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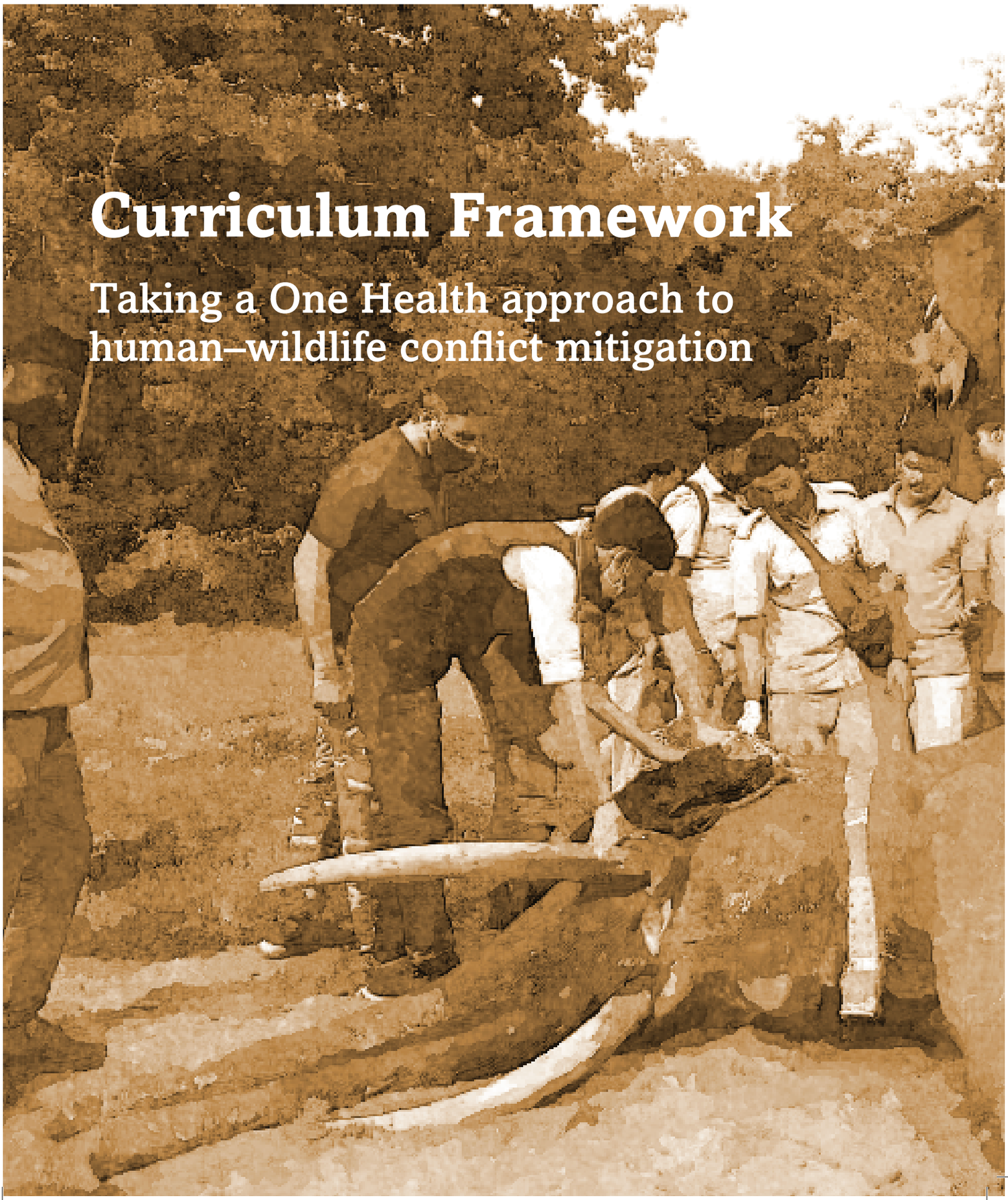
Ministry of Environment, Forest and Climate Change, Government of India

Director of Forests
Government of West Bengal

Curriculum Framework

Taking a One Health approach to human–wildlife conflict mitigation



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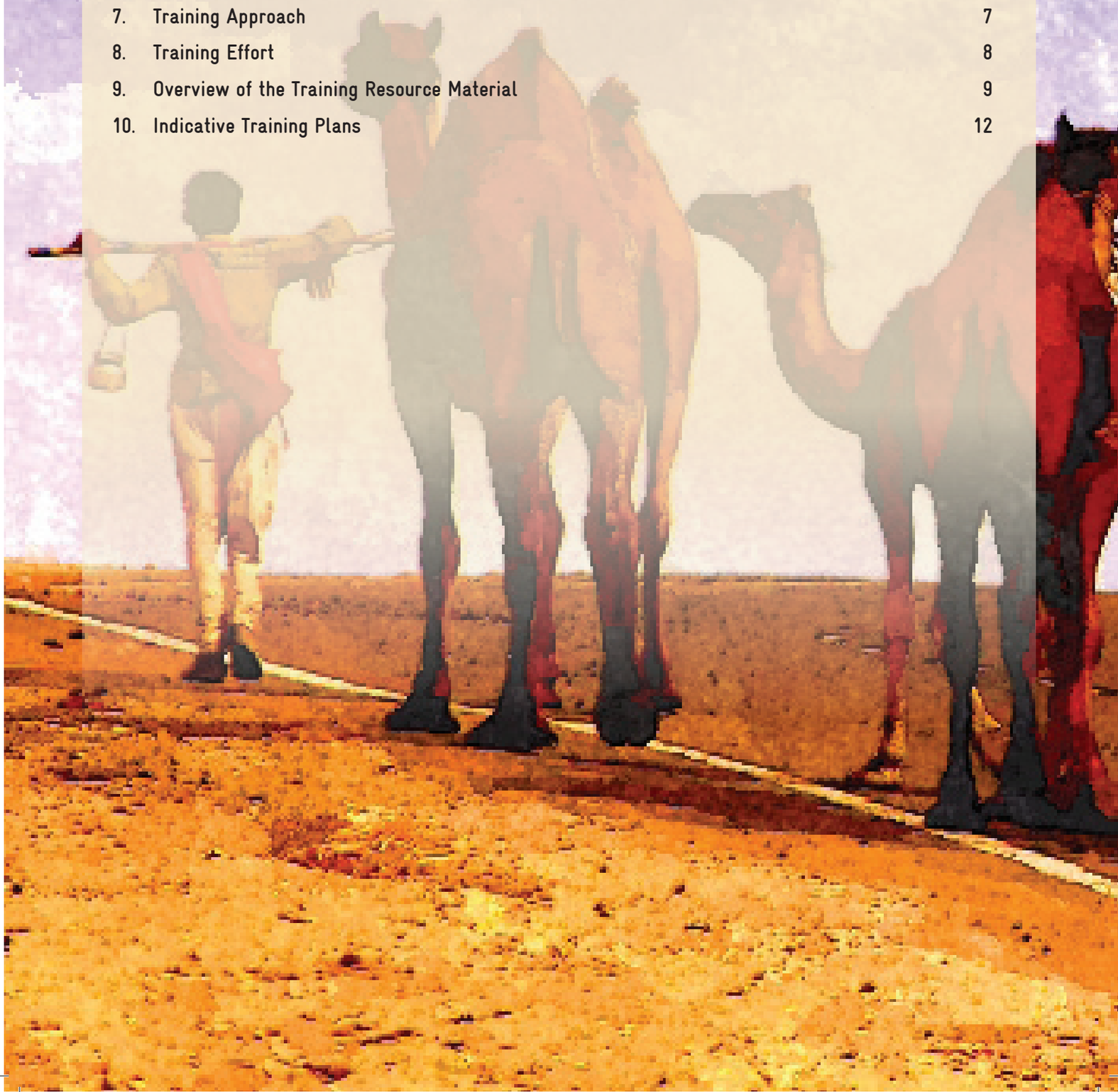


