Human-Wildlife Conflict Mitigation Instrument

Strengthening capacities to address the issues related to zoonotic and other emerging diseases

Taking a One Health approach

Director of Forests
Government of West Bengal

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Overall Context

1.1 Concept of One Health

Over 30 new infectious diseases have been detected globally in the last three decades, around two-thirds of which were zoonotic in origin. The interface between animals and humans is constantly increasing, primarily due to habitat fragmentation and loss, the global trade in wildlife and increasing demands of ecotourism and other forest-dependent livelihoods. This has led to a growing number of people and livestock living close to wildlife, resulting in disease spill-over. This situation has the potential to grow out of proportion, and the resulting health risks can undermine the conservation and development efforts in such areas. The present situation and associated socio-economic and ecological impacts need to be urgently addressed keeping in mind that human, animal and ecological health are inter-connected. The One Health concept is based on the understanding that human, animal and environmental health are closely interconnected and interdependent. **One Health is a collaborative, multi-sectoral, and transdisciplinary approach–working at the local, regional, national and global levels– animals and with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants and their shared environment.**[1]

While the concept is not new going, back as far as Hippocrates in the fifth century (BCE), more recent discussions on One Health started at the One World, One Health symposium in 2004. Organized by the Wildlife Conservation Society, the symposium resulted in the declaration of the 12 Manhattan Principles on One World, One Health, which delineated priorities for an international, interdisciplinary approach to combating threats to the health of life on Earth. **Several international institutions and national governments have recently prioritized the issue of One Health**, including the One Health High-Level Expert Panel (OHHLEP), constituted jointly by the Food and Agriculture Organization (FAO), the World Organization for Animal Health (OIE), the United Nations Environment Programme (UNEP) and the World Health Organization (WHO), as well as the German Ministry for Economic Cooperation and Development[2].

Areas of work in which the One Health approach is being adopted increasingly include food safety, the control of zoonoses and combating antimicrobial resistance (AMR). **In the context of wildlife management and protected area management, the work on zoonoses is of relevance. It also addresses the other modes of disease transmission, such as between domestic animals and wildlife and (around protected areas and HWC hotspots) between humans and-domestic animals**. Indicative situations where the risk of zoonotic and other emerging diseases is high include:

- people and domestic animals entering or living in wildlife habitats;
- increasing tourism in protected areas;
- wildlife entering human-use areas;
- *ex- situ* conservation areas;
- interaction of *mahouts* and assistants with *kumkis;*
- snake rescue operations;
- HWC mitigation measures such as animal capture and translocation, treatment of injured animals, and post-mortem examinations;
- human-wildlife conflict (HWC) hotspots such as water holes in forest landscapes and, livestock pens on the fringes of forested areas.

So far, measures to address the above have been implemented by the wildlife, veterinary and public health sectors in their respective work programmes, using their separate channels. The exceptions are the wildlife and veterinary sectors, which work together for protected areas. **To effectively operationalize a One Health approach, a coordinated effort of the wildlife, veterinary and public health sectors is required at the local level that brings together their field teams and the rural development department.** At the local level- bringing together field teams from these sectors, with the overarching cooperation with the rural development department, embedded at the district authorities at the district-level, at state-level and at the national-level.

1 https://oneworldonehealth.wcs.org/About-Us/Mission/The-Manhattan-Principles.aspx
2 https://www.bmz.de/en/news/publications/publikationen-reihen/strategy550-one-health-in-development-cooperation-57862

1.2 Indicative measures in wildlife management to be implemented through a One Health approach

Preventive and management measures for zoonotic and other emerging diseases, including the following:

- site-specific investigation of seroprevalence/prevalence of various diseases in humans and animals and vaccination of the staff, local community and domestic animals accordingly;
- spatial separation, removal of infected animals, containment (quarantine), adhering to standard operating procedures for safety during handling of animals (occupational health and safety guidelines and protocols);
- raising awareness among local communities on prevention of disease in domestic animals and on wildlife diseases that are communicable to humans and livestock.

