Follow this with a national conference which will provide a good basis for a strategy for the future. | | |
| BiH | Promote a cross-sectoral approach between Ministry of Agriculture and Ministry of Environment because there is lack of awareness of the role of pollinators for both agriculture and biodiversity; there are separate laws, regulations and incentive schemes. A first activity would involve us gathering knowledge and then presenting this as participants on TV and radio shows. Raise awareness in academic sector regarding the role of pollinators in biodiversity and monitoring status. Organise a campaign for raising awareness in academic circles through formal scientific conference which provides impetus for scientists to pay attention | | | |
| GEORGIA | Organise a multi-stakeholder conference on pollination and climate-smart agriculture | | | |

TABLE 1. STRATEGIC REGIONAL AND NATIONAL ACTIONS FOR POLLINATORS, FOOD SECURITY AND RURAL DEVELOPMENT [CONTINUED]

| AMBITION | STRATEGY | POLICY AND ACTION RESPONSES NATIONAL AND REGIONAL (TAKEN FROM GROUPWORK. GROUPS A & D, B & C COMBINED REGIONAL AND NATIONAL STRATEGIC RESPONSES TO DRIVERS OF CHANGE AND THREATS) | INSTITUTION/ PERSON RESPONSIBLE | DEADLINE | |
|--|---------------------------------|--|--|----------|--|
| IMPROVING CURRENT CONDITIONS FOR POLLINATORS AND/ OR MAINTAINING POLLINATION | MANAGE IMMEDIATE RISKS | REGIONAL | | | |
| | | Develop regional hazard monitoring and early warning system to share information on invasive species, pollinators, environmental pollution. | | | |
| | | Develop guidelines and implement control of appropriate pesticide usage (national /regional regulations) | | | |
| | | Set regulations and inspections for the vet and agricultural pharmacies (to avoid sale of unregistered pesticides) | | | |
| | | Improve cooperation and exchange of information among science, practice and government | | | |
| | | Provide training for farmers on sustainable use of pesticides | | | |
| | | NATIONAL | | | |
| | | ALBANIA | Strengthen control and monitoring by the government on pesticides use from farmers | | |
| | | | Provide training for farmers on how to use pesticides | | |
| | | | Protect pollinators through measures (like protected areas); to provide subsidies to beekeepers and farmers for treating diseases that are affecting bees. | | |
| | BiH | Strengthen the training of farmers related to sustainable use of pesticides, as part of the implementation of the rule book on the sustainable use of pesticides which BiH has adopted in alignment with EU and Annex I countries. | | | |
| | GEORGIA | Improve Data on Risks. Review existing information on pollinators: status and drivers of change and identify gaps in information | | | |
| | MOLDOVA | Address the risks of invasive and pests. We need to provide assistance regarding accessing project funds programmes and state programmes for beneficiaries. We have strategies and recommendations in place but the implementation and action lack public funds | | | |
| | | Strengthen the implementation of rules on pesticides. We have passed rules to prohibit/restrict some pesticides, but we have a problem monitoring the implementation. There is some illegal smuggling of illegal insecticides into the country from Ukraine and Russia | | | |
| | MONTENEGRO | Continue training of farmers related to sustainable use of pesticides – following BiH example where BiH has adopted the Rule Book on Sustainable Use of Pesticides which is harmonized with EU and Annex 1 requirements. | | | |
| | UTILIZE IMMEDIATE OPPORTUNITIES | REGIONAL | | | |
| | | Build capacity in order to implement the EU legal framework related to pollinators (National/Regional) | | | |
| | | Monitor the implementation of the national /EU legal framework related to pollinators | | | |
| | | Develop a regional database on invasive species that are a threat to pollinators (including photos for identification) | | | |
| | | Develop regional capacity to monitor invasive species (National/ Regional) | | | |
| Develop national/regional strategies on pests and invasive species | | | | | |
| Develop regional projects on joint protection of pollinators | | | | | |
| Identify the pollinators that are endangered due to climate change, including identification of main threats (National/Regional) | | | | | |