Capacity Development for Integrating One Health in Human–Wildlife Conflict Mitigation

The interface between animals and humans is constantly increasing, primarily due to habitat fragmentation and loss, the international trade in wildlife and increasing demands of ecotourism and other forest-dependent livelihoods, resulting in disease spill-over. The present situation needs to be urgently addressed, considering that human, animal and ecological health are interconnected—it is One Health. The One Health concept is based on the understanding that human, animal, and environmental health are closely interconnected and interdependent.

The 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. Of late (2021) One Health was defined by One Health High Level Expert Panel (OHHLEP) as an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems

> One of the most effective ways to integrate One Health approach in HWC mitigation and overall wildlife and protected area management in India is to invest in capacity development of key stakeholders, enabling them in co-creating effective and sustainable solutions for mitigating human–wildlife conflict taking a One Health approach.

A holistic capacity development system is being implemented under the Indo-German project titled 'Human Wildlife Conflict Mitigation in India (HWC), for addressing key competencies of relevant stakeholders, who are key to developing and implementing HWC mitigation measures in India through a One Health approach.

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 own 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 used to achieve the objective.

Competencies-Based Curriculum

The curriculum is being developed using a competencies-based approach, taking into account the specific tasks required for the jobs of the 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; and how can the participants be evaluated and certified for competence.

On the basis of 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 have been identified for successful performance in the context of HWC mitigation. These competencies have been organized in four clusters as follows:

Technical Competencies

Applying technical knowledge and skills to mitigate HWC and zoonotic diseases originating from wildlife using a One Health approach. In this cluster are competencies that are critical to delivering 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 in strengthening organization 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 Process of Curriculum Development

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

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

The design phase consisted of **curriculum design,** formulating learning outcomes, addressing the competency gaps and designing the modules (numbers, relationship, sequence and elaboration of core and optional modules). **The content of the modules and training plan** will be developed, along with trainers' kits to ensure that the training effectively addresses the desired competency requirements in the participants. The training plans will facilitate differential delivery durations and module selections for different target groups.

A final phase will focus on **implementing a pilot training process**, preferably one training for each type of trainee group. The pilot training will be carefully monitored.

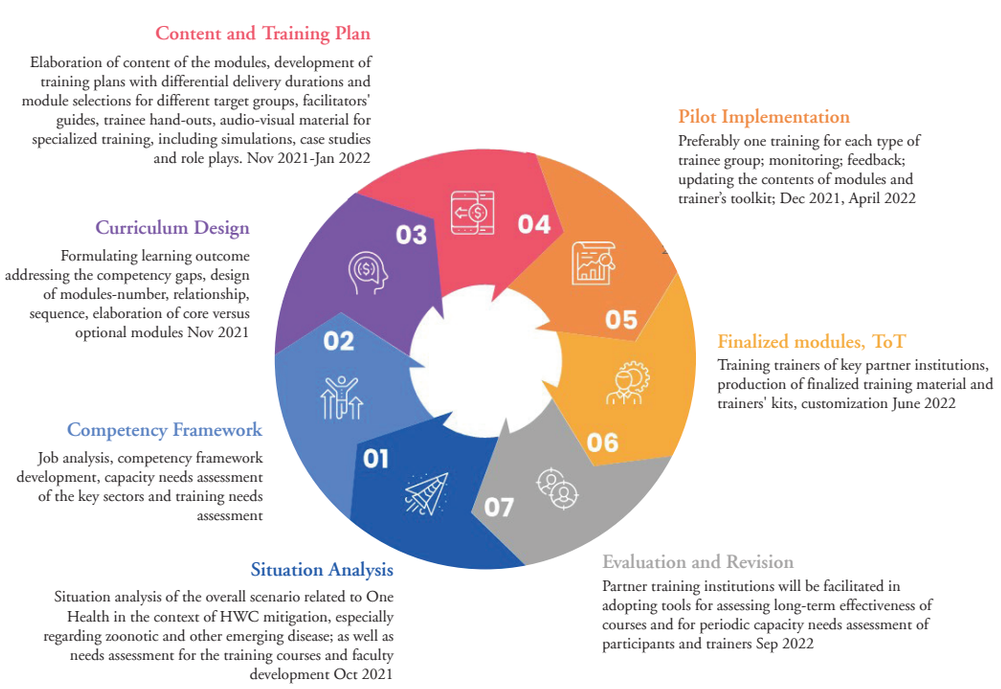
Elaborated feedback will be obtained from both participants and trainers to assess if the participants can achieve their learning outcomes, given the set of training material and methods.

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. The finalized training material and trainers' kits will be produced and made available to all partner training institutions.

Long-term effectiveness assessment of the training courses 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 received 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 facilitate development of tools for such **evaluations and revisions** of courses on a regular basis by partner institutions.

Curriculum Development Process

Taking a One Health approach to HWC mitigation



Structure of the Curriculum

'Taking a One Health Approach to HWC Mitigation'

Outputs of the discussions in workshops, consultations and meetings with key relevant institutions and experts resulted in the curriculum for training courses for key stakeholders for integrating the One Health approach in wildlife and protected area management in general and HWC mitigation in particular.