Effective disease surveillance and reporting system, including standardized protocols:

- safety protocols during investigations and handling of samples;
- coordination between wildlife, veterinary and public health agencies and professionals in field identification and sample collection.

An enabling environment is needed for coordinated efforts and alignment of the relevant policies, plans and programmes of the wildlife, veterinary and public health sectors.

Systematic and effective capacity development measures:

- taking an inclusive approach and bringing together key training institutions not only from the wildlife, veterinary and public health sectors but also rural development and Panchayati Raj Institutions (PRI).
- Long-term sustainability in a One Health approach in the context of wildlife management and protected area management can be achieved only when these programmes training institutions deliver joint training programs, and integrate a module/ course on One Health in their existing curricula.

1.3 One Health under the Indo-German project on HWC mitigation

The **Indo-German Cooperation Project titled "Human–Wildlife Conflict Mitigation in India"** has been commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and is being implemented (2017–2022) by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in partnership with the Ministry of Environment, Forest, and Climate Change (MoEFCC), Government of India, and the state forest departments of Karnataka, Uttarakhand and West Bengal. The project measures are being implemented at the national level and in three project partner states, viz., Karnataka West Bengal, and Uttarakhand.

The project aims at providing technical support at the national level and in selected partner states for effective implementation of human-wildlife conflict (HWC) mitigation measures. **The project takes the approach of harmonious coexistence by ensuring that both humans and wildlife are protected from conflicts.**

The Indo-German project on HWC mitigation is implementing the following measures during 2021–22:

1. Assisting states with aligning their Human–Wildlife Conflict Mitigation Strategies and Action Plans with the One Health approach;
2. Developing the capacities of wildlife veterinary experts and field response teams to address the challenges due to zoonotic diseases; and
3. Operationalising occupational health and safety guidelines for personnel involved in rescuing and handling wildlife and in wildlife health management in the context of COVID-19 risk reduction.

2. Assisting states with aligning their Human-Wildlife Conflict Mitigation Strategies and Action Plans with the One Health approach

2.1 One Health in National HWC Mitigation Strategy and Action Plan (HWC-NAP) of India 2021-26

The National Human–Wildlife Conflict Mitigation Strategy and Action Plan (HWC-NAP) (2021–26) for India is a guiding document facilitating a holistic approach to mitigating Human–Wildlife conflict (HWC) in an inclusive and sustainable manner.

The HWC-NAP of India states that "One Health approach will be taken, especially when planning HWC mitigation measures in the forest fringe areas, in close coordination with the public health and animal husbandry departments. A systematic joint response involving relevant departments and agencies will operationalize the One Health approach. Efforts will be intensified to cover the frontline staff under health and life insurance schemes, to collect samples for research, and to provide early warning systems for possible zoonotic and other emerging diseases.

HWC-NAP recommends that state- and division-level HWC mitigation plans take a One Health approach. The species-specific guidelines emphasize One Health through a dedicated section, 'Emerging diseases and One Health approach'. Two issues-specific guidelines- '**Guidelines on Health Emergencies and potential health risks arising out of Human Wildlife Conflict (HWC) situations' and 'Occupational Health and Safety during HWC situations**' will provide detailed guidance on the operationalization of the One Health concept, with regard to zoonotic and other emerging diseases in context of HWC mitigation in India.

HWC mitigation requires a coordinated effort by the key sectors and stakeholders. Unless addressed in a synergistic manner, HWC may seriously undermine the development gains achieved by these sectors. Hence there is a need to develop state-level HWC Mitigation Strategies and Action Plans (HWC-SAPs) aligned with the HWC-NAP to mitigate HWC effectively in the country.

