Food and Agriculture Organization of the United Nations

AMR special edition 2017/18

FAO Viet Nam

VNN Newsletter

Emergency Centre for Transboundary Animal Diseases (ECTAD)

FAO supports Viet Nam's Department of Animal Health and Department of Livestock Production with HPAI Surveillance Activities

TOGETHER AND STRONGER AGAINST ANTIBIOTIC RESISTANCE

National Action Plan for management of antibiotic use and control of antibiotic resistance in livestock production and aquaculture 2017- 2020

On 2 August 2017, the Ministry of Agriculture and Rural Development (MARD) launched the Viet Nam National Action Plan for management of antibiotic use (AMU) and control of antibiotic resistance (AMR) in livestock production and aquaculture 2017 – 2020. With financial support from the United States Agency for International Development (USAID), this plan was developed in collaboration with the Food and Agriculture Organization of the United Nations (FAO) to guide the actions of the agriculture sector, governed by agencies under the Ministry of Agriculture and Rural Development (MARD), and complement the Ministry of Health national action plan on combating drug resistance in the period from 2013 – 2020. The implementation of this National Action Plan will help mitigate the public health risk of AMR arising from antibiotic usage in livestock production and aquaculture in Viet Nam.

The National Action Plan establishes seven specific objectives, including: 1) Strengthen governance of AMR and AMU management; 2) Improve legal basis for AMR and AMU management; 3) Enforce the legislation in place; 4) Increase awareness of AMU and risk of AMR; 5) Implement good treatment and husbandry practices; 6) Monitor AMR, AMU and antibiotic residue; 7) Strengthen inter-sectoral collaboration in AMR management.

"In order to effectively implement the National Action Plan, the Ministry of Agriculture and Rural Development recognizes the importance of coordinated actions not only among departments in MARD but also with Ministry of Health, Ministry of Industry and Trade, Ministry of Natural Resources and Environment and Provincial People's

About Antimicrobial Resistance

Antimicrobial resistance refers to micro-organisms including bacteria, fungi, viruses, and parasites that have acquired resistance to antimicrobials such as antibiotics. Antibiotics are being used in animals not only for treatment, but also for disease prevention and growth promotion. Micro-organisms can develop antibiotic resistance and move between food- producing animals and humans by direct exposure or through the food chain and the environment. Without effective antibiotics, prevention and treatment of infections, illnesses of humans and animals become much harder to treat. Common surgeries become much more dangerous and untreated infections lead to longer hospital stays, higher medical costs, and increased mortality. Antibiotic resistance can be transmitted through food which make it a food safety problem.

Welcome Note

Xin Chao! Welcome to FAO ECTAD Viet Nam's AMR special edition 2017/18 newsletter. With Lunar New Year approaching, Hanoi is boasting its festivity – Chuc Mung Nam Moi! (Happy New Year!)

We had a number of exciting AMR activities and definitely the launch of the National Action Plan for management of antibiotic use and control of antibiotic resistance in livestock production and aquaculture 2017- 2020 was a great output in 2017. This was a significant milestone as this was an Action Plan initiated and developed by and for the agricultural sector, which would ultimately benefit both animals and humans. For more details, please check the front page of our newsletter.

As our ECTAD Vietnam team is well known for being excellent communicators, we extended our talent to communicating to key AMR stakeholders; from our government counterparts to the general public. A KAP study was conducted to better understand our stakeholders and a nationwide campaign was held in collaboration with 4 ministries and WHO. We also featured the photo essay of the 1st place winner of the photo essay competition on good practices in livestock production and aquaculture farming.

We teamed up with Oxford University Clinical Research Unit and provided trainings to develop national AMR surveillance system at National Centre for Veterinary Hygiene and Inspection (NCVHI). After, NCVHI piloted the AMR surveillance plan in 5 provinces and also co-organized a regional training with FAO for animal health laboratory staff members from Vietnam, Bangladesh, Philippines, Laos, Cambodia and Thailand. You can check out their improvement in our newsletter.

Please enjoy our AMR special edition newsletter, and let us know if you have any feedbacks.

