

SEAOHUN Small Grants Program 2022 Final Report

Project Title:	One Health Approach in Antimicrobial Resistance Prevention and Control in Central Java Province, Indonesia
Project Team Leader:	Dwi Sutningsih, DVM, M.Kes, Dr
Project Team Members (name and affiliation):	<ul style="list-style-type: none"> - Saiful Latif, DVM, Department of Animal Husbandry and Animal Health of Central Java Province - Mufti Agung Wibowo, S.Kom, M.IT, Central Java Provincial Health Office - Andrew Johan, MD, M.Si, Dr., Faculty of Medicine, University of Diponegoro - Dian Wahyu Harjanti, DVM, PhD, Faculty of Animal Husbandry and Agriculture, University of Diponegoro - Siti Rahayu, B.PH, Student in Master of Epidemiology, University of Diponegoro - Sutra Diyana, B.PH, Student in Master of Epidemiology, University of Diponegoro - Sutaip, B.PH; Student in Master of Epidemiology, University of Diponegoro
Network:	INDOHUN
University:	Diponegoro University
Project duration:	1 June 2022 – 30 December 2022
Reporting period:	1 June 2022 – 6 October 2022
Total project budget:	10,000 USD
Expenditures as of reporting period:	10,000 USD

The below report should not exceed 5 pages.

1. Project's Goal:

Efforts in preventing and overcoming the occurrence of Antimicrobial Resistance in Central Java Province with a One Health approach.

2. Project's Objective:

- a. Analyzing antibiotic residues in animal products and their risk factors.
- b. Evaluation of surveillance and supervision of antibiotic use in animals and humans.
- c. Provide an AMR data management system for animals and humans.
- d. Improving community knowledge, attitudes and practices in the prevention and control of AMR.

3. Incomplete activities, if any: *(Please refer to your implementation plan submitted to SEAOHUN prior to signing the small grant agreement; kindly provide justification of incomplete activities and any change of activity plan.)*

There have been changes in test methods for detecting antibiotic residues in animal products. Initially it was planned to test the bacterial serotypes using the PCR method, but because the material was not yet available, a bioassay was carried out at the Veterinary Public Health Laboratory, Boyolali, Central Java.

4. **Challenges** (*Kindly reflect on the main challenges met during the project and what was done to overcome them*)

Challenges	Solutions and alternatives provided
a. Some breeders are very sensitive and afraid to be interviewed	The interview technique was carried out through Google forms.
b. Breeders are less interested in filling out the questionnaire	Farmers who fill out the questionnaire will be given attractive prizes such as internet quota and tumbler
c. Difficulty collecting several breeders for AMR socialization	AMR socialization is done online
d. Examination of antibiotic residue samples takes a long time because the laboratory personnel are limited and are also seconded to help with other work	Researchers always remind and ask the progress of the results. There is a member of the researcher who helps the examination of antibiotic residues in the laboratory
e. Difficulty accessing secondary data in several hospitals	Publication cooperation and payment for data access

5. **Good practices/Lessons learnt** (*Kindly reflect on what can be considered as good practices and/or lessons learnt of the project*)

- Most of the initiatives and activities have been carried out jointly by involving Department of Health, Community Health Centers, Hospitals, Department of Agriculture, Fisheries and Food, Breeders, Students and Communities providing time to increase joint commitment to action plans in the field of prevention and control of antimicrobial resistance by One Health approach.
- Restrictions on the use of certain antimicrobials are essential for the treatment of livestock and humans, resulting in a reduction in the overall use of antibiotics.
- The results of the AMR risk analysis on animals and humans received a positive response from the Department of Health, the Department of Agriculture, Fisheries and Food, Representative Hospitals in Central Java. The results of this activity provide an overview of the current situation and guide decision-making for handling AMR under the One Health approach, taking into account the needs and resources available from various sectors.

6. **Results/Outputs** (*kindly reflect on the project's final outputs or results, e.g. increased knowledge of the beneficiaries on One Health related issues*)

- Increased knowledge, attitude and practice of the community and students about the use of antibiotics and the importance of the One Health approach in handling AMR.
- Increased knowledge, attitude and practice of breeders regarding One Health issue in the correct use of antibiotics in animals as an effort to prevent and control antimicrobial resistance.
- The level of education had a significant effect on the presence of antibiotic residues in animal products with an Odds Ratio (OR) of 28.633.
- The practice of using antibiotic drugs had a significant effect on the presence of antibiotic residues in animal products with an Odds Ratio (OR) of 6.500
- The attitude did not affect the presence of antibiotic residues in animal products with an Odds Ratio (OR) of 0.679.

- f. Samples of chicken, beef, lamb, chicken eggs and duck eggs from several areas in Semarang, Jepara, Brebes and Boyolali found antibiotic residues, namely 44% penicillin, 32.1% aminoglycosides and 23.8% macrolides.

7. **Products/Deliverables** *(please name the project deliverables as listed in the Small Grant agreement and add them as an attachment to this report; add accessible links when possible.)*

- a. Recommendations for AMR prevention and control policies with a One Health approach
- b. Pocket Book titled "Take Care of Pets"
- c. Pocket Book titled "Intelligent in Antibiotic Use"
- d. Pocket Book titled "Antibiotics Resistance in Farm Animals and Pets"
- e. Teaching materials for the course "Basics and Applications of One Health"
- f. Manuscripts submitted in Universal Journal of Agricultural Research
- g. Presentation of article in The 7nd International Conference on Energy, Environment, Epidemiology and Information System (ICENIS 2022).

The link of products/deliverables is:

https://drive.google.com/drive/folders/1PQzxbXw7FbpK4NzIQGelMqgqL2RVLL-y?usp=share_link

8. **Future plan** *(please describe your future plan on how you will use the products/deliverables or expand on your work)*

- a. The project results will be used for policy recommendations in handling AMR with the One Health approach.
- b. The team will continue to advocate and strengthen cross-sectoral commitment and roles by involving and coordinating all important stakeholders at the District, Regency/City and Provincial levels to combat the increasing global threat of AMR through the One Health Approach by taking into account available resources.
- c. The team will encourage governments and the private sector to implement a Global Action Plan to provide education on the responsible and prudent use of antimicrobials, which includes specific recommendations on critical antimicrobials, and phasing out antibiotic use for growth promotion without any risk analysis.
- d. The team will work together with the Indonesian Healthy Mentari Community (MSI) in the prevention and treatment of Drug Resistant Tuberculosis (RO-TB) through socialising, advocacy, home visits, surveillance and case finding, assistance in monitoring medication taking to combat the global threat of AMR.
- e. The team will continue to contribute to strengthening the teaching of risk factors for AMR and the One Health approach to controlling AMR in the continuing education and training curricula for health and veterinary professionals.

9. **Short testimonial** *(please describe in one or two sentences what the SEAOHUN grant program means to you or helps you with)*

The SEAOHUN grant program is very useful and helps to conduct research and community service. Through the SEAOHUN grant program, it is very helpful to expand the network of cooperation with the private sectors and the government.

10. **Suggestions** *(please provide your comments/suggestions about how we may improve the SEAOHUN grant program)*

The management of this year's SEAOHUN grand program is very satisfying. It would be better if the grant funding could be increased and the program opened annually.

11. **Activity photos** *(please create a google drive to upload photos and add the link here or create a zip file photo attached in your email with the report)*

The link of the activity photos is :

https://drive.google.com/drive/folders/13ePg-agxvQu-U4v63120kWigZyFzCKRp?usp=share_link