

**2022-GR060-2206-2211**

## **SMALL GRANT AGREEMENT**

**THIS GRANT AGREEMENT** is between the Southeast Asia One Health University Network or SEAOHUN (hereinafter called the Secretariat), and Dr. Dwi Sutningsih, Faculty of Public Health, Diponegoro University, Indonesia (hereinafter referred to as the Recipient)

**RECIPIENT:** Dr. Dwi Sutningsih, Head of Epidemiology Master Program, Faculty of Public Health, Diponegoro University, Indonesia

**OFFICE ADDRESS:** Faculty of Public Health, Diponegoro University, Jl. Prof. Soedarto, SH, Tembalang, Semarang, Central Java, Indonesia

**PHONE:** +6281328022588 **E-MAIL:** dwi.sutningsih@live.undip.ac.id

**PROJECT TITLE:** One Health Approach in Antimicrobial Resistance Prevention and Control in Central Java Province, Indonesia

**TOTAL FIXED BUDGET: \$10,000**

**PROJECT/ ACTIVITY PERIOD COVERED**

**FROM:** June 1, 2022, **TO:** November 15, 2022

The parties agree as follows:

**1. Description:**

The Recipient is awarded with a grant funding to implement project as described in the project proposal, including the detailed budget (Attachment 1).

**2. Payment Method:**

2.1 All payment shall be made by Electronic Fund Transfer in USD to the Recipient. **The total fixed budget is \$10,000 if the project is executed as planned. (Refer to approved proposal and budget plan below).** Any revisions in the scope of work and budget (greater than 10% per activity) require pre-approval by SEAOHUN Secretariat. The budget can't be used for salary supplements for any government employees per the 48 U.S. Code of Federal Regulations (CFR) § 731.205-71.

2.2 Payment is to be paid in two instalments as below:

80% upon execution of this Grant, and approval of detailed monthly work plan.

20% payment after receipt and acceptance of the mid-term report (due date – 15 September 2022), final report (due date – 30 November 2022), copy of final product(s)/deliverables, and certified financial report at the end of the project.

2.3 Deliverables: (1) Recommendations for AMR prevention and control policies with a One Health approach, (2) AMR Surveillance Handbook, (3) AMR Risk Management Manual, (4) Pocket Book

titled "Intelligent Children in Antibiotic Use", (5) Guidebook with the title "Use of Antibiotics in Farm Animals and Pets", (6) Teaching materials for the course "Basics and Applications of One Health", (7) Manuscripts (8) one article summarizing the project for the SEAOHUN website and (9) final report.

**2.4 Grant Officer Contact Information:**

Attn: Dr. Soe Lin Thu  
Program Officer  
SEAOHUN Secretariat  
Email: [soelintu@seahun.org](mailto:soelintu@seahun.org) copy [ohw-ng@seahun.org](mailto:ohw-ng@seahun.org)

**3. Term.** The term of this Grant Agreement shall commence on 1 June 2022 ("Effective Date") and shall expire on 30 November 2022 unless terminated earlier as provided in Section 6.

**4. Acknowledgement.** In the occasion if the outputs of the project, funded under this agreement will result in any publications, the authors must include the following disclaimer: *"This work was funded by the SEAOHUN Small Grant Program with the generous support of the American people through the United States Agency for International Development (USAID) One Health Workforce - Next Generation (OHW-NG) Award 7200AA19CA00018. The contents and associated materials are the responsibility of the authors and do not necessarily reflect the views of USAID, the US Government."*

**5. Branding and marking.** The Recipient must follow USAID One Health Workforce – Next Generation (OHW-NG) branding and marking guidelines for producing any communication materials and deliverables under this agreement, such as videos, booklets, leaflets, guidebooks, manuals, and others. The Secretariat will provide guideline and reference materials. The Recipient should consult any questions related to branding and marking with the Secretariat before producing any materials for the project under this agreement.