Kind regards,
Pawin Padungtod
Senior Technical Coordinator

Committees. We would like to call for the cooperation and technical and financial assistance from international organizations, research institutes and the private sector to join our efforts in reduction of AMU and mitigation of AMR threats. Together we are stronger against AMR" Vice Minister Vu Van Tam, Ministry of Agriculture and Rural Development, stated.

Antibiotics can kill or inhibit the growth of micro-organisms such as bacteria, fungi or protozoa. They have been extensively used in recent decades and allowed us to achieve extraordinary improvements in human and veterinary medicine. Being an essential tool to control infectious diseases, they also contributed to the improvement of food security, food safety and animal welfare. However, the efficacy of antibiotics has been hampered by the development of resistance among bacteria originating from humans, animals, food and the environment. Infections with antibiotic resistant bacteria lead to treatment failures, worse clinical outcomes and deaths.

"Launching a National Action Plan is a very important step, but its success depends on effective implementation, on compliance, and when necessary on enforcement. Actions must be based on the best evidence, consistent with international practices" said Mr. Craig Hart, Deputy Mission Director of the United States Agency for International Development.

"AMR threatens the health and livelihoods of the people in Viet Nam, the sustainability of food and agriculture production systems as well as the environment. Farmers, veterinarians and animal drug sellers should share responsibility by using antibiotic agents more responsibly and find alternative ways to maintain animal health and productivity such as improving biosecurity and farming practices" Mr. JongHa Bae, FAO Representative, said.

Extensive usage of antibiotics in livestock production and aquaculture in Vietnam has resulted in high prevalence of AMR bacteria in food animals and animal products. Over-the-counter sales of antibiotics without a prescription, and using animal feed mixed with antibiotics without professional oversight reflect irresponsible use of antibiotics which is a major issue in Viet Nam. ▪

Increasing awareness on AMU and the risk of AMR among agriculture professionals, producers, and consumers.

Studies have shown that antimicrobials and antibiotics are extensively used in Vietnamese livestock production and aquaculture which could result in high prevalence of AMR bacteria observed in our food. In order to effectively tackle this problem from different parts of the value chain, from farm to chopstick, FAO ECTAD Viet Nam is currently rolling out a number of activities targeting agriculture professionals, producers, and consumers to better communicate good practices in the use of antibiotics and antimicrobial products.

Communicating with agriculture professionals and producers

In order to identify the practices that need to be changed along the value chain, knowing what and how the professionals and producers know and act is crucial to develop a constructive communication strategy. With the financial aid from USAID, FAO and the Department of Animal Health (DAH) are implementing a Knowledge, Attitude, Practices (KAP) Study to better understand the perception of antimicrobial product users in 5 Provinces; Nam Dinh, Bac Giang, Phu Tho, Dong Nai, Ca Mau, and An Giang Provinces.

With a total of five sets of questionnaires developed with the technical assistance by FAO Regional Office for Asia and Pacific and FAO Viet Nam, the Institute for Environmental Health and Sustainable Development (IEHSD) conducted survey to core stakeholders; Animal husbandry officers, veterinarian officers, livestock extension workers, para-vets, animal feed sellers, animal drug sellers, pig producers, chicken producers, and fish/shrimp producers. With the administrational support from the Sub-Department of Livestock and Animal Health and the District Veterinary Stations, the questionnaires were pre-tested and 180 in-depth interviews and 36 focus group discussions with 288 participants were held. The analysis of in-depth interviews and focus group discussions is expected to be finalized soon to support the development of advocacy and communication plan of AMU/AMR.

“Findings from the KAP study will be used for design and implementation of advocacy and risk communication interventions by both FAO and government authorities. This will help better communicate with key stakeholders in consideration of the cultural and socio-economic factors that influence their behaviour and decision-making towards the use of antibiotics and antimicrobial products.” said Pawin Padungtod, the Senior Technical Coordinator of FAO Viet Nam.