The curriculum on 'Taking a One Health Approach to HWC Mitigation' has the following components:

- **Learning outcomes**, which are formulated on the basis of the competencies required by key stakeholders
- **Delivery options** address the required flexibility in duration/intensity of the training to facilitate competency-development requirements of key stakeholder groups
- **Training plans** are the key instruments that facilitate the trainers in implementing the curriculum to facilitate achievement of learning outcomes for their respective participant groups. Training plans include content-modules, session plans and, the flow of training, and required training methods

The curriculum will be implemented using the following training material:

- **Content modules,** or Training Resource Material, will contain modules that will facilitate both trainers and participants in receiving background information on the training topics**,** apart from a field manual that will specifically be used by front-line staff
- **Learning Journal,** Designed to help participants capture anything that is of any significance or value to them and may enhance their understanding of the One Health concept in general and its application in a protected area and wildlife management and HWC mitigation in particular. It is a place where participants can note their observations on people, animals, systems, the environment, and processes during the training.
- **Field Manual on Zoonotic Diseases,** specially developed as accompanying resource material for module 3B for the front-line staff, will facilitate them in referring to key zoonotic diseases, prevention methods and emergency responses, in a user-friendly format.
- **Trainer's Toolkit,** which provides a conceptual overview of competency-based training and participatory approaches, detailed session plans, the philosophy and detailed instructions on selected participatory training methods, resource material for simulations, case studies, etc. And suggestions for customizing the training plans, content modules and training methods, as per the needs of specific stakeholders, or for a specific delivery schedule/intensity.

Delivery Options

This curriculum is designed such that it can be delivered in the following course structures:

Five-day intensive training with cross-sector participation

Suitable for faculty and experts from forest-wildlife, agriculture, veterinary and public health institutions, field practitioners, officers from the forest and, animal husbandry departments and the, district administration and public health sector professionals.

Sessions of this course can also be delivered at different training institutions, in a networked fashion, in a hybrid mode.

Five-day intensive training for the front-line staff with cross-sector participation

Suitable for front-line staff of the forest, veterinary and public health sectors, including field response teams of forest departments, veterinary field teams, snake rescuers, mahouts, hospital staff dealing with emergencies, animal husbandry experts and civil defence volunteers engaged in wildlife issues

One-day training for panchayat members, farmers, women groups and other members/institutions of the local community

Suitable for members from the local community in rural/urban areas who have direct interactions with domestic animals, those living close to wild animals or at HWC hotspots and civil defence volunteers engaged in wildlife issues.

A semester-long course/block training for students

Suitable for graduate and postgraduate students of wildlife, veterinary, agriculture and public health institutions.

Learning Outcomes

For participants of the five-day intensive training for senior and mid-management level officers and trainers, with cross-sector participation

At the end of the training, the participants will be able to:

- Appraise different human–animal interface scenarios and demonstrate knowledge on how interactions between human and animal populations and environmental changes can lead to zoonotic and other emerging diseases
- Outline the concept and approach of One Health and its application in the context of wildlife and protected area management and HWC mitigation
- Demonstrate the skills required for implementing measures to prevent or control zoonotic and other emerging diseases
- Appraise the benefits and challenges of operationalizing the One Health approach in the wildlife, veterinary, animal husbandry and public health sectors from a transdisciplinary perspective
- Demonstrate the skills required for promoting a shared understanding of the One Health approach to HWC mitigation among key stakeholders
- Demonstrate (in a simulation) the application of the One Health approach to plan, implement, monitor and evaluate HWC mitigation measures

For participants of the five-day intensive training for the front-line staff of forest, veterinary, public health and administration departments, with cross-sector participants

At the end of the training, the participants will be able to:

- Illustrate different human–animal interface scenarios and demonstrate knowledge on how interactions between human and animal populations and environmental changes can lead to zoonotic and other emerging diseases
- Outline the concept and approach of One Health and its application in the context of wildlife and protected area management and HWC mitigation
- Appraise the benefits and challenges of operationalizing the One Health approach in the wildlife, veterinary, animal husbandry and public health sectors from a transdisciplinary perspective
- Demonstrate applications of measures in the field to prevent or control zoonotic and other emerging diseases during HWC mitigation-related operations
- Demonstrate the skills required for working in joint cross-sector and inter-agency teams to implement field measures required for operationalizing the One Health approach for HWC mitigation

For participants of the one-day training for panchayat members, farmers, women groups and other members/institutions of the local community

At the end of the training, the participants will be able to:

- Outline different livestock interface scenarios that can lead to zoonotic and other emerging diseases
- Outline the concept and approach of One Health
- Demonstrate the basic measures to prevent zoonotic and other emerging diseases in their day-to-day operations
- Support the joint cross-sector and inter-agency teams in implementing field measures required for operationalizing the One Health approach for HWC mitigation

Learning outcomes for participants of semester course for graduate and postgraduate students

At the end of the training, the participants will be able to:

- Appraise different human–animal interface scenarios and demonstrate knowledge on how interactions between human and animal populations and environmental changes can lead to zoonotic and other emerging diseases
- Outline the concept and approach of One Health and its application in the context of wildlife and protected area management and HWC mitigation
- Illustrate the measures to prevent or control zoonotic and other emerging diseases
- Describe the success factors required for operationalizing the One Health approach in the wildlife, veterinary, animal husbandry and public health sectors from a transdisciplinary perspective
- Demonstrate the skills required for promoting a shared understanding of the One Health approach to HWC mitigation among key stakeholders

Training Approach

It is a **competencies-based curriculum**, which is a way of approaching professional training that places primary emphasis on facilitating the participants in further developing the competencies that they require to perform their jobs more efficiently and effectively. It aims to prepare people more effectively for real workplaces.

The curriculum is delivered using a modular in which content modules are delivered using different training plans and training methods over required time periods. There are some common modules for all key stakeholders on common issues and the basics of human–wildlife interfaces, and specialized modules have been developed to deepen the understanding and skills of different training groups in their respective fields.

The modularised structure, combined with well-defined learning outcomes for specific stakeholders provides enough **flexibility to training providers to adapt the contents, methods and durations of different topics according to the training needs of the participants,** i.e. as a one-hour intensive session during five-day trainings on the holistic approach to HWC mitigation implemented at training institutions, for shorter field expeditions during wildlife and veterinary training courses and policy workshops for decision-makers in cross-sector groups.

The curriculum uses a mix of conceptual and hands-on training sessions, in almost equal proportions, to facilitate the participants in applying conceptual knowledge and skills to field conditions, and to appreciate and understand the issue of One Health in the HWC and in overall wildlife and protected area management context.