2.1 Relevant measures being implemented under the Indo-German project

The following measures are being implemented under the Indo-German project

- Detailed situation analysis to understand the impacts of zoonotic diseases such as COVID-19, avian influenza, anthrax, CCHF and KFD on humans and the related risks to the key sectors involved in human-wildlife conflict mitigation efforts
- Supporting selected states with aligning their State HWC Strategies and Action Plans and other relevant plans and guidelines with One Health, through:
  - Consultations across the wildlife, veterinary and public health sectors towards developing a shared understanding of One Health
  - Development of or updating the State HWC Mitigation Strategies and Action Plans by integrating the One Health approach into them.
  - Facilitating dialogue and a knowledge-network for the personnel involved in the wildlife rescue and handling, animal health management and disaster management sectors.

3. Capacity development of wildlife veterinary experts and field response teams to address the challenges due to zoonotic diseases

3.1 Capacity development approach

One of the most effective ways of addressing an issue on a long-term basis is to invest in the capacity development of key stakeholders, for facilitating them to co-create effective and sustainable solutions. A holistic capacity development system is being implemented under the Indo-German project for addressing the key competencies of relevant stakeholders.

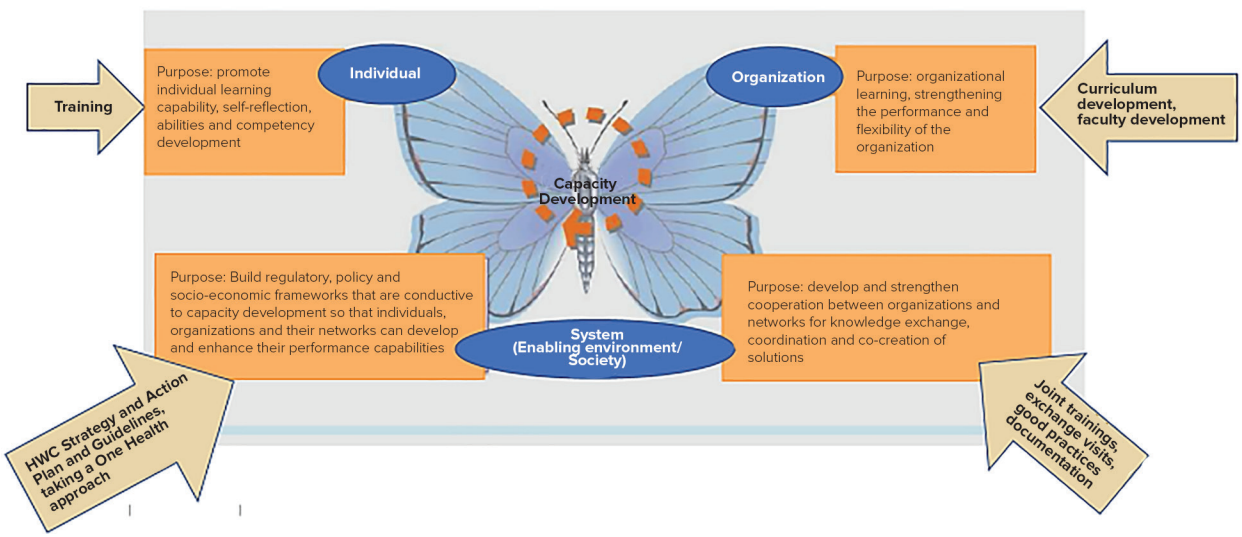
Capacity development is the process of developing the capacities of individuals and shaping joint learning processes such that the individuals are enabled to achieve sustainable results within their systems of reference. Capacity development facilitates change among people, in three dimensions: knowledge, skills and values/attitudes.

A combination of traditional and innovative capacity development measures is being used to achieve the objective. The capacity development measures aim at facilitating changes in the actions of individuals and the contributions of individuals within their of reference. Therefore, a network of training institutions from the wildlife, veterinary and public health sectors will be facilitated to nominate relevant participants for individual training. In this way, it is envisaged that the capacity development measures will not only address the individual level but will also help achieve optimum results organizationally, leading to a system of networked training institutions that are strengthened in One Health.