Communicating with the public and gathering political commitment

A multi-sectoral collaboration to encourage stronger action to stop misuse and overuse of antibiotics was held during the World Antibiotic Awareness Week from 13 to 19 November 2017. The National Steering Committee for Antibiotic Resistance, Food and Agriculture organization of the United Nations (FAO) and World Health Organization (WHO) joined forces and started the kickoff event in Vinh Phuc Province 13 November to officially launch the Antibiotic Awareness Week in Viet Nam. Four ministries (Ministry of Health, Ministry of Agriculture and Rural Development, Ministry of Natural Resources and the Environment and the Ministry of Trade and Industry) and human and animal health experts attended the kickoff event enabling advocacy for better collaboration among government ministries, and providing a foundation for future campaigns addressing AMR as a cross-cutting issue.

Along with the kickoff event, FAO organized a photo essay competition on good practices in livestock production and aquaculture farming including biosecurity, vaccination, alternative measures for antibiotic uses, and prudent usage of antibiotics as per prescription. The three national winners were announced during the Antibiotic Awareness Week.

PHOTO ESSAY

Reduction of antibiotic usage in animal husbandry: An effort for economic benefits and community health

Mr. & Mrs.Vang Phuoc Toi and Vo Thi Nam - The owners of a laying chicken farm in Phu Loi C, Phu Kiet commune, Cho Gao district, Tien Giang province Viet Nam

The couple's farm is fully family-owned and -managed business, which is not part of any cooperative group, but they are active in learning, implementing and complying with biosecurity measures in animal husbandry to produce safe products.

1. CONCERN

"Why should I need to use antibiotics, which is costly, in rearing chicken leading to high antibiotic residue containing products which even I don't dare to consume?"

"There is no reason why my farm products could only be sold in local market and not for export purposes?"

3. THE PLEASURE OF HARVEST

Implementing bio-security practices, the laying chicken flocks stay healthy with high productivity and free from antibiotic usage from the last 12 months.

"Disease prevention is better than treatment. Chicken could be like us, clean and airy living condition will keep them healthy, getting sick less leading to reducing of antibiotic usage".

Commencing their business with a farm hosting only 400 chickens since 1997, there are more than 30.000 hens on their farm now, which is one of the successful farms in this commune.

During last 12 months, he said their laying chicken flocks did not need to consume any antibiotics. The couple's success is the result of the impressively creative journey of overcoming failures and challenges, which accompanies with the morality and ambition to sell their safe and clean products to local and international consumers. We met Mr. Toi and Mrs. Nam during implementation of the project entitled *"Scientist-ommunity engagement to reduce risk of zoonotic infection, Vietnam"* (www.sceneri.org). He did not participate in the project except from attending our community workshop, but their story of success has inspired us to collaborate in
producing this photo story.

2. PRODUCING ANTIBIOTIC-FREE EGGS

Perceiving the potential negative impact of antibiotic abuse in livestock husbandry and aiming to increase commercial values of the farm products, he was determined to improving the production chain for producing antibiotic-free eggs.

4. AIRY CHICKEN HOUSE

Mr. Toi refurbished the farm with the high two layer roof which allows better air flow, replacing the cages with the industrial chicken coops, rearing 12-14 chickens/ meter square.

The cement floor was built for better cleaning and disinfection.

5. SPRAYING DISINFECTANT IN CHICKEN HOUSE

Disinfectant solution was sprayed in the farm 3 times per week.

6. WELCOMING GUEST WITH LIME DISINFECTANT

Mr. Toi refuses visitors accessing his farms, in case he has to host, visitors will be asked to step on the large lime-covered area at the farm gate!

7. PREVENTING UNEXPECTED GUESTS

A 20 year-old moto-cycle only used for farm was parked by the B40 wire fence which prevents unexpected and uninvited guests (other animals) to enter the chicken house.

8. BREAK TIME

"All in – all out" including a 20-30 day break time is strictly practiced in the farm to prevent any potential cross contamination of bacteria from old to new flock.

9. TREATMENT THE FLOOR WITH MICROBIAL PRODUCTS

After selling out all chicken, once the farm floor is clean, he will treat the floor with several additional sprays of microbial products for bio-disinfectant purposes during break time.

The mat is replaced every 7-10 days to minimize the bad smell and presence of flies or insects

Lime powder then coco humus, which, according to him, *"is countlessly and cheaply available in this region"*, are layered as a bio-disinfectant mat under the cage to absorb moisture from chicken manure.

