



## **HWC Mitigation Instrument**

# **Strengthening capacities to address the issues related to Zoonotic and other emerging diseases**

**Taking a One Health Approach**





# 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. There is an ever-increasing interface between animals and humans primarily due to habitat fragmentation and loss, global trade of wildlife and due to increasing demands of ecotourism and other forest dependent livelihoods. This has led to growing number of people and livestock in close proximity with wildlife, resulting in disease spill-over. This situation has a 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 interconnected- its One Health. 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, multisectoral, and transdisciplinary approach- working at the local, regional, national, and global levels -with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.**<sup>1</sup>

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, resulting in twelve Manhattan Principles on One World, One Health, which delineated priorities for an international, interdisciplinary approach for 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<sup>2</sup>.

Areas of work in which a One Health approach has been increasingly applied include food safety, the control of zoonoses, and combatting Antimicrobial Resistance (AMR). **In the context of wildlife management and protected area management, the area of work on zoonoses is of key relevance, apart from addressing the other modes of disease transmission such as between domestic animals and wildlife; and (around protected areas and HWC hotspots) between human-domestic animals.** Indicative situations where risk of zoonotic and other emerging diseases are 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 *Kumkhis*, snake rescue operations;
- ▶ HWC mitigation measures such as animal capture and translocation, treatment of injured animals, post-mortem, etc;
- ▶ specific sites such as HWC hotspots: water holes in forest landscapes, livestock pens in the fringes of forested areas etc.

So far, measures to address the above are being implemented by wildlife, veterinary and public health sector in their respective work programme and using their separate channels, with the exception of wildlife and veterinary sectors working together for protected areas. **To effectively operationalise a One Health approach, a coordinated effort of wildlife, veterinary and public health is required** at local level- bringing together field teams from these sectors, with the overarching cooperation with rural development department, embedded at the district authorities at the district-level, at state-level and at 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 taking a One Health approach:

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

- ▶ site-specific investigation of seroprevalence/ prevalence of various diseases in human and animals, and vaccinations of staff, local community, 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 disease prevention for domestic animals, wildlife diseases which 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 on field identification and sample collection.

An enabling environment is needed for coordinated efforts and alignment of relevant policies, plans and programs of 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 wildlife, veterinary and public health but also rural development and Panchayati Raj institutions
- ▶ Long term sustainability in taking a One Health approach in the context of wildlife management and protected area management can be achieved only when these training institutions deliver joint training programs, and integrate the module/ course on One Health in their existing curriculum

## 1.3 One Health under the Indo-German Project on HWC Mitigation:

The **Indo-German Cooperation Project on “Human-Wildlife Conflict Mitigation in India”** is 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 mitigation measures **The project takes the approach of harmonious coexistence, by ensuring that both – human and wildlife – are protected from conflicts.**

The Indo-German Project on HWC Mitigation is implementing the following measures, during 2021-22:

- 1 Assisting states in aligning their Human-Wildlife Conflict Mitigation Strategy and Action Plans to One health approach.
- 2 Capacity development of wildlife veterinary experts and field response teams to address the challenges due to zoonotic diseases; and
- 3 Operationalize occupational Health and safety guidelines for personnel involved in wildlife rescue and handling, and wildlife health management in the context of COVID risk reduction.

## 2. Assisting states in aligning their Human-Wildlife Conflict Mitigation Strategy and Action Plans to 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 mitigate 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 should take a One Health approach. The species-specific guidelines emphasize on One Health through a dedicated section ‘Emerging diseases and One Health Approach’. Two issues-specific guidelines, viz., Guidelines for occupational health and safety and medical emergencies 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 key sectors and stakeholders. Unless addressed in a synergistic manner, HWC may seriously undermine the development gains achieved by these sectors. Hence there is need for developing state-level HWC mitigation strategies and action plans (HWC-SAPs) aligned with the HWC-NAP, for effectively mitigating HWC in the country.

### 2.1 Relevant measures being implemented under Indo-German Project

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

- ▶ Detailed situation analysis to understand the impacts of zoonotic diseases such as COVID-19, avian influenza, Anthrax, CCHF and KFD on humans, and related risk to key sectors involved in human wildlife conflict mitigation efforts
- ▶ Supporting selected states in aligning their State HWC Strategy and Action Plans and other relevant plans and guidelines to One Health, through:
  - Consultations across wildlife, veterinary and public health sectors towards developing a shared understanding of the One Health
  - Development/ updating the State HWC Mitigation Strategy and Action Plans by integrating One Health approach.
  - Facilitating dialogue and knowledge-network for the personnel involved in wildlife rescue and handling, and animal health management, 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 to address the issue on a long-term basis is to invest in capacity development of key stakeholders, for facilitating them in co-creating effective and sustainable solutions. A holistic capacity development system is being implemented under the Indo-German Project for addressing key competencies of relevant stakeholders.