The approach to developing, implementing and sustaining the One Health capacity development measures will follow these guiding principles:

- A participatory approach in designing the capacity development measures
- Using a diversity of methods and a holistic and inclusive approach
- Covering three dimensions: knowledge, skills and values
- Practice orientation and participant orientation
- Joined-up thinking (multi-sectoral and multi-disciplinary approach)
- Sustainability (strong partnerships with existing training and research institutions)
- Bringing the participants into a network for continued learning.

Key elements of the capacity development approach



3.1.1 Ensuring effectiveness through a holistic, inclusive and participatory approach

Effectiveness will be achieved in capacity development efforts by ensuring that the process is holistic and inclusive, i.e., it addresses the issue from all possible angles, is inclusive and takes into account all dimensions to enable cross-sector learning. For developing curriculum on HWC mitigation, the project has taken a holistic approach, as described here, and the same approach will be taken for developing the course titled "HWC mitigation: taking a One Health approach":

- Measures are implemented to assess and address the competence development of participants.
- Measures are implemented to assess and address the capacity development of key stakeholders from institutions of key sectors, including wildlife, veterinary, agriculture, rural development and panchayati raj institutions and public health institutions.
- Support is provided to key training institutions, using a nationally standardized yet locally customized curriculum and training material.

During the implementation of any training measures, the choice of training approach and methods is critical in ensuring the effectiveness and long-term impacts of the training. Traditional training methods are widely used to transfer information, facts and knowledge from the trainer to the learner, but they may not always be able to maximize the outcome of the participant's learning. This becomes critical where cross-sector alignment of concepts, role clarity and perception change are required, such as HWC mitigation. And it becomes more pronounced when applying the One Health approach to HWC mitigation. A participatory approach to planning and implementing training courses aims at motivating the participants to play an active role in the learning process. The outcome is much more sustainable.

3.1.2 Ensuring sustainability through institutionalizing the training measures

The sustainability of the efforts made towards capacity development will be achieved via the following measures:

- Engaging key training institutions in the entire planning and implementation phases
- Streamlining the curriculum and training materials to the training management system at the partner institutes
- Training the trainers at the partner training institutes
- Facilitating a network of training institutions: cross-sector knowledge exchange, supporting visits of faculty and experts to other states/institutes