For indoor sessions as well as field exercises, the curriculum uses participatory methods of training. A participatory training is different from the conventional way of training. In a participatory training, learning occurs through active involvement of the trainees and it is they who develop the answers. The following are some examples of such methods:

- Group work and presentations
- Dialogue and brainstorming
- Knowledge Café
- Role-play, simulation (case study simulation/ video simulation)
- Online games and Mind Maps
- Case study analysis
- Fish Bowl
- Icebreakers, energisers and team-building exercises
- Simulated field exercises
- Online learning

Training plans are structured in a way that the training providers are encouraged to **implement a pre-learning phase** to the training to build a foundation and prepare the participants before they arrive at the training. **A follow-up phase is critical** to ensure that cross-sector joint groups of participants work on assignments to integrate the One Health approach into their respective work areas.

Assessments will be designed to ensure that each participant has achieved all the learning outcomes established for them for the respective training.

Training Effort

Ideally, all training courses should have a pre-learning and a follow-up phase to ensure that the learning is holistic. So each course will involve three phases.

Pre-learning phase: The duration may vary from one day to one week. This phase has the purpose of creating a foundation for the training, before it commences, by introducing the participants to the issue via popular articles, websites and training content modules on an online platform/ email. This phase also facilitates in conducting a training needs assessment to fine-tune the training delivery

The training delivery phase, using state-of-the art participatory training methods to discuss key issues and concepts of One Health in the context of wildlife and protected area management and HWC mitigation and provide hands-on practice sessions in the key competencies required. The training will end with a voluntary cross-sector assignment plan developed by groups of participants, to be delivered over the next 3-6 months.

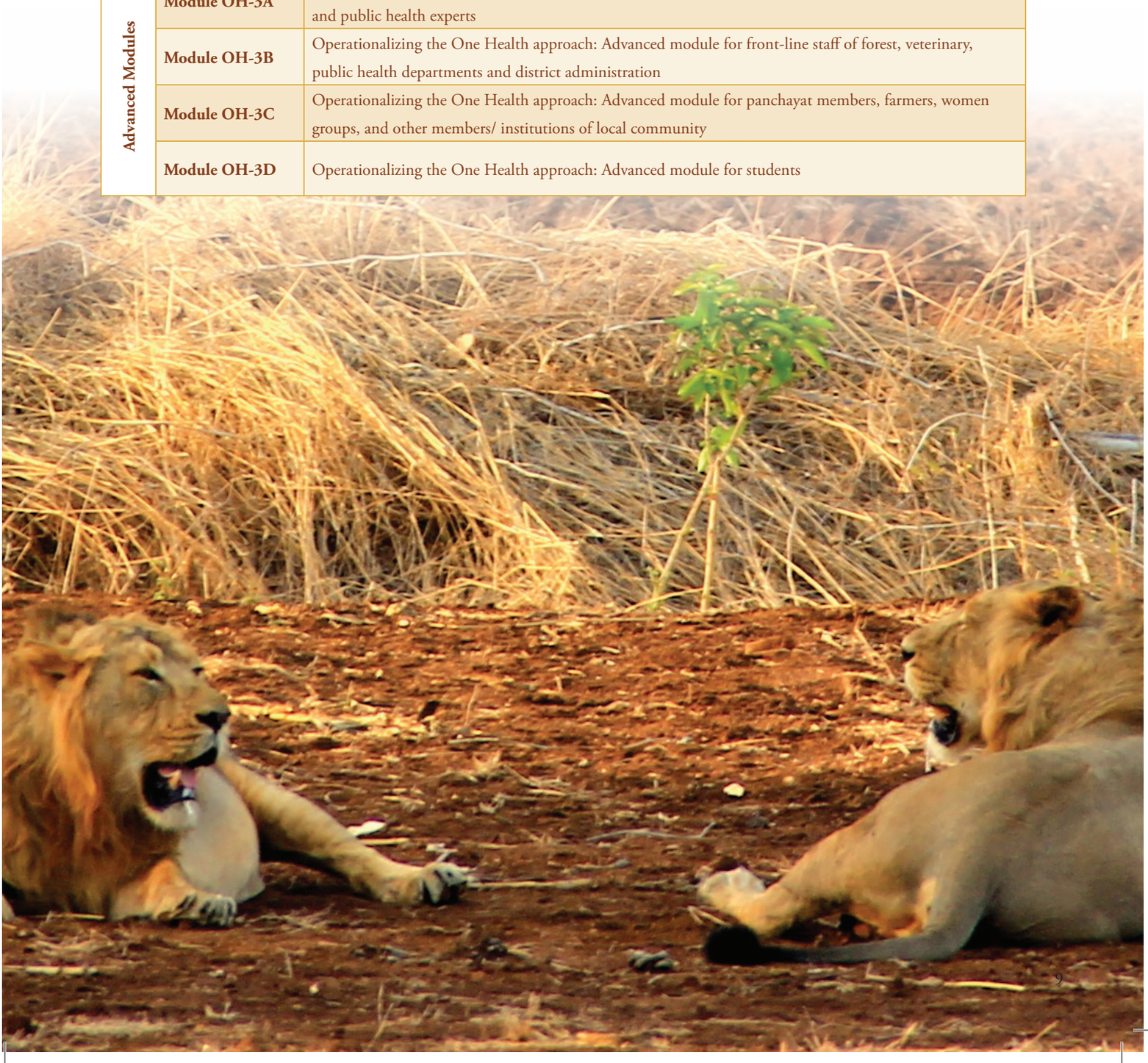
Follow-up phase, to ensure continuity between the training and its use in the field, to facilitate the competency development of the participants and to discuss their progress in the joint assignments, via an online mode (can be conducted face-to-face, depending on the participants and training providers). Ideally, an email group should be established to make the process efficient and self-sustaining. Group/individual sessions with participants can be planned depending on the time commitments of the training providers and participants.

Overview of the Training Resource Material

Content Modules

The idea is to have the same basic module for all stakeholders to ensure that the basic concepts are standardised. The advanced modules focus on specific competency requirements of different groups

Basic Modules	**Module HWC-1**	Introduction to Human-animal interface, and human–wildlife conflict mitigation
	Module OH-1	An introduction to the One Health approach, zoonotic and other emerging diseases
	Module OH-2	Operationalizing the One Health approach: Basic module
Advanced Modules	**Module OH-3A**	Operationalizing the One Health approach: Advanced module for wildlife-veterinary, animal husbandry and public health experts
	Module OH-3B	Operationalizing the One Health approach: Advanced module for front-line staff of forest, veterinary, public health departments and district administration
	Module OH-3C	Operationalizing the One Health approach: Advanced module for panchayat members, farmers, women groups, and other members/ institutions of local community
	Module OH-3D	Operationalizing the One Health approach: Advanced module for students



Module HWC-1: Introduction to human–animal interface and to human–wildlife conflict mitigation

This module facilitates understanding basic concepts of wildlife management, human-animal interface scenarios and HWC and its mitigation and serves as the foundation for commencing further discussions and learning on these issues. The module focuses on describing the human-animal interface, with special reference to HWC in the overall landscape context, while providing an introduction to the ecosystem services provided by wildlife, especially those related to public health and human well-being. The module also focuses on types of HWC key species involved and detailed accounts of behaviour and ecology with reference to zoonotic diseases of key wildlife species that are involved in HWC. The module also provides information on drivers of HWC, on traditional and indigenous HWC mitigation measures and on key stakeholders of HWC in India. The module also initiates the participants into thinking about the holistic approach to HWC viz, drivers, prevention and reduction of impact, traditional and indigenous measures, and key relevant sectors and stakeholders in India.