**6. Termination.** Either party may terminate this Grant Agreement if the other party (i) fails to perform any material obligation under this Agreement and (ii) does not correct such failure within ten (10) working days after having received written notice of such failure. Upon any termination under this Section, Secretariat shall pay the Recipient for all Services rendered and costs incurred up to and including the effective date of termination.

**7. Limitation of liability for breach of Grant Agreement.** In no event shall either party's liability for breach of this Grant Agreement include damages for work stoppage, lost data, or indirect, special or consequential damages (including lost profit), of any kind, each party's liability to the other for breach of this Grant Agreement shall not exceed an amount equal to the monetary consideration paid to the Recipient under this Grant Agreement.

**8. General Provisions**

**8.1 Amendment.** This Grant Agreement shall be amended only in writing duly executed by all the parties to this Grant Agreement.

**8.2 Assignment.** The parties may not assign any rights or obligations of this Grant Agreement without the prior written consent of the other party. Any assignment attempted to be made in violation of this Grant Agreement shall be void.

8.3 Entire Grant Agreement. This Grant Agreement (including all documents attached or referenced) is intended by the parties as the final and binding expression of their Grant Agreement and as the complete and exclusive statement of its terms.

8.4 Disclosure. Publications of any kind, or other information to organs of the press or other communications media, referring to SEAOHUN itself and/or to the job area, shall be permissible only after prior consent from SEAOHUN.

8.5 Ethical Approval. If the ethical review is applicable to this small grant project, the recipient is responsible for getting ethical approval from the relevant ethics committee/ Institutional Review Board (IRB) or Institutional Animal Care and Use Committee (IACUC), and final approval from UC Davis before conducting the research.

8.6 Record Maintenance. The recipient shall keep accurate financial records and maintain supporting documentation of fund utilization under this Agreement for a period of 3 years following termination or expiry of the Agreement. SEAOHUN may inspect the records at any time.

8.7 Notice. All notices and other communications that a party is required or elects to deliver shall be in writing.


**9. Required Safety Measures.** The recipient must conform to all national, local and international public health authorities' rules and regulations concerning COVID-19 safety and prevention measures while planning, implementing and reporting the activities under this agreement that are effective during the agreement execution period.

**SUPPORTING DOCUMENTS:**

- Project leader's faculty ID card
- The bank details
- Approved proposal, budget plan and work plan

This Grant Agreement shall take immediate effect upon signature of both parties.

For the Recipient  
Signature:   
Name: Dr. Dwi Sutningsih  
Position: Head of Epidemiology Master Program, Faculty of Public Health,  
Diponegoro University, Indonesia  
Date: May 12, 2022

For the Secretariat  
Signature:   
Name: Vipat Kuruchittham, PhD  
Position: Executive Director  
Date: May 13, 2022