TABLE 1. STRATEGIC REGIONAL AND NATIONAL ACTIONS FOR POLLINATORS, FOOD SECURITY AND RURAL DEVELOPMENT [CONTINUED]

| AMBITION | STRATEGY | POLICY AND ACTION RESPONSES NATIONAL AND REGIONAL (TAKEN FROM GROUPWORK. GROUPS A & D, B & C COMBINED REGIONAL AND NATIONAL STRATEGIC RESPONSES TO DRIVERS OF CHANGE AND THREATS) | INSTITUTION/ PERSON RESPONSIBLE | DEADLINE | |
|--|--|---|--|----------|--|
| IMPROVING CURRENT CONDITIONS FOR POLLINATORS AND/ OR MAINTAINING POLLINATION | UTILIZE IMMEDIATE OPPORTUNITIES | NATIONAL | | | |
| | | Include pollination and pollinators issues in National Biodiversity Strategies and Action Plans (NBSAP) and other national strategies and action plans | | | |
| | | Control of land use taking into consideration pollinators – introduction of buffer zones, etc. | | | |
| | | Improve land registration system to enable ownership and sustainability of pollinator-friendly practices | | | |
| | | Establish a system of communication on pollinators, involve the department of land planning and other relevant stakeholders | | | |
| | | Check imported products (laboratory testing, including GMOs) based on National / EU regulations | | | |
| | | BiH | Improve policy and regulations related to pollination and pollinators | | |
| | | | Continue training and certification of farmers related to sustainable use of pesticides in the implementation of the rule book on the sustainable use of pesticides which BiH has adopted in alignment with EU and Annex I countries | | |
| | | | Integrate the issue of pollination and pollinators in the NBSAP and other environmental strategies | | |
| | | | Improve communication between farmers and beekeepers, as part of the implementation of rules book on the sustainable use of pesticides. Farmers would need to go through a test to get the licence to buy the pesticide | | |
| | | | Prepare the manual and training for agriculture experts in agriculture pharmacies where these pesticides are sold because they are the first point of contact and they can provide instructions for the pesticide use. This is a long process and a long way ahead and these training should focus on these issues (pesticides and insecticides) | | |
| | | GEORGIA | Create local development strategy for bee farming with concrete finance options, including pilot projects on diversified crop production which are helpful to pollinators. Results shared locally through bee farmers and researchers running this pilot project. Such pilot farms - direct job training | | |
| | | | Develop concrete action plan in accordance with agriculture development strategy regarding pollinators and pollination | | |
| | | MOLDOVA | Continue studying and monitoring the status of pollinators and beekeeping and follow up on measures so that we come up with effective strategies or follow up solutions | | |
| | | | Provide incentives for improved bee-keeping. Build on Best Practice from other countries, for example, in Hungary - at some point beekeepers were entitled to assistance in form of subsidies - the amount of those funds was 1% of revenues from a sector - to incentivise beekeepers. In Portugal, beekeepers were given 100 dollars for a colony of bees that they had - an incentive scheme to have and keep bees. | | |
| MONTENEGRO | Continue training of farmers related to sustainable use of pesticides, implement the rule book which is harmonized with EU requirements and just now in the implementation of the rulebook (especially in training the farmers - the correct use). | | | | |
| ALBANIA, GEORGIA, BiH | Urge governments to join Coalition of the Willing on Pollinators | | | | |

TABLE 1. STRATEGIC REGIONAL AND NATIONAL ACTIONS FOR POLLINATORS, FOOD SECURITY AND RURAL DEVELOPMENT [CONTINUED]

| AMBITION | STRATEGY | POLICY AND ACTION RESPONSES NATIONAL AND REGIONAL (TAKEN FROM GROUPWORK. GROUPS A & D, B & C COMBINED REGIONAL AND NATIONAL STRATEGIC RESPONSES TO DRIVERS OF CHANGE AND THREATS) | INSTITUTION/ PERSON RESPONSIBLE | DEADLINE | | | |
|---|---|---|--|----------------------|--|--|--|
| TRANSFORMING AGRICULTURAL LANDSCAPES | ECOLOGICALLY INTENSIFY AGRICULTURE THROUGH ACTIVE MANAGEMENT OF ECOSYSTEM SERVICES | REGIONAL | | | | | |
| | | Raise public awareness of pollinators and ecosystem services | | | | | |
| | | Identify ecosystems and natural habitats of endangered pollinators | | | | | |
| | | Conserve natural habitats and restore degraded land | | | | | |
| | | NATIONAL | | | | | |
| | | Establish incentive system for introduction of pollinator-friendly practices | | | | | |
| | | Establish incentives for Organic Agriculture | | | | | |
| | | ALBANIA | Develop regulation from the Ministry of Agriculture on management of agroecosystem | | | | |
| | | | The Ministry of Agriculture should issue a directive on plant rotation accompanied with restrictive measures and inform and raise awareness among farmers on this directive | | | | |
| | | BiH | Awareness raising the importance of ecosystem services | | | | |
| | | | Create Geographic Information System (GIS) monitoring system of honey plants and ecosystem in general | | | | |
| | | | Establish payment for pollination services | | | | |
| | | | Organize training to raise awareness about pest management and proceed with creating manuals on integrated pest management. | | | | |
| | | | Begin the identification and population estimation of important pollinators by: <ul style="list-style-type: none"> • Assessment of pollinator important habitats on public land • Assessment of the quality and diversity of pollinator habitat by monitoring native bees especially in high mountain habitats • Identification of the wild bee pollinators and the habitats that are important for them, and development of appropriate conservation strategies. | | | | |
| | | MONTENEGRO | Monitor and evaluate pollination on farms. Organize training to raise awareness about pest management and proceed with creating manuals on integrated pest management. Training about sustainable use of the pesticide. | | | | |
| | | ALBANIA AND GEORGIA | Create GIS monitoring system of honey plants and ecosystem in general | | | | |
| | | STRENGTHEN EXISTING DIVERSIFIED FARMING SYSTEMS | | REGIONAL | | | |
| | | | | Create field margins | | | |
| Improve the quality of green areas in urban areas and along the roads | | | | | | | |
| NATIONAL | | | | | | | |
| ALBANIA | Support organic farms to ensure food safety and raise awareness on this issue. Promote ecological regeneration and intensification to protect organic farming | | | | | | |
| BiH | To improve conservation of plant genetic resources | | | | | | |
| | Raise awareness of the importance of organic farming and biodiversity conservation | | | | | | |
| MONTENEGRO | Support organic farming systems, diversified farming systems and food security | | | | | | |