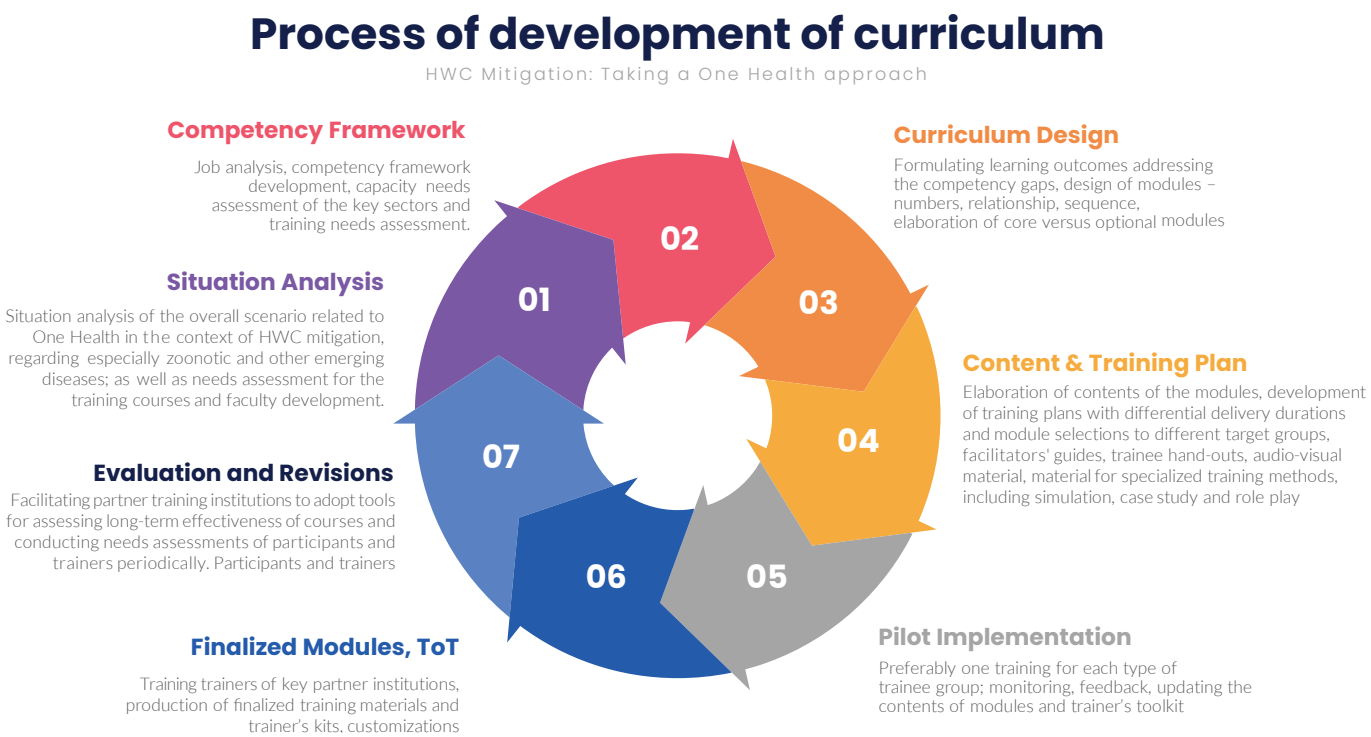
3.2 Competencies-based curriculum

The combination of knowledge, skill, experience and attributes that leads to consistently successful performance is known as competencies. Competencies are demonstrated behaviours that lead to success. They are more enduring than job tasks and reflect the unique characteristics or behavioural attributes a person can bring to a job.

Based on the review of the goals of HWC mitigation, the work context and the roles and responsibilities of personnel for HWC mitigation, a comprehensive list of 27 competencies has been identified for successful performance in the context of HWC mitigation. These competencies have been organised in four clusters as follows:

- **Technical competencies:** Using technical knowledge and skills to mitigate HWC. In this cluster are competencies that are critical to deliver scientifically robust, evidence-based and sustainable HWC mitigation measures.
- **Competencies for promoting harmonious coexistence:** Promoting shared understanding among key stakeholders. In this cluster are competencies that are critical to engaging other stakeholders and maintaining trusting relationships with them.
- **Competencies for effectiveness and efficiency:** Driving outcomes and delivering effectively. In this cluster are competencies that are critical to delivering the desired outputs and to strengthening organisation processes and systems that enable performance.
- **Competencies for learning and innovation:** In this cluster are competencies that are critical to creating a desired future and being alive to learning and change.

The curriculum is being developed using a competencies-based approach, which is different from a conventional approach to curriculum development. In a conventional approach, the courses are developed on the basis of what the participants need to know. A competencies-based approach, on the other hand, takes into account the specific tasks required for the job of the participants; a clear statement of what a person should be able to do after the training; the variables associated with the task and the range of conditions under which the person should be able to demonstrate competence; the knowledge, skills and values necessary for the person to be competent; and how the participants can be evaluated and certified for competence.



3.3 Process of developing competencies-based curriculum

The development of training courses will take a systems approach, using participatory methods with three phases and seven process steps.

The analysis phase will consist of a **situation analysis** of the overall scenario related to One Health in the context of HWC mitigation, especially with regard to zoonotic and other emerging diseases: capacity needs assessment of the key sectors, job analysis, **competency framework** development and training needs assessment.

The design phase will consist of the **curriculum design:** formulating learning outcomes that address the competency gaps and designing modules (numbers, relationship, sequence and elaboration of core versus optional modules). **The content of the modules and training plan** will be developed, along with trainer's kits, to ensure that the training effectively addresses the competency requirements. Training plans will facilitate differential delivery durations and module selections and match these to different target groups.