## SEAOHUN Small Grant Program 2022 Application Form

1. COVER PAGE (1-page):

<b>Project Title</b>	One Health Approach in Antimicrobial Resistance Prevention and Control in Central Java Province, Indonesia
<b>Network orCountry</b>	INDOHUN or Indonesia
<b>Project leader (name, title, telephone, e-mail, and mailing address)</b>	Dwi Sutiningsih, DVM, M.Kes, Dr; +6281328022588, dwi.sutiningsih@live.undip.ac.id, Faculty of Public Health, Diponegoro University, Jl. Prof. Soedarto, SH, Tembalang, Semarang, Central Java, Indonesia
<b>University/Government agency</b>	Diponegoro University
<b>Project partners</b>	<ul style="list-style-type: none"> <li>- Saiful Latif, DVM, Department of Animal Husbandry and Animal Health of Central Java Province</li> <li>- Mufti Agung Wibowo, S.Kom, M.IT, Central Java Provincial Health Office</li> <li>- Andrew Johan, MD, M.Si, Dr., Faculty of Medicine, University of Diponegoro</li> <li>- Dian Wahyu Harjanti, DVM, PhD, Faculty of Animal Husbandry and Agriculture, University of Diponegoro</li> <li>- Siti Rahayu, B.PH, Student in Master of Epidemiology, University of Diponegoro</li> <li>- Sutra Diyana, B.PH, Student in Master of Epidemiology, University of Diponegoro</li> <li>- Sutaip, B.PH; Student in Master of Epidemiology, University of Diponegoro</li> </ul>
<b>Executive summary - max. 350 words</b>	<p>Antimicrobial Resistance (AMR) is one of the public health threats in Central Java. In addition to the irrational use of antibiotics, it is suspected that pets and animal products play a role in causing AMR. However, the problem that occurs is the lack of data related to AMR in animals and humans, as well as data on clinical cases of AMR and its monitoring in hospitals and the Health Service. Policies on the use of antibiotics as well as programs for the prevention and control of AMR have also not worked well. This fact is supported by the low level of public knowledge and awareness in the wise and responsible use of antibiotics.</p> <p>The objectives of this project are: Provide an AMR data management system for animals and humans; Conduct research on antibiotic resistance surveys in animals and humans as well as risk factor analysis; Enhancing community awareness, attitudes, and practices related to AMR prevention; Evaluation of surveillance systems and supervision of the use of antibiotics in animals and humans.</p> <p>The stages of this project include: Pilot survey of antibiotic resistance and their risk factors; AMR prevention training for breeders and pet owners; Actions to disseminate information and communicate the risk of AMR impacts on the general public</p>

	<p>and school children; Training on AMR surveillance and data management for Hospitals, Health Offices, Livestock and Animal Health Services.</p> <p>The results that will be achieved from this project are: The formation of pioneering community groups who are aware of and actively participate in the prevention of AMR; Availability of skilled human resources in data management and surveillance of AMR in animals and humans; Strengthening multisector capacity in preventive, promotive and AMR control efforts in Central Java .</p> <p>The products that will be produced from this project are: Recommendations for AMR prevention and control policies with a One Health approach; Pocket Book titled <b>Intelligent Children in Antibiotic Use</b>; Guidebook with the title <b>Use of Antibiotics in Farm Animals and Pets</b>; Teaching materials for the course <b>Basics and Applications of One Health</b>; Manuscripts published in reputable international journals and international seminars.</p>
<b>Project implementation period</b>	From June 1, 2022 to November 15, 2022.
<b>Ethical Review Approval/ IRB approval</b>	<b>Option 2</b> , Ethical Review approval will be requested at Health Research Ethics Committee, Faculty of Medicine, University of Diponegoro on May 10, 2022
<b>Total amount requested (USD)</b>	10.000 USD

