KKN-EcoHealth Handbook
Students Manual for EcoHealth Program in Kuliah Kerja Nyata (KKN) (Student-Study Service Activities)
First Edition

Universitas Gadjah Mada
Yogyakarta, Indonesia

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List of Contributors:
Wayan T. Artama
Tjut Sugandawaty Djoohan
Setyawan Budiarta
Krishna Agung Santosa
Dyah Ayu Widiasih
Vi Nguyen
Pande Made Kutanegara
KRT. Adi Heru Husodo
Istiti Kandarina
Aris Purwantoro
Doddi Yudhabuntara
Heru Susetya

Facilitators:
Purvi Mehta-Bahtt
Fred Unger
Jeffrey Gilbert
Rainer Asse
Delia Grace
Sally Crafter

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MESSAGE FROM VICE RECTOR FOR RESEARCH AND COMMUNITY SERVICES, UNIVERSITAS GADJAH MADA

Dear Readers,

On behalf of the Rector of Universitas Gadjah Mada (UGM), I am very pleased to express my appreciation that EcoHealth Resource Center (EHRC) at UGM has successfully finished the first task to publish a handbook for Student Services Activities (KKN-PPM) on EcoHealth. This handbook is based on our long experience in running the KKN-PPM program since 1974 at our university. This short and very brief information regarding KKN-PPM on EcoHealth will be very beneficial for students who want to apply their KKN-PPM programme in the community.

I would like also to take this opportunity to express my appreciation to the Faculty of Veterinary Medicine and EHRC UGM that raise the issue of Zoonotic Diseases and EcoHealth problems in our country. In particular, these issues on zoonoses and EcoHealth remain very important in the growing world population due to unpredictable new emerging human and zoonotic diseases. In the past two decades, many of the pathogens that have emerged in the public health arena are of animal origin. Among these are West Nile Viruses, Nipah Virus, Swine Flu Virus, Avian Flu Virus, and antibiotic resistant microorganisms, which are all believed to originate from animals. Although disease control in animals is important, healthy animals with good nutrition and a healthy ecosystem are also very important. An EcoHealth concept is very urgent to discuss in order to take care of healthy animals, ensure sustainable livestock production, food security, health of companion animals, and consequently prevent spread of animal diseases to human.
Recognizing the growing need for public health counter-measures against the risks of zoonotic diseases, there is a need for mutual interest and collaborative efforts of medical doctors, veterinarians, animal scientists, and social scientists. Learning from the previous zoonotic disease outbreaks in the world, many approaches should be taken into consideration.

I sincerely hope that this book will allow all students and stakeholders to gain enough knowledge and experiences to embrace EcoHealth/One Health issues worldwide. I hope that this KKN-PPM Handbook will serve as a practical introductory manual to EcoHealth for students, staff and the community.

Suratman,
Vice Rector for Research and Community Services.
ACKNOWLEDGEMENT

On behalf EcoHealth Resource Center (EHRC) of Universitas Gadjah Mada, I would like to thank all authors for their dedication and contributions for the first Student Study Service Activities (KKN) Handbook on EcoHealth. I have had the privilege to have been involved in many EcoHealth meetings in Bangkok, Vietnam, Canada, Bali, and KKN Handbook Workshop in Yogyakarta. All of these remind me that learning EcoHealth is a life-long process and should be transferred to our students.

I also have to thank those students who joined the first batch of EcoHealth Elective Course from Problem Based Learning Program at the Faculti of Veterinary Medicine who motivated us to provide handouts and teaching manuals on EcoHealth. We also sincerely thank those students that join the KKN EcoHealth for their input and comments on our first draft of this EcoHealth KKN Handbook.

I would like to thank those staff from Faculty or Study Program of Biology, Medicine, Veterinary Medicine, Animal Science, Anthropology, Communication, Geography, as well as Disease Investigation Center (DIC) Wates, Municipal Office of Health Services at Yogyakarta that are involved in the capacity building workshop on EcoHealth and to EHRC working group for sharing their experiences on our preparation of this KKN Handbook.

Finally, I would like to say grateful thanks to Purvi, Jeff, Fred, Vi, and Rainer for all their contribution, suggestion, and comments for this EcoHealth KKN Handbook. Last but not least, I would also thank for the support of the International Livestock Research Institute (ILRI) and the International Development Research Centre (IDRC).

Wayan T. Artama
EHRC-UGM Coordinator
NOTE FROM FACILITATORS

Feeding the growing population, while promoting better health, environment and sustainable livelihood opportunities is a global challenge that we all share. Ecohealth is an approach that addresses some of these challenges by assuring better health for people, animals and environment.