| AMBITION | STRATEGY | POLICY AND ACTION RESPONSES NATIONAL AND REGIONAL (TAKEN FROM GROUPWORK. GROUPS A & D, B & C COMBINED REGIONAL AND NATIONAL STRATEGIC RESPONSES TO DRIVERS OF CHANGE AND THREATS) | INSTITUTION/ PERSON RESPONSIBLE | DEADLINE | |
|----------|--|---|--|----------|--|
| | INVEST IN ECOLOGICAL INFRASTRUCTURE | REGIONAL | | | |
| | | Provide subsidy for eco-farming, for equipment, for agro-tourism infrastructure | | | |
| | | NATIONAL | | | |
| | | Support restoration of natural habitats | | | |
| | | Increase green and planted areas in urban areas | | | |
| | | ALBANIA | Increase planted (decorative plants) areas in urban areas | | |
| | | | Introduce monitoring of wild pollinators, especially in mountain regions | | |
| | | | Make a country based study on wild pollinators | | |
| | | | Strengthen capacity of national laboratories | | |
| | | | Give more information to farmers (GMO, pesticides) | | |



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III. DESCRIPTION OF THE ISSUE AT THE REGIONAL LEVEL

Values of pollinators and pollination

Countries located in Central and Eastern Europe, such as Moldova, Albania, BiH, Georgia and Montenegro are diverse in terms of their geography, natural resources, population size, ethnic groups, languages, religious affiliations and political systems. The differences in socio-economic conditions and human development are also broad (International Union for Conservation of Nature [IUCN], 2016).

In this region, pollination decline and its link to food security is not a priority topic. However, pollinator health is a precondition for at least two important development priorities: the production of apiary products and of pollination-dependent plants UNDP (2017).

Threats/Drivers of Change

Globally, there is a consensus among scientists that the interaction of many factors such as land use change, intensive agricultural management (including mass breeding of pollinators), pesticides, risks associated with GM crops, pathogens and pests, climate change and invasive alien species are causing the decline of both managed and wild pollinators (IPBES, 2016a).

The most important features of the problem in Central and Eastern Europe include the following:

1. There is little documentation of values of most wild and managed pollinators besides honey bees
2. Pollinator decline is not a priority topic and this is mainly due to data availability or complexity for understanding the direct link between specific threats and pollinators decline;
3. There is limited information about the status and trends of pollinators in the region
4. There is an underestimation of pollination's role in agriculture among different public and private agencies which is reflected in the gap in statistics and legislation regarding beekeeping development. As a consequence, the beekeeping sector infrastructure is currently in poor conditions in certain countries.
5. There is limited in-house capacity to tackle the problem at different levels;
6. All 5 countries have similar drivers for pollinator decline such as land use change and inadequately integrated management of ecosystem services in general; they share a similar political context including the ongoing alignment of agriculture, land and rural development policies to EU standards and trade agreements which could change the local landscape in the future; and
7. Their position on the two highly contentious and political issues raised by the IPBES global assessment: pesticides and GM crops, varies from country to country and in some of them, it is unclear.