2. PROPOSAL (max. 3 pages)

<p><b>Background.</b> Please describe the problem that the project intends to solve. What are the One Health challenges that this project will address? What are the needs in research and training that this project will assist to fulfill?</p>	<p>Antimicrobial Resistance (AMR) is one of the public health threats in Central Java. In addition to the irrational use of antibiotics, it is suspected that pets and animal products play a role in causing AMR. Antimicrobial resistance in Indonesia (AMRIN) study findings from 2000–2004 stated that antibiotic therapy was prescribed without an indication in as much as 20 - 53% of cases at Kariadi Hospital, Semarang. Based on research conducted by Faizah (2011) in traditional and modern markets in Semarang City, it showed that 3 samples of 14 samples of broiler chicken from traditional markets were positive for oxytetracycline residues with each residue containing 0.869 (Johar Market), 0.271 (Sampangan Market), 0.366 (Damar Market). All of the oxistetracycline residues listed above exceed the BMR maximum limit. The results of a research conducted by Saniwati, et al (2015) showed that 10 samples from 15 samples of broiler chicken sold in the traditional market of Kendari City, were positive for tetracycline antibiotic residues. In addition, 1 sample was found which was not safe for consumption according to SNI No. 01-6366-2000.</p> <p>So far, the main issue with AMR in Central Java has been a lack of documentation of AMR clinical case data, as well as AMR data on pets, livestock, and humans. In addition, the lack of coordination, collaboration and multi-sectoral cooperation in the prevention and control of AMR. There is still a lack of public understanding and awareness about the use of antibiotics and antimicrobials. Additionally, the supervision of antibiotic use in animals and humans has not been successful.</p> <p>As a result, it is necessary to implement multi-action strategies for preventing and controlling AMR within the context of a One Health approach. This project activity began with the following : 1) Survey of antibiotic residues and resistance in pets, livestock, animal-derived foods, and humans, as well as their risk factors, 2). Stakeholder analysis from various multi-sectors through FGDs and in-depth interviews, 3). AMR prevention training and assistance for breeders and pet owners, 4) Dissemination of information and communication about the threat of AMR to the general public and school children, 5) Training on AMR surveillance and data management systems for Hospital, Health Services, Livestock and Animal Health Services.</p>
<p><b>What is the project's goal?</b> Describe the broader goal that this project will contribute to.</p>	<p>Efforts in preventing and overcoming the occurrence of Antimicrobial Resistance in Central Java Province with a One Health approach</p>
<p><b>What are the project's objectives?</b> Please describe specific objectives</p>	<p>1. Analyzing antibiotic residues/resistance in animals/animal products, humans and their risk factors.</p>

<p>that will contribute to the achievement of the project's goal. Set up SMART objectives (Specific, Measurable, Achievable, Relevant, Time-bound).</p>	<ol style="list-style-type: none"> <li>2. Evaluation of surveillance and supervision of antibiotic use in animals and humans.</li> <li>3. Provide an AMR data management system for animals and humans.</li> <li>4. Improving community knowledge, attitudes and practices in the prevention and control of AMR.</li> </ol>
<p><b>Project Objective 1.</b></p> <p><b>Activity 1.1</b> <b>Activity 1.2 (etc.)</b></p> <p>Please give detailed description of project activities that contribute to the achievement of the above objective. There can be more than two activities, please add more rows if necessary.</p> <p><i>Include the following information:</i>  Estimated activity dates  Direct beneficiaries  Product/Deliverables  Location  Total number of participants  Duration/number of days</p> <p><i>If in-person activities are planned, please mention how the safety measures will be taken.</i></p>	<p><b>Project Objective 1. 1. Analyzing residues/resistance of antibiotics in animals, animal products, humans and their risk factors</b></p> <p><b>Activity 1.1 Sampling and Measurement of Risk Factors</b>  Sampling includes feces/urine/liver from humans, animal products sold in the market, pets in cages for laying hens, broilers, dairy cattle, broilers, fish and pigs residing in Central Java for 1 month. The length of time the farm had been in operation, population, animal hygiene, cage capacity, type of feed, feeding, level of knowledge, antibiotic combination, antibiotic treatment failure, disease prevention antibiotic program, drug downtime, and drug storage were the risk factors measured.</p> <p><b>Activity 1.2 Bacterial Isolation</b>  The sample obtained will then be isolated and identified for its bacterial content based on the standard method of Cowan and Steel (2003) at the Bogor Veterinary Research Center for 7 days.</p> <p><b>Activity 1.3 Antibiotic Resistance Testing</b>  Bacterial serotype test using PCR method and in vitro pathogenicity test will be carried out at the Bogor Veterinary Research Center for 7 days.</p>
<p><b>Project Objective 2 (optional)</b></p> <p><b>Activity 2.1</b> <b>Activity 2.2 (etc.)</b>  See description above.</p>	<p><b>Project Objective 2. Evaluation of surveillance and supervision of the use of antibiotics in animals and humans.</b></p> <p><b>Activity 2.1 Forum Group Discussion (FGD)</b>  FGD is a forum for discussion and collaboration on issues relating to the implementation of surveillance and oversight of antibiotic use in animals and humans. The team prepared a variety of materials to assist in the implementation of the two-week FGD, which included 60 participants from the Health Office, Animal Husbandry Service, Trade Office, Pharmacists, Veterinarians, Academics, Hospitals, and Livestock Farmers.</p> <p><b>Activity 2.2 Interview</b>  Indept interviews will be conducted with related parties to obtain information related to the implementation of AMR surveillance and control on animals and humans. Interviews will last for 2 weeks online or in person.</p>
	<p><b>Project Objective 3. Provide an AMR data management system for animals and humans</b></p> <p><b>Activity 3.1 Drafting of AMR data management system in animals and humans</b>  All findings from research, focus groups, and interviews will be incorporated into an AMR data management system for</p>