10. SELF PREPARATION OF FEED

"I estimated that 70% of producing cost is for feed. While I cannot interfere with market prices for products or many other materials required for laying chicken farming, I, however, can Reduce the total cost in production by replacing commercial feed with home mixed one."

11. THE HOME MIXED FEED

"To ensure animal feed is antibiotic free, I boldly invested the feed mixing machine to prepare feed from raw Ingredients, such as bran, corn, fish powder, cooking oil and premix."

12. AUTOMATIC DRINKING FOUNTAIN SYSTEM

The *"smart"* fountain drinking system is equipped in each coop to ensure that drinking water is always clean. Premix solution will be fed using additional containers.

13. UPDATING KNOWLEDGE

He always reads documents provided for community from on going research projects in the commune.

He has never missed any meeting or workshop organized at the commune.

14. KEEN ON LEARNING

15. CHAT AND DISCUSSION

16. PLAYING SPORT

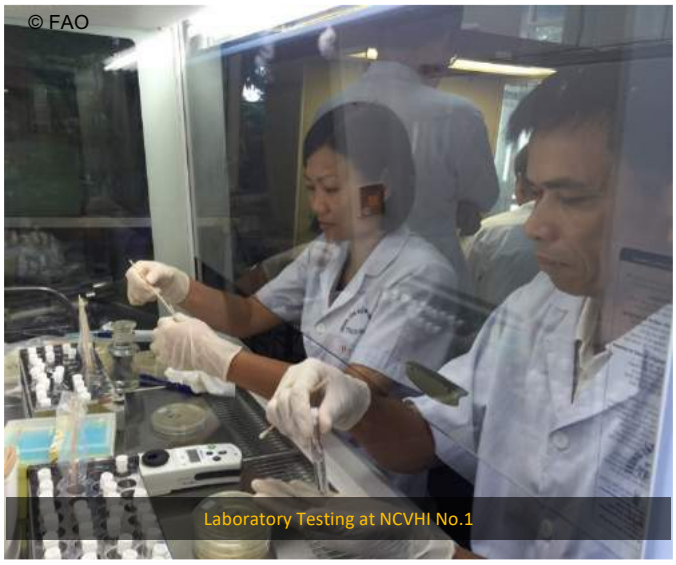
17. MOTIVATION OF CHANGES

"I always do everything with Determination and ethics of the father and the producer. Safe products for community and for the next generation encourage me in non-stop learning and enriching my knowledge to improve the bio-security practices in farming."

"We are wishing for a co-operative organization, where we well bond and commit to biosecurity practices including reducing antibiotic usage in animal husbandry. This will ensure our clean and safe chicken eggs will be both sold to local consumers and exported to international market

Strengthening AMR surveillance in chickens and pigs in Viet Nam

Surveillance is crucial to early detection, rapid response, prevention, and control of any zoonotic diseases, including identifying and monitoring antimicrobial resistant viruses. With the financial support from the United States Agency for International Development (USAID), FAO ECTAD Viet Nam is collaborating with different agencies to strengthen capacity of AMR surveillance, develop surveillance strategy, and implement the surveillance plan assess the feasibility and identify gaps for improvement.



Laboratory Testing at NCVHI No.1

Enhancing capacity to detect and monitor AMR in livestock with Oxford University Clinical Research Unit

In collaboration with the Oxford University Clinical Research Unit (OUCRU), training on bacterial isolation, AMR testing, and field sampling was provided to National Centre for Veterinary Hygiene and Inspection (NCVHI) staff and SDAH staff.

Pig slaughterpoints

The training aimed to deliver hands-on training to NCVHI staff on methodologies and procedures for sampling, bacterial isolation and antimicrobial susceptibility testing of non-typhoidal *Salmonella* and *E. coli* from pigs and chickens and provide and refine Standard Operating Procedures (SOPs) and relevant forms to record sample and isolate data, and to adapt these to the final methodology to be employed as part of the surveillance programme.

The training was delivered by OUCRU to six NCVHI staff on two phases: Phase 1 (sampling and bacterial isolation) (May 2017), and Phase 2 (antimicrobial susceptibility testing) (August 2017). The Pilot Study included a sub-study where comparative testing was carried out to determine the potential gains of using pooled samples (versus individual samples) for isolation of NTS from chicken and pig faecal samples.