Module OH-1: An introduction to the One Health approach and to zoonotic and other emerging diseases

This modules brings conceptual, analytical and contextual clarity among the participants about the One Health concept and approach in the overall development context and about the relevance of the One Health approach in the context of protected area management, wildlife management and especially HWC mitigation. The module presents to participants detailed accounts of key zoonotic and other emerging diseases and to key drivers such as ecological changes, habitat loss, the wildlife trade, the increasing interface between humans and animals, hunting for and consuming bushmeat and animal husbandry practices and their impacts. The module also presents prevention measures. The module will introduce the participants to basic concepts of cross-sector cooperation, international and national frameworks and One Health policies and programmes.

Module OH-2: Operationalizing the One Health approach: Basic module

This module facilitates gaining a deeper understanding and the skills required to implement key operational steps for applying the One Health concept to the wildlife, veterinary, animal husbandry and public health sectors, including methods and tools of basic fieldcraft such as disease surveillance, the use of early warning and rapid response systems and the use of digital and innovative tools for data management and analysis. The module focuses on enabling cross-sector and inter-agency cooperation, conducting stakeholder mapping and analysis and developing work plans with clear resource requirements and expected long-term impacts for implementing the One Health approach in the paricipants respective areas of operation. It also focuses on instruments and methods for ensuring occupational health and safety in field operations, community engagement for effective implementation of One Health measures, communicating about One Health and the role of media and civil society organizations. This module will be largely delivered using training methods that promote experiential learning as the focus will be on dialogue, discussions and practice sessions.

Module OH-3A: Operationalizing the One Health approach: Advanced module for wildlife-veterinary, animal husbandry and public health experts

This module is an experiental learning module. Participants apply their knowledge and skills in operationalizing the One Health approach to real-life/near-real-life situations in the wildlife-veterinary sector. They pilot-test selected elements of their work plans to implement the One Health approach, with cross-sector engagement. The module delivery uses participatory methods such as simulation and case study analysis.

Module OH-3B: Operationalizing the One Health approach: Advanced module for front-line staff of forest, veterinary and public health departments and district administration

This module is an experiential learning module, in which the participants apply their knowledge and skills related to operationalizing the One Health approach, to real-life situations. This module draws heavily from occupational health and safety guidelines and tools and is structured in a field manual format. The module delivery uses participatory methods such as demonstrations, practice sessions in cross-sector groups and mock drills in the field.

Module OH-3C: Operationalizing the One Health approach: Advanced module for panchayat members, farmers, women groups and other members/institutions of local community

This module is an intensive field awareness module, in which the participants gain a deeper understanding of field observations as early warnings of zoonotic diseases and apply their knowledge and skills to developing a set of self-regulatory procedures to prevent zoonoses. The module has been developed in an easy-to-read format, and the module delivery uses participatory methods such as storytelling, games and role play.

Module OH-3D: Operationalizing the One Health approach: Advanced module for students

This module is an advanced research and communication module and focuses on research methods, writing, analytical skills and communicating ideas about One Health to students. The module facilitates the application by students of their knowledge and skills in developing concepts and ideas about the One Health approach to addressing situations in the wildlife, animal husbandry and public health sectors by taking a One Health approach. The module facilitates joint research project development. The module delivery uses participatory methods such as case study analysis, reflection exercises, brainstorming and Knowledge Café.

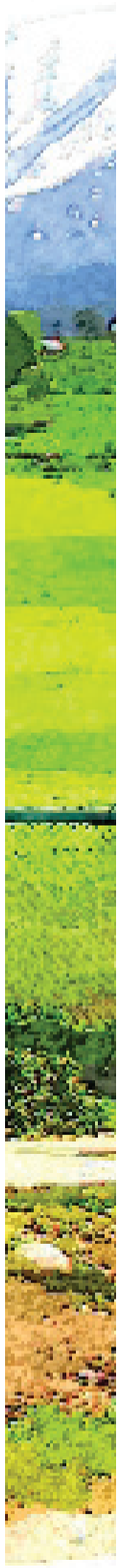
Apart from the content modules, the following training resource material is also being developed to facilitate effective participation and learning:

Learning Journal

A learning journal has been designed to help participants capture anything that is of any significance or value to them and may help enhance their understanding of the One Health concept, in general, and applying it to protected area and wildlife management and HWC mitigation, in particular. It is a place for participants to note on the observations that they make on people, animals, systems the environment and processes during the training.

Field Manual on Zoonotic Diseases

Specially developed as accompanying/replacement resource material of module 3B, for the front-line staff, this field manual will facilitate referring to details about key zoonotic diseases, prevention methods and emergency responses, in a user-friendly format.



Indicative Training Plans

Delivery Option 1: Five-day intensive training for senior and mid-management level officers and trainers, with cross-sector participation