	animals and humans. Preparation lasts for 1 week at Diponegoro University.
	<p><b>Project Objective 4. Improving community knowledge, attitudes and practices in AMR prevention</b></p> <p><b>Activity 4.1 AMR prevention training and assistance for breeders and pet owners</b></p> <p>The training and evaluation activities will be carried out for 2-3 months at Diponegoro University with 60 participants who are representatives of livestock groups and pet communities.</p> <p><b>Activity 4.2 Actions to disseminate information and communicate the risk of AMR impacts on the general public and school children</b></p> <p>The target of this event will be a minimum of 2000 participants. Socialization will be carried out directly for elementary, middle and high school students. The use of social media as a tool for socializing with the general public.</p> <p><b>Activity 4.3 Training on AMR surveillance and data management systems for hospital staff, Health Office, Livestock and Animal Health Service</b></p> <p>The target of this training is 60 participants and will last for 2 weeks at Diponegoro University</p>
<p><b>Project Result</b></p> <p>Please, provide details on the project's expected result. What change will the project bring to the beneficiaries? What will indicate that the change has been achieved? How will you measure the result? (e.g. Increased knowledge on certain topic; to be measured by pre- and post- activity participants' questionnaires)</p> <p><i>If necessary, SEAOHUN can provide technical assistance to the successful Small Grant Applicants in designing simple M&amp;E framework and tools to measure the project's results.</i></p>	<p>The expected results of this project are:</p> <ol style="list-style-type: none"> <li>1. Recommendations on strengthening AMR data management and surveillance systems with a One Health approach, as measured by the availability of AMR surveillance guidelines and the availability of skilled human resources in AMR data management and surveillance in animals and humans in Hospitals, Health Offices and Livestock and Animal Health Services.</li> <li>2. AMR risk control manual as material for policy recommendations, as measured by the availability of conceptual framework documents and scenario tree analysis of AMR risk factors.</li> <li>3. Increased knowledge, attitudes and practices of the community in the use of antibiotics/antimicrobials, as measured by questionnaires of training participants before and after training and socialization.</li> </ol>
<p><b>Final Product</b></p> <p>Please, describe in detail the final project's product. What is the product type? (e.g. Journal publication abstract or abstract for conference presentation; Manuscript; Curriculum; Manual; Training Report; Other)</p> <p>How will this product be presented? (e.g. published or in electronic format)</p>	<p>This project will result in a number of different products as follows: 1) Recommendations for AMR prevention and control policies with a One Health approach, 2) AMR Surveillance Handbook, 3) AMR Risk Management Manual, 4) Pocket Book titled "Intelligent Children in Antibiotic Use", 5) Guidebook with the title "Use of Antibiotics in Farm Animals and Pets", 6) Teaching materials for the course "Basics and Applications of One Health", 7) Manuscripts published in reputable international journals and international seminars</p>



How will the product address the initial challenge or need? What will change because of this final product? What is its dissemination plan?	
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3. PROJECT BUDGET (please complete the attached Excel template and upload the file)