Risks and Response Options in Central and Eastern Europe:

i) Land use change

Risks: Many land use changes, including land abandonment, disparate forest cover changes, and the rapid expansion of urban areas resulting from large rural-to-urban migration. In the region, the inherent political, socioeconomic and institutional differences have created divergent transition paths across countries with subsequent variation in land use change (Alix-Garcia et al., 2016). The area under protected areas varies among countries but is still limited. Deforestation, land fragmentation, forest fires, massive urbanization are key drivers of change. Land ownership (only 25 percent of the land is registered in Georgia) creates a barrier to innovative pollinator-friendly initiatives because it is unclear whose responsibility and rights to incorporate and maintain changes in land (such as wind and firebreaks).

In terms of gender equality in female land ownership, there are regional examples of good practice. Spousal consent is mandatory for any transaction involving matrimonial property in Albania. Property acquired during the duration of a consensual/non-marital union is considered co-ownership or joint ownership in BiH. There is a Strategic Plan for the Development of Agriculture and Rural Areas of the Republic of Srpska in BiH that provides a financial incentive of 5 percent if a woman is a farm holder (FAO, 2017).

Response options: To address these threats it is possible to improve the consideration of biodiversity and ecosystem services in spatial planning processes by preserving natural and making use of converted habitats wherever possible; provide food and nesting resources for pollinators; manage or restore native habitat patches; establish a network of protected areas including different types of natural habitats; increase habitat heterogeneity and favouring diversity in gardens and landscapes.

ii) Intensive agricultural management

Risks: National/international prioritisation of agricultural reform and harmonisation to large aggregated land for larger farming is not a major driver for land use change at the moment in the region. However, this could be a potential driver in the future when associated with changes in technology and promotion of monocultures as part of EU accession or free trade agreements.

Response options: Some options to address these threats are: create patches of flower-rich habitats, support organic farming, and strengthen existing diversified farming systems, reward farmers for good practices.



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iii) Pesticides

Risks: The risks associated with the use of pesticides include a broad range of lethal and sub-lethal effects. The impacts vary depending on compound(s) toxicity, (co) exposure levels in time and space, location and pollinator species sensitivity and traits. To illustrate this last point, in the case of honey bees, there could be potential differences at the subspecies level. The risk increases if labelling is insufficient or not respected if the application equipment faulty or not fit for purpose and when there is no risk assessment or regulation is insufficient. Recent research focusing on neonicotinoid insecticides shows evidence of lethal and sub-lethal effects on bees and some evidence of impacts on the pollination they provide. There is evidence from a recent study that shows impacts of neonicotinoids on wild pollinator survival and reproduction at actual field exposure (Rundlöf et al., 2015). The European Food Safety Authority (EFSA) is currently reviewing the risk assessment to bees of three neonicotinoids used as seed treatments and granules. The outcome of this review is expected by the end of the year 2017. This negative evidence has led to the prohibition of certain uses of three neonicotinoid products by the European Union (EU). Due to this prohibition, landowners could have substituted the use of neonicotinoids for other pesticides with potentially harmful effects as well.

In Eastern Europe: the level of pesticide use is unclear. It seems that unregistered pesticides and other agricultural inputs are imported and used in Eastern European countries without control and proper manipulation (UNDP-Global Environmental Finance [GEF], 2004). Whenever farmers apply pesticides, there are many examples of “bad practice” such as: use of pesticides in excess of recommended rates, unauthorised use of pesticides on crops they are not registered for, the drift of pesticide spray to adjacent areas, lack of knowledge of and/or compliance with obligatory “buffer zones” and poor timing of pesticide application (UNDP-GEF, 2004).



At the country level, BiH have adopted the Rule Book on the Sustainable Management of Pesticides in alignment with the EU. However, implementation is a challenge. Moldova receives EU and World Bank assistance in disposing of obsolete pesticides, and in BiH, training farmers in the proper use and storage of pesticides are regarded as a key intervention (IPBES, 2017a). Other challenges include:

- Lack of studies and information on pollinators and food chains
- Lack of subsidies in sustainable agriculture (integrated and organic production)
- Lack of environmentally friendly inputs for farmer
- Lack of national strategy components in NBSAPs which includes pollinators/pollination
- Lack of rules and roles for protection of beneficial insects in general

Response options: Some options to address these threats are: raise standards of risk assessment and regulations of pesticide use. Reduce usage, seek alternative forms of pest control Integrated Pest Management (IPM), train farmers and land managers in best practices. Adopt technologies to reduce spray drift and dust emission.

iv) GM crops

Risks: The risks associated with the use of genetically modified crops are twofold: 1) Herbicide Tolerant crops may reduce pollination forage and 2) Insect resistant crops have sub-lethal effects largely unknown. According to the 2015 report on the Global Status of Commercialized Biotech / GM crops of the International Service for the Acquisition of Agri-Biotech Applications (ISAAA), 28 countries around the world planted biotech crops in 2015 (ISAAA, 2015). Of those, none belonged to the five participant countries from Central and Eastern Europe. Furthermore, on a hectare basis, of the 28 countries that planted biotech crops in 2015, less than of 1 percent of the hectares was in Europe.