Day/ Time	0930-1030	1035-1135	1150-0100	0230-0350	0410-0530	0530 onwards
Day 1	**Inaugural session and an overview of the module and training approach:** Benchmarking experiences, expected outcomes, overview of the modules, training approach, resource material, thematic champions		**Inputs (panel discussion):** What is One Health, evolution of the concept. Context setting of One Health—environmental, wildlife, HWC and public health perspectives. Options for operationalizing One Health—key challenges, need for cross-sector cooperation	**Knowledge Café, followed by expert inputs:** Mixed groups of participants discuss the social context, economics of One Health, public health system and policies, global health, food safety, climate change, disasters and other environmental changes, international frameworks	**Fish Bowl discussion:** What needs to be done to take a One Health approach to reduce HWC scenario Reflection: What is my role in that?	*Self-study: Content module 1, work on the learning journal*
Day 2	**Role play:** Cross-sector cooperation in One Health	**Expert inputs and discussion:** Stakeholder mapping and analysis, factors and elements for effective cross-sector and inter-agency cooperation, communicating One Health, engaging with media, community engagement		**Action café:** Developing plans and projects in One Health, in a participatory manner for inter-agency cooperation. Review the existing plans and policies to reflect on the existing synergies and trade-offs for implementing the One Health approach	**Demonstration and hands-on exercise:** Use of GIS in human—animal interface management, data management and analysis, use of digital tools, methods of disease surveillance, early warning and rapid response for One Health	*Self-study: Content module 2, work on the learning journal*
Day 3	**Field simulation** (understanding the drivers of zoonotic disease transmission/spillover, HWC, occupational health and safety, disposal of dead animals, monitoring methods of wildlife mortality, management of wet markets and animal markets, implementing a field survey on the thematic champion topic (in groups)			Laboratory diagnostics of infectious diseases, application of epidemiological methods to disease investigation, work plan discussions		*Self-Study: Content module 3A, work on the learning journal*
Day 4	**Role play leadership:** Participants present their work plans, and reflect on their experience in the field and try to arrive at a common framework through group communication and negotiations, using their consultation and consensus building and other leadership competences		**Expert inputs and discussion:** Competencies for promoting cross-sector cooperation on One Health, community engagement case studies and good practices, global and local good practices	**Preparation for simulation exercise: Simulation on application of the One Health approach to a situation where risk of zoonotic and other emerging diseases is high, such as HWC** Briefing session, followed by preparation by participants for their respective roles by consulting the documents on One Health provided to them as resource material, guidelines on medical emergencies and occupational health and safety, content modules 1,2 and 3A and their own notes from the previous days		
Day 5	**Simulation exercise: Actual implementation of the simulation**		**Expert inputs and discussion:** Application of One Health approach to key situations where risk of zoonotic and other emerging diseases is high	**Thematic champion presentations** Fish Bowl	Concluding session and training synthesis and evaluation: Self-assessment, reflections and commitments on assignments by participants, plan for follow-up phase, certificates	

* Virtually this training will be delivered in three days, as it will be without the field simulation on day 3, and simulation exercises on day 4 and 5.

Delivery Option 2: Five-day intensive training for front-line staff of forest, veterinary, public health and administration departments, with cross-sector participation

Day/ Time	0930-1030	1035-1135	1150-0100	0230-0350	0410-0530	0530 onwards
Day 1	**Inaugural session and an overview of the module and training approach:** Benchmarking experiences, expected outcomes, overview of the modules, training approach, resource material, thematic champions		**Inputs (panel discussion):** What is One Health, evolution of the concept; context setting of One Health—environmental, wildlife, HWC and public health perspectives; options for operationalizing One Health—key challenges, need for inter-agency coordination	Knowledge Café, followed by expert inputs: Mixed groups of participants discuss social context, economics of One Health, public health system and policies, global health, food safety, climate change, disasters and other environmental changes	Fish Bowl: What needs to be done to ensure health and safety for all in human–animal interface scenario? Reflection: What is my role in ensuring the health and safety of humans and animals and promoting inter-agency coordination?	Self-study: Content module 1, work on the learning journal
Day 2	Role play: Inter-agency coordination, at front-line level, on One Health	**Expert inputs and discussion:** Stakeholder mapping and analysis, factors and elements for effective cross-sector and inter-agency cooperation, communicating One Health, engaging with media, community engagement, medical emergencies and crowd management during HWC situations		Action café: Elaborating step-by-step operational plans for taking the One Health approach, with effective inter-agency coordination in an emergency situation related to HWC, tools and procedures for occupational health and safety	Demonstration and hands–on exercise: Use of GIS in human–animal interface management, data management and analysis, use of digital tools, methods of disease surveillance, early warning and rapid response for One Health	Self-study: Content module 2, work on the learning journal
Day 3	Field simulation (understanding the drivers of transmission/ spillover after zoonotic disease, HWC, occupational health and safety, disposal of dead animals, monitoring methods of wildlife mortality, management of wet markets and animal markets, implementing a field survey on the thematic champion topic (in groups)			Disease surveillance, application of epidemiological methods to disease investigation Work plan discussions		Self-study: Module 3A,
Day 4	Role Play—Leadership: Participants present their work plans, reflect on their experience in the field and have other discussions and try to arrive at a common framework through group communication, negotiations, using their consultation, consensus-building and other leadership competences		Expert inputs and discussion: Competencies for promoting cross-sector cooperation One Health; community engagement case studies and good practices; global and local good practices from front-line workers	Preparation for mock-drill: Application of the One Health approach to a situation where the risk of zoonotic and other emerging diseases is high, such as HWC Briefing session, followed by preparation by participants for their respective roles by consulting the documents on One Health provided to them as resource material, the step-by-step operational plans agreed by them earlier in the training, guidelines on medical emergencies and occupational health and safety, modules 1,2 and 3A and their own notes from the previous days		
Day 5	Mock drill: Inter-agency coordination when applying the One Health approach to a HWC-related emergency situation in the field			Expert inputs and discussion: Application of the One Health approach in key situations where the risk of zoonotic and other emerging diseases is high	Concluding session and training synthesis and evaluation: Self-assessment, reflections and commitments on assignments by participants, plan for follow-up phase, certificates	

Delivery Option 3: One-day training for Panchayat members, farmers, women groups and local institutions.

Time	Key training topics and activity
10.00 -10.30: Context setting	Welcome and introductions, context of the training, expected outcomes, plan and approach of the training
10.30 -11.30: Developing a common understanding of One Health (followed by a break for reflection)	A quick benchmarking exercise/brainstorming session to understand the existing knowledge and perceptions among the participants with regard to human–animal interactions, human–wildlife conflict, health and safety
12.00- 01.00: Wildlife and its contribution to livelihood security, human–animal interactions and zoonotic diseases	An overview of basic wildlife behaviour, with a focus on key species in the landscape that have frequent interactions with humans (e.g. Elephant, Tiger, Leopard, Wild Boar); Why should we conserve wildlife? concept of ecosystem services; how animals–humans–environment are interlinked; What are zoonotic diseases? What are the possible activities/areas of concern for the spread of zoonotic diseases? How can these be prevented? specific relevance of farmers and women groups in ensuring successful integration of One Health in HWC mitigation measures and other relevant activities. **Brainstorming**: What is already being done by people? And what more needs to be done?
02.00- 02.45pm: Role of panchayats, farmers, women groups and other members/institutions of local community in ensuring One Health in their own systems of reference	How can the role of people can be strengthened in the overall One Health approach, specifically in the context of HWC mitigation? system of three-tiered response teams; role of community Primary Response Teams and other community-based institutions An overview of possible measures that can be implemented by panchayats/farmers/women groups/other to ensure the health and safety of people, animals and the environment; competencies needed by the members of the community to fulfil their roles; key skills and methods required
02.45- 03.30 pm: Action Café: Development of plan and agreements on cooperation	**Action café** Elaborating step-by-step operational plans for taking the One Health approach in day-to-day activities of panchayats, farmers, women groups and others, with effective coordination across community-groups and with government agencies; use of available resources and schemes for applying the One Health approach to ongoing activities and measures Quiz on do's and don'ts
03.30- 04.00 pm: Concluding session	Reflections: Participants reflect on "What is my role in ensuring the health and safety of humans and animals and promoting inter-agency coordination?" Feedback and evaluation, further capacity development needs, plan for follow-up phase, certificates