The third phase will focus on **implementing a pilot training process**, preferably one training for each type of trainee group, The pilot trainings will be carefully monitored, and elaborate feedback will be gathered from both participants and trainers to assess if the learning outcomes have been achieved, given the training material and methods.

Customization requirements will be discussed in detail with regard to specific target groups as well as training institutions. Steps for sustaining the efforts will be activated in selected partner training institutions, **including training of trainers and implementation of the first training course** with the newly developed curriculum. Finalized training materials and trainer's kits will be produced and made available to all partner training institutions.

Assessment of the long-term effectiveness of the training course will be a key focus of this phase, where the desired improvement in the performance of the participants after they return to their jobs will be assessed. On the basis of the feedback from them (self-assessment) and their supervisors, necessary adjustments will be made in the curriculum, training material, course delivery methods, etc. The project will facilitate collaboration among training institutions, as well as with partner institutions, in developing tools for such **evaluations and revisions** of courses on a regular basis.

3.4 Relevant measures being implemented under the Indo-German project

Under the Indo-German project, the following measures are being implemented:

- Development of a curriculum for a training course titled 'HWC Mitigation: Taking a One Health Approach', along with training resource material and a trainer's kit, as detailed in the box on this page
- Pilot implementation of the course in collaboration with veterinary, wildlife and public health institutions
- Training trainers and implementing other faculty development measures for the training institutions that are willing to integrate the newly developed course curriculum into their regular curriculum
- Supporting selected veterinary, wildlife and public health training institutes / state agriculture universities with integrating a One Health training module into their overall training plan; customization of curriculum and training methods as per the requirements of the training institute
- Facilitation of first training at the training institute

Key Outputs

- **Curriculum framework**
  - Learning outcomes of the overall course, differential outcomes for options
  - Names and types of modules with learning outcomes, duration
  - Competencies addressed
  - A preliminary indication of training methods and training plans
- **Training resource material (refence material for participants)**
  - All modules (training resource material)
  - Field manual on occupational health and safety and zoonotic disease prevention
- **Trainer's kit**
  - All modules (training resource material)
  - A trainer's guide, providing:
    - Options for the overall plan of the delivery of the curriculum
    - Session-wise module plan
    - Training methods for each module/ session/ field expedition
    - Delivery time
  - PowerPoint presentations
  - Handouts- simulation, case studies
  - Videos
  - **Integration of the curriculum into the overall** curricula at key training institutions of the wildlife, veterinary, agriculture and public health sectors

4. Operationalization of occupational health and safety (OHS) guidelines for personnel involved in wildlife rescue and handling and animal health management

4.1 Division-level HWC Management Action Plan (HWC-MAP) and other anchors

The National Wildlife Action Plan (NWAP) 2017–31 mandates each territorial division to develop and implement a Human–Wildlife Conflict Management Action Plan (HWC-MAP) for addressing human wildlife conflict (HWC) mitigation systematically. The National HWC Mitigation Strategy and Action Plan (2021–26) provides a common framework for each division to develop its HWC-MAP using a landscape approach.

The HWC-MAP facilitates provision of bottom-up feedback about good practices in HWC mitigation to the state- and national-level strategies and action. This integration of field knowledge and experiences into the national- and state-level plans will ensure that the approach taken by the national and state governments is reflected in the local-level planning and implementation. In the context of One Health, HWC-MAP is the most effective instrument where a One Health approach can be integrated as HWC-MAP is the key planning document that provides anchoring points and instruments for cooperative planning and cross-sector coordination within a landscape. The institutional structures at the state and district levels, viz., the state-level coordination committee (SLCC) and district-level coordination committee (DLCC), will be used for facilitating integration of the One Health approach into the state-, landscape- and district-/division-level planning.