BiH law on GMOs is harmonized with EU legislation. In 2009, BiH joined countries that have developed a legislative framework, which addresses all aspects of GMO pertaining food security. Despite these regulations, it seems there is some illegal use of GMO soy seeds in the country. Georgia has banned the use of GMOs at the highest political level, introducing a law.⁴ No information is available for the other three participant countries.

Response options: Some options to address these threats are: raise standards of risk assessment for approval of GM crops and quantify the indirect and sublethal effects of GM crops on pollinators.

⁴ Available at <https://matsne.gov.ge/en/document/download/2516880/1/en/pdf>.

v) Pathogens and pests

Risks: Managed pollinators are highly affected by viruses, pathogens, bacteria and predators. Trade, mass breeding and transport of commercial bees increase the risk of pathogen spread within and between managed and wild species and invasion and competition with wild pollinators. The top pests and diseases in the region are Varroa, Bee lice and Nosema (present as a disease), and there is sufficient information on these pests. In Moldova, pests also include *Vespa Velutina* and the Wax moth. The Brown Marmorated stink bug is a pest on everything in Georgia and this affects the availability of food crops for pollinators. There is compulsory spraying for this insect which has negative effects on pollinator populations which is undocumented. American plague and European rot also affect communities and there is little or no knowledge about treatments. There are other pests and invasives such as hornets, wasps, birds. Problems include:

- Lack of central organisation dealing with invasive species in general
- Lack of integrated approach that takes into account pollinators – with respect to fighting disease and pests
- Lack of experts with proper knowledge of pests and measures.
- Lack of communication and cooperation between all actors/stakeholders on this issue

For managed bees, much depends on the quality of the bee-keeping. The beekeeping sector infrastructure is currently in a very bad condition in Moldova, BiH and Georgia UNDP (2017). However, there are important capacity building activities and technical assistance projects aiming at adjusting beekeeping practices to the requirements and standards of the EU happening in the region (Srb-Hib, 2017).

Response options: Some options to address these threats are: improve managed bee husbandry by respecting the principles of Good beekeeping practices, and regulations for prevention, treatment and eradication of diseases; better disease detection and management; breeding programmes for disease resistance; improve regulations for trade and mass breeding (nationally and internationally); establishment of a public information system on species, pathogen pathways, and available databases and maps on their distribution. Protection against these is both chemical and organic. Chemical treatments for pests are cheaper and more efficient but they affect the quality of honey and other products. The efficacy of chemical treatments has decreased because of long-term use and overdosing. The result is residue in plant crops, honey, hives etc. Organic treatments cost more money and are normally less efficient.



vi) Climate change

Risks: The risks associated with climate change (according to the Intergovernmental Panel on Climate Change report) for some pollinators are: range changes, altered abundance, shifts in seasonal activities, the risk of disruption of future crop pollination, the appearance of new invasive alien species. Overall, climate shifts across landscapes may exceed species dispersal abilities. There is also evidence that climate change could negatively impact honey bee diseases and ecotypes (Le Conte & Navajas, 2008). Rasmont et al. (2015) projected future climatically suitable conditions for bumblebees in Europe using climate change scenarios. The study concludes that climate change could negatively affect the number of bees and their dispersal abilities due to loss of their suitable areas. Another study shows that bumblebees in Europe have not shifted northward and are experiencing shrinking distributions in the southern ends of their range (Kerr et al., 2015). Data regarding which pollinators in the region are under threat due to climate change is not available. There is a general lack of information data about pollination in National Reports on climate change and CBD, although stakeholders have reported an increase in the number and intensity of natural hazards, extreme weather conditions, changes in seasonal peculiarities and other climate change processes. There are changes to the length and occurrence of the flowering periods which affects food and pollen source. This leads to an increased vulnerability of pollinators to viruses and pests; a higher number of endangered and vulnerable species in the natural agricultural ecosystems. The desertification process has led to decrease in honey production and has an impact on rural development.