4. PROJECT WORKPLAN (please complete the attached Excel template and upload the file)

# SEAOHUN Small Grant Program 2022

## Project Budget Plan

Indonesia

<b>Project Title: One Health Approach in Antimicrobial Resistance Prevention and Control in Central Java Province, Indonesia</b>				
<b>Project Leader: Dwi Sutningsih, DVM, M.Kes, Dr</b>				
<b>Project Goal: Efforts in preventing and overcoming the occurrence of Antimicrobial Resistance in Central Java Province with a One Health approach</b>				
<b>Objective 1: Analyzing residues/resistance of antibiotics in animals, animal products, humans and their</b>				
<b>Activity 1.1: Sampling</b>				
Description of the expense	Unit price	Quantity	Total cost	Justification/Notes
Sample	\$ 2.0	300	\$ 600	
Latex	\$ 8.0	5	\$ 40	
Mask	\$ 5.0	5	\$ 25	
Nurse Cap	\$ 6.2	5	\$ 31	
Protective Shoes / Plastic Boots	\$ 0.7	14	\$ 10	
Hand Sanitizer	\$ 2.1	2	\$ 4	
Vacutainer	\$ 0.1	600	\$ 60	
Safety Google 3M	\$ 9.0	5	\$ 45	
Tissue	\$ 1.6	3	\$ 5	
Cryo Cryogenic Tube	\$ 0.8	600	\$ 480	
Adjustable Micropipette	\$ 30.4	2	\$ 61	
Coolbox	\$ 13.0	5	\$ 65	
Office stationery	\$ 3.0	5	\$ 15	
Plastic clip	\$ 0.6	10	\$ 6	
Proofreading manuscripts	\$ 103.5	1	\$ 104	
Ethical clearance	\$ 4.0	1	\$ 4	
<b>Activity 1.2: Bacterial Isolation</b>				
Description of the expense	Unit price	Quantity	Total cost	Justification/Notes
Plate Count Agar	\$ 82.7	1	\$ 83	
Alcohol	\$ 1.5	10	\$ 15	
Selenite Cystine Broth	\$ 100.0	2	\$ 200	
Microtube	\$ 1.0	8	\$ 8	
Plastic Pipette	\$ 1.4	10	\$ 14	
Petri cup	\$ 1.2	5	\$ 6	
Hand Sanitizer	\$ 2.1	2	\$ 4	
Tissue	\$ 1.3	3	\$ 4	
<b>Activity 1.3: Antibiotic Resistance Testing</b>				
Description of the expense	Unit price	Quantity	Total cost	Justification/Notes
Antibiotic Resistance Testing	\$ 9.4	300	\$ 2,820	
Latex	\$ 8.0	5	\$ 40	
Jar Sterile Saline	\$ 0.4	300	\$ 123	
Sterile Test Tube	\$ 0.1	300	\$ 30	
Mask	\$ 5.0	5	\$ 25	
Nurse Cap	\$ 6.2	5	\$ 31	
Hand Sanitizer	\$ 2.2	2	\$ 4	
<b>Objective 2: Evaluation of surveillance and supervision of the use of antibiotics in animals and humans</b>				
<b>Activity 2.1: Forum Group Discussion (FGD)</b>				
Description of the expense	Unit price	Quantity	Total cost	Justification/Notes
Token of appreciation	\$ 3.0	60	\$ 180	
Participant Accommodation	\$ 29.8	60	\$ 1,788	60 People, 2 nights
Office stationery	\$ 1.0	23	\$ 23	
<b>Activity 2.2: Interview Conducting</b>				
Description of the expense	Unit price	Quantity	Total cost	Justification/Notes
Token of appreciation	\$ 3.0	60	\$ 180	