Delivery Option 4: Five-day intensive block training for students

Day/ Time	0930-1030	1035-1135	1150-0100		0230-0350	0410-0530	0530 onwards
Day 1	**Inaugural session and an overview of the module and training approach:** Benchmarking experiences, expected outcomes, overview of the modules, training approach, resource material, thematic champions	**Inputs (interactive lecture, multimedia):** What One Health is; evolution of the concept; context setting of One Health–environmental, wildlife, HWC and public health perspectives; concept of ecosystem services, with a on services from wildlife		**Knowledge Café, followed by expert inputs:** Social context; economics of One Health; public health system and policies; global health; food safety; climate change, disasters and other environmental changes; international frameworks; key research questions		**Fish Bowl:** What needs to be done to take a One Health approach to reduce the human–animal interface scenario in India? **Reflection**: What will be my role as a researcher/ One Health professional?	*Self-study: Module 1, work on the learning journal*
Day 2	**Expert inputs:** An overview of basic wildlife behaviour, with a focus on key species in the landscape that have frequent interactions with humans; how animals–humans–environment are interlinked; What are zoonotic diseases? What are the possible activities/areas of concern for the spread of zoonotic diseases? How can these be prevented?	**Expert inputs and discussion:** Stakeholder mapping and analysis, communicating One Health, community engagement, specific relevance of farmers and women groups in ensuring successful integration of One Health in HWC mitigation measures and other relevant activities.		**Action café:** Analysing cases of implementing the of One Health approach, after reviewing the existing academic publications, as well as plans and policies, to reflect on the existing synergies and trade-offs for implementing the One Health approach **Expert inputs:** Basic principles of case study development, in the context of One Health		**Demonstration and hands-on exercise**: Use of GIS in human–animal interface management, data management and analysis, use of digital tools, methods of disease surveillance, early warning and rapid response for One Health	*Self-study: Module 2, work on the learning journal*
Day 3	**Field simulation:** Understanding the drivers of zoonotic disease, HWC, occupational health and safety, measures for preventing zoonotic and other emerging diseases, implementing a field survey on the thematic champion topic (in groups)			Laboratory diagnostics of infectious diseases, application of epidemiological methods to disease investigation, assignment discussions, One Health case studies			*Self-study: Module 3A, work on the learning journal*
Day 4	**Expert inputs and discussion:** Key success factors required for promoting a shared understanding of the One health approach	**Expert inputs and discussion:** Competencies for promoting cross-sector cooperation in One Health, community engagement case studies and good practices, global and local good practices		**Case study discussions** Students are facilitated in case discussions to provide them with an overview of various facets and elements of the One Health approach			
Day 5	**Role play–developing a shared understanding on One Health** Participants select a few case studies and are facilitated by trainers to enact different roles in these case studies for a deeper understanding of different perspectives of different stakeholders	**Case study discussions** Students are facilitated in case discussions, to provide them with an overview of various facets and elements of the One Health approach		**Thematic champion presentations** (Fish Bowl): Key learnings on their respective thematic champion topics, priority-setting for further development of their competencies related to One Health, key research and knowledge questions that can be prioritised by their institutions		Concluding session and training synthesis and evaluation: Self-assessment, reflections and commitments on assignments by participants, plan for follow-up phase, certificates	

Indicative Course Plan Delivery Option 4b: Semester course for students of graduate and postgraduate courses

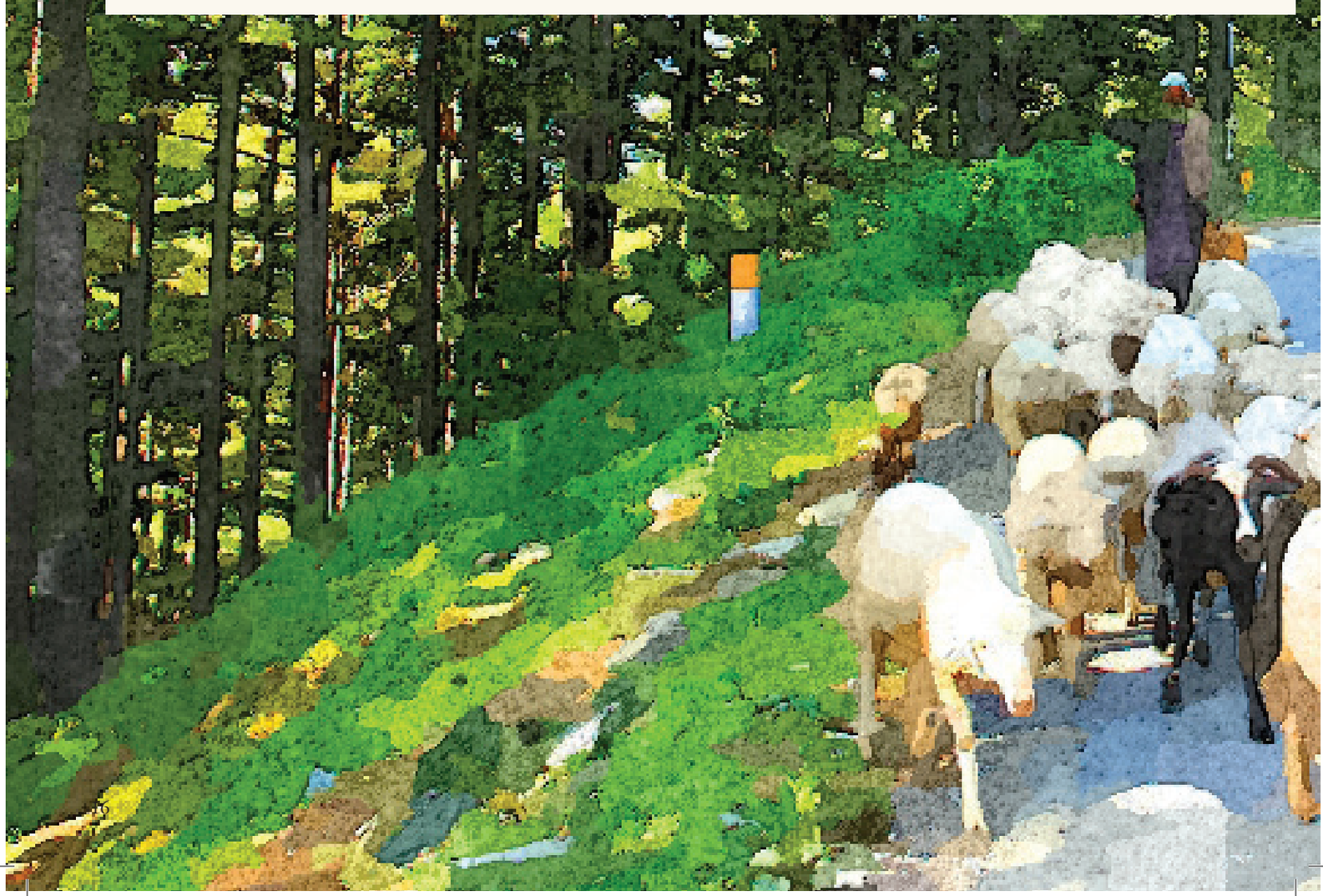
Course title: Taking a One Health Approach to Human–wildlife Conflict Mitigation