Response options: Options to address these threats are largely untested and include: targeted habitat creation or restoration to manage refuges, ecosystem-based adaptation, conservation of natural habitat and connectivity and increase crop diversity.



IV. DESCRIPTION OF THE ISSUE AT NATIONAL LEVEL

ALBANIA

Value of pollinators and pollination: Limited information about pollination and pollinators valuation available in English.

Trends of Threats: Agriculture represents one of the most important sectors of the Albanian's economy, contributing to approximately 21 percent of the country's GDP and to the employment of 48 percent of the country's population living in the rural areas. The agriculture sector plays a very important role in food production; biodiversity management; rural economy; in-situ conservation of local species; varieties and domestic animals. The development of this sector is oriented to the regional diversification of crops (Government of Albania, 2015) and at the moment it is not increasing the risks for pollinators. GMOs are allowed in the country and pesticide use is recognized as an important threat. There is limited capacities around pollinators at all levels in the country including: experts with proper knowledge on pests and measures, communication and cooperation between all actors/stakeholders on this issue, studies and information on pollinators and food chains, subsidies in sustainable agriculture (integrated and organic production), environmentally friendly inputs for farmers. As well, the country's NBSAPs doesn't mention pollinators/pollination and response options for protection of beneficial insects in general. Lack of expertise as well as communication and cooperation between all actors/stakeholders on the issue of pests/parasites/diseases.

Response options: See Table 1.



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BOSNIA AND HERZEGOVINA

Value of pollinators and pollination: Honey production was recognized as an important economic value of protected areas in the country, as well as its direct link to the improvement of the local economy. Besides honey production, it seems pollination is not widely recognized as a regulatory ecosystem service related to food production (World Wide Fund for Nature [WWF], 2016). However, fruit and vegetables- many of which are pollinator-dependent- are important for food security and nutrition for the population, as a clear majority of rural households have vegetable plots and fruit trees in their gardens for self- consumption (FAO, 2012b). During the field visit of the Global Facilitator and BES-NET team, pollination was mentioned as crucial for cherry and pear production for export.

Trends of Threats: Agriculture is an important and strategic sector for BiH. It ensures food security and employs 20.6 percent of the population (Ministry of Foreign Trade and Economic Relations, 2012). The country recognizes the importance of ecosystem services derived from agri-biological diversity, especially food production, however, there are important aspects of the sector that could put pollinators at risk. There are important problems with land ownership, property issues and lack of agro-environmental data (e.g. consumption and composition of fertilizers, pesticides, nitrogen ratios, eco-efficiency, energy use, etc.) (State of the Environment Report in BiH, 2012), complicated procedures and bureaucracy due to the governance in place. Domestic migration is also a challenge and a potential threat to pollinators. 61 percent of the population lives in rural areas (Ministry of Foreign Trade and Economic Relations, 2012), and rural-urban migration is increasing. The import of GMOs is perceived as a threat to the development of potential organic export markets. Despite recent regulations on GMOs (see below), there are some concerns regarding their implementation and the use of illegal GMO seeds.

Response options: BiH has more than half of its surface area (63 percent) covered with forest and forestland (WWF, 2016), and 106.300 ha or 2.7 percent of the country's territory under protected areas (UNEP BiH, 2017). These areas are important due to traditional agriculture activities including grazing, honey production and more recently tourism. Tourism is seen as a big opportunity for recovering economy of the country and is an important development driver.

In the agricultural sector, the production of organic food has been promoted since 2000 and is increasing (Ministry of Foreign Trade and Economic Relations, 2012). However, in BiH and the Brcko District, no law has been passed on organic farming in order to control the products which are being labelled as organic, environmentally-friendly or bio-products, independent of quality and certification. BiH recognises the need to identify and monitor the use of pesticides and has included in the latest NBSAP a commitment to the following goal:

"By 2020, establish a system for treatment of industrial and utility wastewaters and monitoring of pesticide and fertilizer consumption."