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

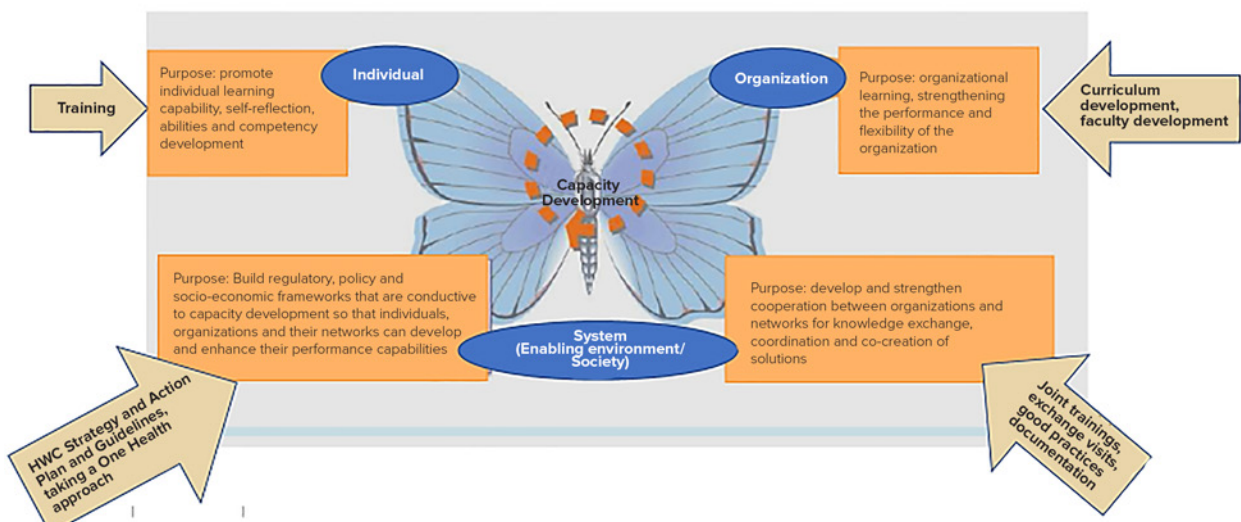
A combination of traditional and innovative capacity development measures is being used to achieve the objective. The capacity development measures aim at facilitating changes in the actions of individuals and the results of the changed contributions of individuals within their system of reference. Therefore, a network of training institutions from wildlife, veterinary and public health sectors will be facilitated to nominate relevant participants for the individual trainings. 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 for organizational capacity development leading to a strengthened system of networked training institutions on One health.

The approach to develop, implement, and sustain the capacity development measures on One health will follow these guiding principles

- ▶ A participatory approach in designing the capacity development measures
- ▶ Using a diversity of methods, 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 in 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, i.e., it addresses the issue from all possible angles, and inclusive, i.e., it takes into account all dimensions to enable cross-sector learning. For developing curriculum on HWC mitigation, the Project has taken a holistic approach, as follows, and the same approach will be taken for developing the course on “HWC Mitigation: taking a One Health approach”:

- ▶ Measures are implemented to assess and address competence development of participants
- ▶ Measures are implemented to assess and address capacity development of key stakeholders from institutions of key sectors, including wildlife, veterinary, agriculture, rural development and Panchayati Raj institutions, Public Health institutions
- ▶ Support 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 effectiveness and long-term impacts of the training. Traditional training methods are widely used to transfer information, facts and knowledge from trainer to the learner, but they may not always be able to maximize the outcome for 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 further pronounced when applying 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. outcome is much more sustainable.

### 2.1.2 Ensuring sustainability through institutionalizing the training measures

Sustainability in the efforts made on capacity development will be achieved via following measures

- ▶ Engaging key training institutions in entire planning and implementation phases
- ▶ Streamlining the curriculum and training materials to the training management system at the partner institutes
- ▶ Training of 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 the job.