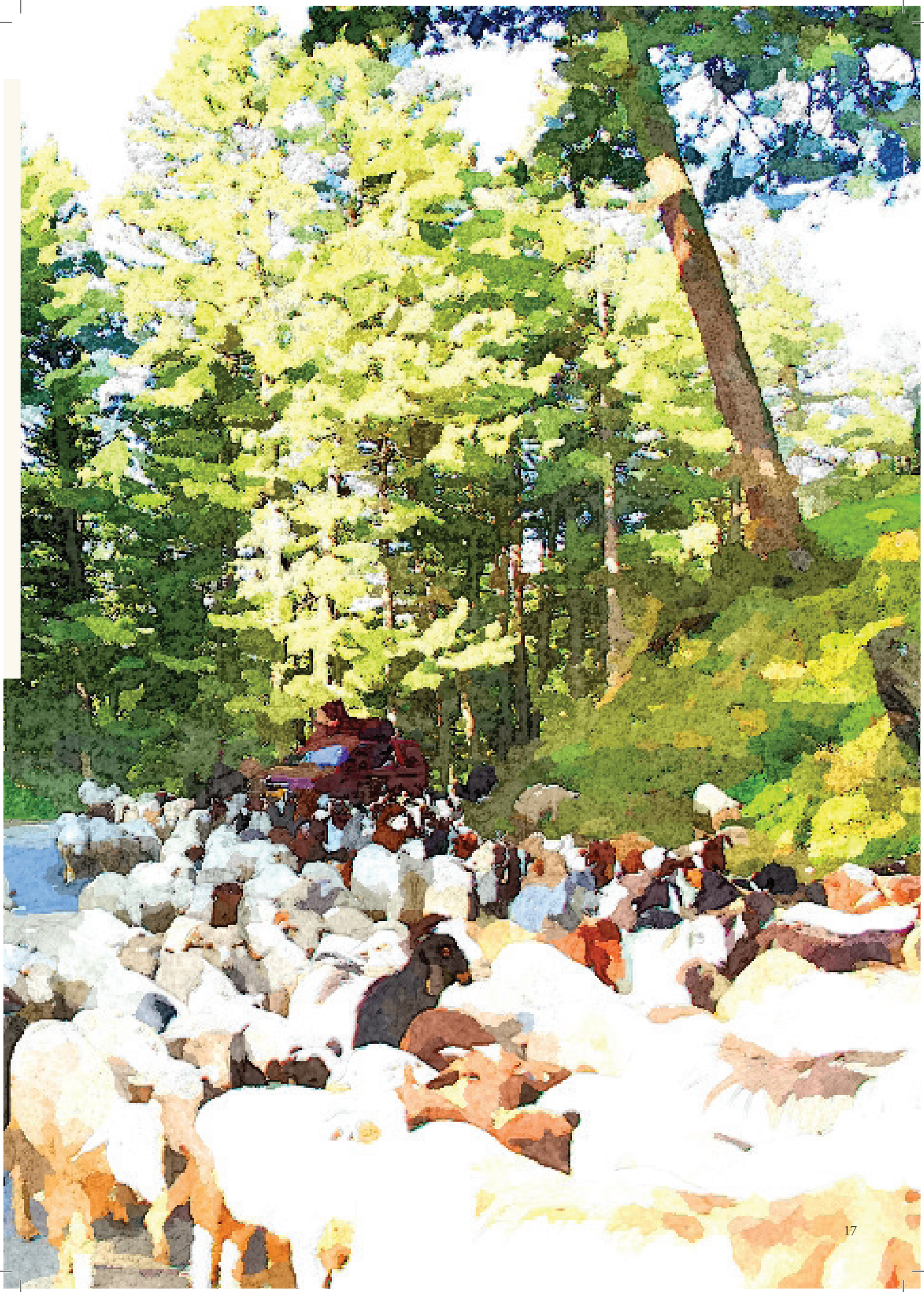
Theory

Basic concept of One Health; its evolution; the environmental, wildlife, HWC and public health perspectives; concept of ecosystem services with the focus on services provided by wildlife; social context; economics of One Health; public health system and policies; global health; food safety; climate change, disasters and other environmental changes; international frameworks; key research questions. An overview of basic wildlife behaviour, with the focus on key species in the landscape that have frequent interactions with humans; how animals–humans–environment are interlinked. What are zoonotic diseases? What are the possible activities/areas of concern for the spread of zoonotic diseases? How can these be prevented? Stakeholder mapping and analysis, communicating One Health, community engagement, specific relevance of farmers and women groups in ensuring successful integration of One Health in HWC mitigation measures and other relevant activities. Key success factors required for promoting a shared understanding of the One health approach. Understanding the drivers of zoonotic disease, HWC, occupational health and safety and measures for preventing zoonotic and other emerging diseases. One Health case studies.

Practical

Analysis of cases of implementation of the One Health approach, after reviewing the existing academic publications, as well as plans and policies to reflect on the existing synergies and trade-offs for implementing the One Health approach. Use of GIS in human–animal interface management, data management and analysis, use of digital tools, methods of disease surveillance, early warning and rapid response for One Health, implementing a field survey on the selected topics. Laboratory diagnostics of infectious diseases, application of epidemiological methods to disease investigations,' assignment discussions.





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