The IDRC supported program EcoZEID (Ecosystem Approaches to Better Management of Zoonotic Emerging Infectious Diseases) is being implemented by International Livestock Research Institute (ILRI) since 2009, in five countries in Southeast Asia. The project worked with a large number of regional stakeholders to capacitate them in understanding and incorporating/practicing Ecohealth. Two ecohealth resource centres have been setup at leading universities in Indonesia (Gadjah Mada University) and Thailand (Chiang Mai University) as part of the project.

This training material is prepared as a resource for building cognisance about Ecohealth to a cross section of stakeholders, especially the once attaching the KKN program at UGM. A unique participatory approach has been followed to prepare this material. Several ‘write shops’ were organised to design the content, format and methodology for preparing the manual. The write shops were facilitated by ILRI, integrating experiences and recommends from authors, all of whom have extensive experience working in the region. Such a participatory approach contributed to making the manual need based, pragmatic and demand driven.

While this is a reference material for internal use, we are hoping that UGM will produce a final edition of this with inputs from the field, at a later stage. We express our sincere thanks to the team of contributors from Ecohealth Resource Centre at UGM, especially Dr.
Wayan Tunas Artama, Dr. Tjut Sugandawaty Djohan, Dr. Dyah Ayu Widiasih, KRT. Dr. dr. Adi Heru Husodo, Dr. Krishna Agung Santosa and Dr. Pande Made Kutanegara. Convergence of several faculties in particular Veterinary Medicine, Animal Science, Geography, Forestry, Ecology, Public Health, Anthropology etc. to write this manual strengthens the transdisciplinarity nature of this manual.

We are grateful to International Development Research Centre of Canada (IDRC) for their support and their continued endeavour to promote Ecohealth. Several ILRI colleagues and consultants were involved in reviewing the manual- many thanks to them.

Purvi Mehta-Bhatt, Fred Unger, Jeffry Gilbert, Rainer Asse and Delia Grace
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FOREWORD

Tjut Sugandawaty Djoohan and Setyawan Budiharta

History of Student Service Activities

Universitas Gadjah Mada (UGM) was established in 1949 in Yogyakarta. Building on the desire of UGM to develop the character of the students through community service, the Pengerahan Tenaga Mahasiswa (PTM - Student Mobility for Teaching Community) was established. In this programme, UGM sent students especially outside Java to teach in local high schools. The students were expected to make a contribution to society by teaching others and, at the same time, developing their characters.

Gradually PTM began to include development activities as well as teaching and the Student Service Activities (Kuliah Kerja Nyata, KKN) was born. The KKN incorporates the three high education principles of Indonesia – education, research, and community services. In 1971–1973 KKN was incorporated into the UGM curriculum as a mandatory course for students. All undergraduate students had to participate in KKN as part of the requirements to earn a bachelor’s degree, no matter what the discipline. The policy not only applies to students, but lecturers are also expected to participate through contributing to project design and monitoring progress. The overall goal of KKN programmes was to empower the community to improve their quality of life, income generation, disease management, and social and political status. At the university level, the programme is coordinated by the Institute for Research and Community Services (Lembaga Penelitian dan Pengabdian kepada Masyarakat, LPPM) of the University.
Over time, KKN has made a change from community development into community empowerment (*Pemberdayaan Masyarakat*, PPM). Therefore the name has changed to KKN-PPM to reflect this. In conducting it’s activities, KKN-PPM works in cooperation with different stakeholders including: UGM research centres, local government, relevant private and semi-private sectors and the community. Groups of students from different faculties and disciplines conduct a KKN-PPM project together, based on the main need of the specific village where they are located. The synergy developed by different disciplines working together is expected to persist long after the students graduate and should frame their future working life.

KKN-PPM is not a static process; it evolves according to need, changes in policy and opportunities. It has been a natural progression to include EcoHealth in KKN-PPM as they both share participatory, transdisciplinary, equity and sustainability approaches.

**Principles of KKN-PPM UGM Activities**

KKN-PPM UGM activities and projects are carried out based on co-operation, co-financing, flexibility, sustainability, and research.

**Co-operation and co-creation:** In KKN-PPM programmes, all stakeholders work towards the same goal: improved well-being of the community. These stakeholders include: community members, students, lecturers, government and other partners. The ideas of these stakeholders are well integrated in the program through extensive consultation and focus group discussions (FGD).

**Co-financing:** The funding for the programme can come from a combination of the community, local government, UGM, private and semi-private organization, students, and other partners.
Flexibility: The theme and programme must be suitable for the local conditions and the community needs. Students choose their theme of interest and time for the field work.

Sustainability: The themes must continue across cohorts and are further developed by the next cohort of students. KKN-PPM is a community service based on action research.

Linking of KKN-PPM to EcoHealth

KKN-PPM has been involved in various community programmes including building infrastructure in the KKN site, capacity building of the community and literacy training. In 2011, UGM decided to include EcoHealth in the programme for better management of community health through the control of zoonotic diseases.