<b>Objective 3. Provide an AMR data management system for animals and humans</b>				
<b>Activity 3.1: Drafting of AMR data management system in animals and humans</b>				
Description of the expense	Unit price	Quantity	Total cost	Justification/Notes
AMR data management and surveillance guidel	\$ 4.0	60	\$ 240	Printing costs
<b>Objective 4. Improving community knowledge, attitudes and practices in AMR prevention</b>				
<b>Activity 4.1: AMR training and assistance</b>				
Description of the expense	Unit price	Quantity	Total cost	Justification/Notes
Participant Accommodation	\$ 29.8	60	\$ 1,788	60 People, 2 nights
Guide book	\$ 4.0	60	\$ 240	Printing costs
<b>Activity 4.2: Disseminate information and communicate the risk of AMR impacts</b>				
Description of the expense	Unit price	Quantity	Total cost	Justification/Notes
Leaflet/poster	\$ 0.6	500	\$ 300	Printing costs
Pocket book	\$ 0.6	500	\$ 300	Printing costs
<b>Grand Total</b>			<b>\$ 10,000</b>	

# SEAOHUN Small Grant Program 2022

## Project Work Plan

Project Title: One Health Approach in Antimicrobial Resistance Prevention and Control in Central Java Province, Indonesia																										
Project Leader: Dwi Sutningsih, DVM, M.Kes, Dr																										
Project Goal: Efforts in preventing and overcoming the occurrence of Antimicrobial Resistance in Central Java Province with a One Health approach																										
	start date	end date	2022																							
			June				July				Agust				Sep				Oct				Nov			
			W 1	W2	W3	W4	W 1	W2	W3	W4	W 1	W2	W3	W4	W 1	W2	W3	W4	W 1	W2	W3	W4	W 1	W2	W3	W4
<b>Objective 1:</b>																										
<b>Activity 1.1:</b>	1-Jun-22	30-Jun-22																								
<b>Activity 1.2:</b>	1-Jul-22	7-Jul-22																								
<b>Activity 1.3:</b>	8-Jul-22	14-Jul-22																								
<b>Objective 2:</b>																										
<b>Activity 2.1:</b>	15-Jul-22	30-Jul-22																								
<b>Activity 2.2:</b>	1-Aug-22	14-Aug-22																								
<b>Objective 3:</b>																										
<b>Activity 3.1:</b>	15-Aug-22	21-Aug-22																								
<b>Objective 4:</b>																										
<b>Activity 4.1:</b>	1-Sep-22	30-Sep-22																								
<b>Activity 4.2:</b>	1-Oct-22	30-Oct-22																								
<b>Activity 4.3:</b>	1-Nov-22	15-Nov-22																								

## SEAOHUN Small Grants Program 2022 Final Report

<b>Project Title:</b>	One Health Approach in Antimicrobial Resistance Prevention and Control in Central Java Province, Indonesia
<b>Project Team Leader:</b>	Dwi Sutningsih, DVM, M.Kes, Dr
<b>Project Team Members (name and affiliation):</b>	<ul style="list-style-type: none"> <li>- Saiful Latif, DVM, Department of Animal Husbandry and Animal Health of Central Java Province</li> <li>- Mufti Agung Wibowo, S.Kom, M.IT, Central Java Provincial Health Office</li> <li>- Andrew Johan, MD, M.Si, Dr., Faculty of Medicine, University of Diponegoro</li> <li>- Dian Wahyu Harjanti, DVM, PhD, Faculty of Animal Husbandry and Agriculture, University of Diponegoro</li> <li>- Siti Rahayu, B.PH, Student in Master of Epidemiology, University of Diponegoro</li> <li>- Sutra Diyana, B.PH, Student in Master of Epidemiology, University of Diponegoro</li> <li>- Sutaip, B.PH; Student in Master of Epidemiology, University of Diponegoro</li> </ul>
<b>Network:</b>	INDOHUN
<b>University:</b>	Diponegoro University
<b>Project duration:</b>	1 June 2022 – 30 December 2022
<b>Reporting period:</b>	1 June 2022 – 6 October 2022
<b>Total project budget:</b>	10,000 USD
<b>Expenditures as of reporting period:</b>	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](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](https://drive.google.com/drive/folders/13ePg-agxvQu-U4v63120kWigZyFzCKRp?usp=share_link)