Piloting AMR surveillance in 5 provinces

After receiving training from OUCRU, NCVHI of Department of Animal Health rolled out a pilot surveillance program of chickens and pigs in total 5 provinces in Northern and Southern Viet Nam. NCVHI conducted sample collection, bacterial isolation, identification and antimicrobial susceptibility testing, and data analysis of the collected samples in pig and chicken slaughterhouses. The surveillance model focused on monitoring antimicrobial resistance in E. coli and non-typhoidal Salmonella enterica (NTS) and took place in 5 provinces (Ha Noi, Hai Phong, Quang Ninh, Ho Chi Minh City, and Long An Provinces) with in total of 700 samples of pig rectals and chicken faeces from slaughterhouse and markets collected.

Based on the pilot surveillance conducted in Ha Noi, all samples were positive for E.coli and 2/80 (2.5%) of chicken samples and 6/40 (15%) of pig samples were positive for NTS.

“Through the AMR surveillance program, we aim to contribute to the organizational objective of developing capacity for government partners. This activity is aligned with one of the main objectives of Viet Nam’s National Action Plan for management of antibiotic use and control of antibiotic resistance in livestock production and aquaculture 2017- 2020, especially in monitoring AMR occurrence, antibiotic residues, AMU in livestock production and aquaculture.” said Pawin Padungtod, the Senior Technical Coordinator of FAO ECTAD Viet Nam.

The experience gained from this Pilot Study will form the basis for further implementation of the surveillance system throughout the country, to be compartmentalised in three zones (North, Centre and South), based on the prior assessment of laboratory capacity.

Strengthen laboratory capacity in Southeast Asia to detect antimicrobial residue in food product

Training key animal health laboratory staff members from the Asia-Pacific Region

Hanoi – 4 January 2018

Antimicrobials play a critical role to treat diseases for aquaculture and livestock, contributing to assure food safety and quality. However, misuse or overuse antimicrobials in aquaculture can be left in aqualtic products, in water and environment resulting in over and unintended exposure to antimicrobials which ultimately hinder the effectiveness of antimicrobials.

In Viet Nam, aquaculture has been developing very quickly in recent years with a total of 2 552 thousand tons of fish and 628.2 thousand tons of shrimps produced in 2015 (1), aquatic products account for a large volume of exported agricultural products. Previous studies have shown that antibiotics are extensively used in aquaculture (2). The lack of laboratory testing capacity has caused difficulties in detecting antimicrobial residues in aquatic products as well as new emerging resistant microorganism.

From 5-8 December 2017, the Emergency Centre for Transboundary Animal Diseases (ECTAD), FAO Viet Nam and the National Institute of Veterinary Research (NIVR) co-organised a regional training workshop on analysis of antimicrobial residues in Ha Noi. A total of 14 key laboratory staff from Vietnam, Bangladesh, Philippines, Laos, Cambodia and Thailand participated in the five day hand-on training. The workshop progamme included both class room sessions and a pilot field survey which allow trainees to gain experience in field sample collection for antimicrobial residue testing in tilapia production. The workshop is one of FAO regional capacity building activities aiming to enhance field and laboratory capacity for antimicrobial residue testing in aquatic products in Southeast Asia.

“Laboratory capacity to assess antimicrobial residue in aquatic products is critical for the implementation of Viet Nam National Action Plan on management of antibiotic and control of antibiotic resistance in aquaculture and livestock production and every countries’ effort to combat antimicrobial resistance. FAO will continue to support the government of Viet Nam and other countries to reduce the impact of antimicrobial resistance on health, livelihood and food security” stated by Pawin Padungtod, Senior Technical Coordinator, FAO Vietnam’s Emergency Centre for Transboundary Animal Diseases.

Food and Agriculture Organization of the United Nations

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Emergency Centre for Transboundary Animal Diseases Operations Viet Nam

No 304 Kim Ma street, Hanoi, Viet Nam www.fao.org/vietnam - Tel: (84 4) 39424694 - Fax: (84 4) 39423257

FAO ECTAD Viet Nam projects are financially supported by the United States Agency for International Development (USAID) and the UN One Plan Initiative

©FAO, 2018 - I9595EN/1/07.18