BiH has not yet conducted a GM food safety assessment. Nevertheless, there is regulation of GMOs. After a five-year moratorium on Genetically Engineered (GE) products, in 2009 BiH adopted the Law on GMOs. This law set up the framework for approval of imports and field releases of products derived from agricultural biotechnology. Three years later, the BiH's Council of Ministers adopted the six implementing rulebooks regarding the specific procedures to import and market GE products.⁵

MONTENEGRO

Value of pollinators and pollination: Local people in Montenegro use and recognize the value of wild plants, medicinal plants, honey, and other wild materials that are pollinator-dependent. Their economic value is evident and many of the stakeholder groups benefit from trade and processing of natural food and materials. The total number of beehives in Montenegro is estimated to be 50,000. Three national parks (Biogradska Gora, Prokletije and Skadar Lake) combined have over 10,000 beehives or more than 20 percent of all beehives in Montenegro. More than 950 tons of blackberries are collected every year in the area of Prokletije, Bjelasica and Komovi mountain region. National Park Prokletije, National Park Biogradska Gora and park of nature Komovi are an important source for blackberries

⁵ https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual_Sarajevo_Bosnia%20and%20Herzegovina_12-5-2016.pdf

and herbs collection. These activities generate more than 1.4 million EUR every year. These activities are particularly important for rural mountainous areas where other business opportunities for residents are scarce (WWF, 2017).

Trends of Threats: The economy of Montenegro largely relies on tourism. Close to 11 percent of the country's GDP comes from this activity. Montenegro is strategically oriented towards sustainable tourism development including inland areas in addition to the coastal areas. This development trend in combination with the decline of agriculture in past decades, mainly due to the common phenomena of depopulation in rural mountainous areas across the Balkans could benefit pollinators' protection.

Legislation on species protection is not fully developed in the country. This causes difficulties in protected areas management and sustainable use of medicinal plants, berries and its associated pollinators (WWF, 2017). Pesticide use and climate change are both recognized as a threat to pollinators.

Response options: See Table 1.

The government provides training for bee health, health protection against pesticides, subsidies for queen bee and beekeeping equipment. Montenegro has developed a rulebook for beekeeping, which is approved for a registry of beekeeping, and on quality of bee products.

GEORGIA

Value of pollinators and pollination: The increase of attention to bees and pollination in Georgia has been increased with the opportunity of honey export to EU. Beekeepers in Georgia receive help and financing in various forms from the government and international or foreign organizations. There is no available valuation of pollinators and pollinations.

Trends of Threats: The third main principle of the country's vision of development is based on rational use of natural resources, ensuring environmental safety and sustainability and avoiding natural disasters during the process of economic development. This could benefit pollinators protection in the long run. Georgia's foreign and internal policy is oriented towards the integration in the European Union (Government of Georgia [GOG], 2013) which could be considered a threat and opportunity for pollinators. Pesticide use is recognized as a threat. For example, the use of pesticides to eradicate the *Brown Marmorated Stinkbug* might be affecting pollinators, however, there are no studies that prove this or other threats that pollinators face in the country.

Response options: See Table 1.

The National Biodiversity Strategy and Action Plan of Georgia 2014 – 2020 (GOG, 2014) states as an objective to "Develop programs aimed at promoting sustainable management practices, certification and labelling schemes such as Best Agricultural Practices, organic farming and sustainable harvesting of wild plants". Within this objective, the Government of Georgia aims to implement pilot projects on organic farming and at least four pilot projects on sustainable harvest schemes for wild-growing plants.

In the same strategy, Georgia set the objective of "Assessing the status of Georgia's agricultural ecosystems (including soils and ecosystem services provided) and natural grasslands", which includes the assessment of the status of pollinators and entomophagous insects and from there develop recommendations for their conservation.

At the moment, there are no policy available on pollinators from the Ministry of environment besides a strong regulation around pesticides and the Law of Georgia on Living Genetically Modified Organisms (GOG, 2014) that bans GMOs in the country from the Ministry of Agriculture (2017).⁶

⁶Teona Karchava, former CBD Focal Point Georgia, Department of Biodiversity and Forest Policy Service, the Ministry of Environment and Natural Resources Protection of Georgia



MOLDOVA

Value of pollinators and pollination: In the Republic of Moldova, pastures and agricultural ecosystems provide services estimated at 3,900 million US dollars in 2011. And sustainable ecosystem management in agriculture can add over 1,883.33 million US dollars to the national economy in the next 25 years (GRM, 2015). Indigenous knowledge of honey-producing bees is important and has a long and rich tradition.

Trends of Threats: The Republic of Moldova has several strategies to maintain the sustainability of agricultural practices which shows the direction of the country's agricultural development. Some of those strategies include (GRM, 2015):

- a) Develop and promote the draft law on agricultural land protection belts;
- b) Promote elements of green agriculture and environmentally friendly practices;
- c) Conduct studies on the impact of alien invasive species;
- d) Promote good agricultural practices to stop degradation;
- e) Encourage activities aimed at the maintenance of the domestic genetic fund of breeding stock;
- f) Develop farmers' good practices guidebooks on conservation and sustainable use of biodiversity;
- g) Draft a program for genetic improvement of honey-bees; and
- h) Promote valuable genotypes of plants in order to establish industrial plantations.