Based on 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 have been identified for successful performance in context of HWC mitigation. These competencies have been organised in four clusters as follows:

- ▶ **Technical Competencies:** Applying 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 & delivering effectively. In this cluster are competencies that are critical to delivering the desired outputs and in strengthening organisation processes and systems that enable performance.
- ▶ **Competencies for Learning & Innovation:** Getting Future Ready. 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 conventional approach to curriculum development. In a conventional approach, the courses are developed based on what the participants need to know? Competencies-based approach, on the other hand, takes into account the specific tasks required for the job of participants; a clear statement of what a person should be able to do after the training; variables associated with the task and range of conditions under which the person should be able to demonstrate competence; knowledge, skills and values necessary for the person to be competent; how can the participants be evaluated and certified for being competent?

# Process of development of curriculum

HWC Mitigation: Taking a One Health approach



## 3.3 Process of developing competencies-based curriculum

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 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 **curriculum design** formulating learning outcomes addressing the competency gaps, design of modules- numbers, relationship, sequence, elaboration of core versus optional modules. **Content of the modules and training plan** will be developed, along with trainer's kits to ensure that the training effectively addresses desired competency requirements in the participants. Training plans will facilitate differential delivery durations and module selections and matching these to different target groups.

The third phase will focus on **implementing a pilot training process**, preferably one training each for each type of trainee group, The pilot trainings will be

carefully monitored and elaborate feedback from both participants and trainers will be taken to assess if the participants are able to achieve their learning outcomes, given the set of training material and methods, need for specific customization.

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 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.

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



### 3.4 Relevant measures being implemented under Indo-German Project

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

- ▶ Development of curriculum for a training course on ‘HWC Mitigation: Taking a One Health Approach’ along with training resource material and 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
- ▶ Implementation of Training of Trainers and other faculty development measures for the training institutions who are willing to integrate the newly developed course curriculum as part of their regular curriculum
- ▶ Supporting selected veterinary, wildlife, public health training institutes / State Agriculture Universities for integrating 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 (Reference material for participants)**
  - All Modules (Training resource material)
  - Field manual on occupational health and safety and zoonotic disease prevention
- ▶ **Trainer’s Kit, including**
  - All Modules (Training resource material)
  - A Trainer’s Guide, providing:
    - Options for overall plan of the delivery of 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 curriculum** at Key training institutions of wildlife, veterinary, agriculture and public health sectors

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

### 4.1 Division-level HWC management action plan (HWC-MAP) and other anchors:

The National Wildlife Action Plan (NWAP) 2017-2031 mandates each territorial division to develop and implement a Human-Wildlife Conflict Management Action Plan (HWC-MAP), for systematically addressing human wildlife conflict (HWC) mitigation. National HWC Mitigation Strategy and Action Plan (2021-26) provides a common framework for each division to develop HWC-MAP taking a landscape approach.

HWC-MAP facilitates bottom-up feedback to the state and national-level strategies and action plans, on good practices in HWC mitigation. 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, the HWC-MAP is the most effective instrument where 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 the same landscape. The institutional structures at state- and district-levels, viz., state-level coordination committee (SLCC) and district-level coordination committee (DLCC) will be used for facilitating integration of One Health approach into the state, landscape and district/ division level planning.

### 4.2 Relevant measures being implemented under the Indo-German Project

Following specific measures are planned under this work area:

#### 4.2.1 Integrating One Health in HWC-MAP

- ▶ Integration of occupational health and safety measures into the division-level HWC management

Action Plans at three landscapes, to enhance risk resilience of the human and animal population to zoonotic and other infectious disease

- ▶ Development of tools such as guidelines/ procedures, manuals

#### 4.2.2 Capacity development of field Response Teams on Occupational Health and Safety

- ▶ Support for establishing model animal health monitoring teams and standardization of occupational health and safety protocols and its integration in selected Rapid Response Teams (RRTs) at the pilot at three landscapes, including demonstration trainings and procurement of disposable accessories/ Basic equipment such trainings
- ▶ Training of veterinary experts on animal capture and translocation, with a focus on occupational health and safety 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 human-wildlife conflict 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 taking a One Health approach

- ▶ Development of communication material for women and farmers at the project pilot site to reduce their vulnerability
- ▶ Awareness raising and training measures for local communities, especially, people involved in animal husbandry practices and members of Primary Response Teams (PRTs) in and around the project pilot sites on health and safety 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 collaboration 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 center.



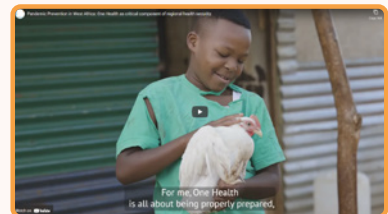
## Four concrete One Health projects show what this can look like in practice



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