The EcoHealth approach addresses community health issues through community empowerment. It integrates various disciplines including Veterinary Medicine, Biology, Ecology, Animal Science, Anthropology, Geography and Social Sciences to solve problems in a sustainable manner.

The Objective of this Book

This book is a supplement to the KKN-PPM Guidebook, written in 2012 to assist KKN volunteers in the field. The objectives of this guidebook are:
- to introduce the concept of EcoHealth to the students of different disciplines,
- to encourage KKN-PPM students to take an holistic and integrated approach to problem solving within the community,
- to highlight the need to integrate equity issues into the KKN-PPM activities,
- to provide some technical information needed to understand the EcoHealth approach.
How to Use Handbook

This handbook consists of five chapters which are set out to describe the learning objectives and poses questions to keep in mind when reading the chapter. At the end of the chapter is a list of questions that the cohorts can discuss in groups to develop their understanding of the subject matter. A list of suggested further reading may be given at the end of the chapter.

Chapter 1 defines and explains how EcoHealth is used in the KKN-PPM approach and gives examples of successes and lessons learnt to date.

Chapter 2 gives a detailed introduction to EcoHealth and how it is used in the field to solve community problems.

Chapter 3 describes rabies, a zoonotic disease that may be found in the KKN villages, and assists the volunteers to work through the case study to find the principles of EcoHealth in order to make a community action plan.

Chapter 4 describes the importance of effective communication with the community and highlights methods to use.

Chapter 5 discusses how the KKN-PPM works and the roles of the different sectors in solving existing local condition and problems.

Chapter 6 defines monitoring and evaluation of EcoHealth-integrated KKN-PPM projects. Examples of challenges, obstacles, experience and continuation strategies for the next KKN cohort are presented.
Figure 1. Students are expected to be able to solve health problems using integrative approach: ecosystem, veterinary and human health.

Suggested Further Reading

• Changes in physical facilities: this will include any building that has taken place in the community.
• Changes and improvements in attitude toward the application of EcoHealth concept.

Photos of activities and improvements add interest and document the completed activities for future reference.

7.3. Documentation

Student’s reflective learning while conducting KKN-PPM should be documented:
• Valuable experiences.
• Important and impressive events.
• Obstacles and the solution for each of the obstacles.
• A proposal for the improvement.

This document should be enriched with photos, video, leaflets, banner, etc of the activities. The report book will be useful for the next cohort and other stakeholders. In any case, a meeting between previous and the next KKN groups.

7.4. Discussion Points

Discuss the following issues with the other KKN in your group:
• Why is reporting important?
• How can reports be made more interesting?
• How do reports assist the next cohort with their tasks?
ACRONYMS

DHF  Dengue Haemorrhagic Fever
FGD  Focus Group Discussion
KKN  Kuliah Kerja Nyata or Student Study Services
LPPM Lembaga Penelitian Pengabdian dan Penelitian kepada Masyarakat or Institute for Research and Community Services
ME   Monitoring and Evaluation
PPM  Pemberdayaan Masyarakat
UGM  University of Gadjah Mada
OM   Outcome Mapping
GLOSSARY

Community development, seeks to empower individuals and groups of people by providing them with the skills they need to effect change in their own communities. These skills are often created through the formation of large social groups working for a common agenda. (Wikipedia).

Community empowerment empowers rural communities in developing countries to harness information and information technology to become more self-reliant and break out of poverty (Wikipedia).

EcoHealth can be defined as systemic, participatory approaches to understanding and promoting health and well-being in the context of social and ecological interactions” (Waltner-Toews, 2009).

Equity, the situation in which everyone has the same rights, access and advantages. Ensuring equity in a project means that the benefits are available to both genders and all ages, social levels, ethnic groups and education levels.

Evaluation is usually carried out after activities have been completed to measure progress towards project goals and impacts.

Integrated approach to problem solving involves people of different disciplines working together and bringing their complementary skills to find a solution.

KKN (Kuliah Kerja Nyata, or Student Study Service Activities) a mandatory course of community services for UGM bachelor students.
**Monitoring** tracks progress towards project outputs and objectives and will help to determine if modifications to the approach are needed.

**OneHealth** uses inter-sectoral approaches, veterinary, medical and environmental, to improve well-being in a community.

**Outcome mapping** is recording behavioural changes that have resulted from the programme.

**Outcome**, the result or effect of an action or an event.

**Participation** means consensus, involvement and cooperation among various groups in a community so that their contributions, views and needs are taken into account.

**Strategy** is a plan or approach that leads to a goal.

**Sustainable** programmes continue in the community once the external funding has stopped.

**Sustainable development** refers to a mode of **human development** in which **resource** use aims to meet human needs while preserving the **environment** so that these needs can be met not only in the present, but also for generations to come (Wikipedia)

**Zoonotic diseases** are diseases spread between animals and/or to man.