4.2 Relevant measures being implemented under the Indo-German project

The following specific measures are planned under this work area:

4.2.1 Integrating One Health in HWC-MAP

- Integration of OHS measures into the division-level HWC Management Action Plans at three landscapes to enhance the resilience of the human and animal populations to zoonotic and other infectious diseases
- Development of tools such as guidelines/ procedures and manuals

4.2.2 Development of OHS capacities of field response teams

- Support for establishing model animal health monitoring teams and standardization of occupational health and safety protocols for selected Rapid Response Teams (RRTs) at the pilot at three landscapes, including demonstration trainings and procurement of disposable accessories/ Basic equipment such trainings
- Training veterinary experts in animal capture and translocation, with a focus on OHS and animal welfare
- Knowledge exchange event for the network of wildlife veterinary experts in India, which will also contribute to developing tools, standards and good practices in implementing the guidelines related to HWC mitigation, especially for species that require specialized veterinary expertise, such as elephants, leopards, snakes, rhesus macaque, and crocodile.

4.2.3 Facilitating engagement of local community in planning and implementing HWC mitigation measures through a One Health approach

- Development of communication material for women and farmers at the project pilot site to reduce their vulnerability
- Measures to raise awareness about OHS and train local communities, especially people involved in animal husbandry and members of Primary Response Teams (PRTs) in and around the project pilot sites to minimize the risks of zoonoses

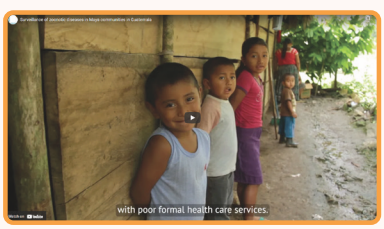
Communities need to be at the heart of it all

A World Health Summit panel calls for a paradigm shift in the implementation of One Health.

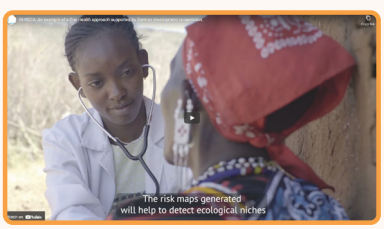
One Health has traditionally focused on collaborations between human and animal doctors. Panellists at the 2021 World Health Summit in Berlin argued for a paradigm shift to put communities and their natural environments at the centre.

Four concrete One Health projects show what this can look like in practice:

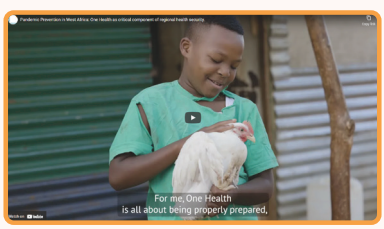
https://youtu.be/o9gJqJ3qZGQ



https://youtu.be/GXBB7aFR6cs



https://youtu.be/-TeZKb05_js



https://youtu.be/2YcmlgfFEds

Published by:
Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn

A2/18, Safdarjung Enclave
New Delhi- 110029, India
T +91-11-4949 5353
F +91-11-4949 5391
E biodiv.india@giz.de
I www.indo-germanbiodiversity.com

Programme/Project description:
Indo-German Biodiverity Programme/ "Human-Wildlife Conflict Mitigation in India" project

Responsible:
Dr. Neeraj Khera
Team Leader
E neeraj.khera@giz.de

Authors:
Dr. Neeraj Khera, GIZ India
Dr. George Leuddeke, International One Health for One Planet Education initiative (1 HOPE)
Dr. Dibyendu Mandal, GIZ India

Design:
Aspire Design, New Delhi

Photo credits:
GIZ/Neeraj Khera, Karnataka Forest Department, Wildlife Institute of India

URL links:
Responsibility for the content of external websites linked in this publication always lies with their respective publishers. GIZ expressly dissociates itself from such content.

On behalf of the
German Federal Ministry for Economic Cooperation and Development (BMZ)

GIZ is responsible for the content of this publication.
New Delhi, 2022