The most important threats to pollinators recognized in the country include: pest and diseases affecting honey bees, limited technology and policies to respond effectively to such threats, insufficient monitoring of diseases that affect pollinators, limited capacities (experts in the field), limited scientific research on pests/diseases/invasive and no central entity/authority responsible for invasive species in general.

Response options: See Action Table.

The exports of honey from Moldova to EU favoured the increased attention to beekeeping and pollination. The government of Moldova adopted the law on beekeeping, whose main purpose is to create conditions to increase the number and improve the quality of bee products UNDP (2017). Besides the attention given to honey production, Moldova has made important efforts that could help pollinators protection such as sustainable management of pastures and agricultural ecosystems by extending and diversifying eco-agricultural products (GRM, 2015).

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ANNEXES

ANNEX I. LIST OF THE PARTICIPANTS AT THE TRIALOGUE

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ANNEX II. AGENDA OF THE TRIALOGUE

| Day 1: Wednesday 18th October | |
|-------------------------------|---|
| Time | Activity |
| 08:30 – 09:00 | Registration |
| 09:00 – 09:40 | OPENING SESSION |
| 09:40 – 10:00 | INTRODUCTORY SESSION: Objectives of the Trialogue |
| 10:00 – 11:15 | THEMATIC SESSION I: Values of Pollination and Pollinators - An interactive celebration of the multiple values of pollinators |
| 11:15 – 11:30 | Coffee Break with berry theme |
| 11:30 – 12:30 | THEMATIC SESSION II: Keynote Speech. "Is there a Problem and how can we tell? Status and Trends for Pollinators, Pollination and Food Security". A keynote address by IPBES global expert and regional experts on the reasons for global concern, the results of IPBES assessment at global and regional level, and implications for food production, rural development and regional crop economies. |
| 12:30 – 14:00 | Lunch |
| 14:00 – 19:00 | SITE VISIT: Visit a selection of sites near Sarajevo, and discuss with local practitioners the issues around managed and wild pollinators near to Sarajevo |
| 19:00 – | Dinner |

| Day 2: Thursday 19th October | |
|------------------------------|---|
| Time | Activity |
| 09:00 – 09:15 | Review of Day One |
| 09:15 – 11:15 | THEMATIC SESSION III: Panel 1 "Regional and National Drivers of Change to Pollinators and Pollination Services". A Panel made up of policymakers and scientists from the region who will present and debate the drivers of change at national level, find commonalities in the threats facing bee populations at the regional level, and highlight any differences between country situations in Eastern Europe. |
| 11:15 – 11:45 | Coffee Break with honey theme |
| 11:45 – 13:30 | THEMATIC SESSION IV: Innovation Trade Fair - Innovative Ideas to address the problems and harness the opportunities available |
| 13:30 – 15:00 | Lunch |
| 15:00 – 18:00 | THEMATIC SESSION V: Policy and Management Options to address risks and opportunities - A working group session to identify locally-appropriate policy options |
| 19:00 – | Dinner |

| Day 3: Friday 20th October | |
|----------------------------|---|
| Time | Activity |
| 08:30 – 09:45 | THEMATIC SESSION IV AND V: In parallel to the High Level Breakfast, participants finalise the displays of their work showing the innovative ideas and actions for policy and management, in readiness to share with high-level invitees and the Press. |
| 08:30 – 09:45 | HIGH LEVEL BREAKFAST: Key messages from the IPBES global assessment and from the Trialogue sessions are discussed by high-level government authorities, donors and partners |
| 09:45 – 10:15 | Press Conference |
| 10:15 – 10:45 | Show and Tell |
| 10:45 – 13:00 | THEMATIC SESSION V: Panel 2 "How to Move Forward and Keep the Momentum Going". A Panel made up of national and international resource organizations will provide comments and identify ways in which the ideas and actions from the Trialogue can be supported by ongoing initiatives at national and regional level |
| 13:00 – 14:30 | Lunch |
| 14:30 – 16:00 | THEMATIC SESSION V: A working group session to identify locally-appropriate policy options to be included in the Trialogue Outcome Document |
| 16:00 – 16:15 | Moment of Reflection and Evaluation |
| 16:15 – 16:45 | CLOSING SESSION |



ANNEX III. LOCAL POLLINATION-DEPENDENT INGREDIENTS USED FOR THE TRIALOGUE MENU





BESNet

Biodiversity and Ecosystem Services Network

**Global Policy Centre on Resilient Ecosystems
and Desertification (GC-RED)**

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