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Case Study:

Emergency Centre for Transboundary Animal Diseases (ECTAD) Programme in Myanmar

July 2017

COUNTRY PROGRAMME EVALUATION SERIES

Case Study:

**Emergency Centre for Transboundary Animal
Diseases (ECTAD) Programme in Myanmar**

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
OFFICE OF EVALUATION

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Figure

Figure 1. Staff of Mandalay Diagnostic Laboratory. 2016 12

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Composition of the case study team

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Acronyms and abbreviations

| | |
|--------|---|
| AAHL | Australia Animal Health Laboratory |
| APRC | Asia Pacific Regional Conference |
| CAHW | Community-based Animal Health Worker |
| CPE | Country Programme Evaluation |
| CPF | Country Programming Framework |
| DOPH | Department of Public Health |
| DRR | Disaster Risk Reduction |
| ECTAD | Emergency Centre for Transboundary Animal Diseases |
| EID | Emerging Infectious Disease |
| EMPRES | Emergency Prevention System |
| EPT | Emerging Pandemic Threats |
| FAO | Food and Agriculture Organization of the United Nations |
| GHSA | Global Health Security Agenda |
| HPAI | Highly Pathogenic Avian Influenza |
| LBVD | Livestock Breeding and Veterinary Department |
| OIE | World Organisation for Animal Health |
| RAP | Regional Office for Asia and the Pacific |
| TAD | Transboundary Animal Disease |
| SO | Strategic Objective |
| USAID | United States Agency for International Development |
| WHO | World Health Organization |

Executive Summary

- ES1 This case study on the Food and Agriculture Organization of the United Nations (FAO) Emergency Centre for Transboundary Animal Diseases (ECTAD) in Myanmar was carried out by the FAO Office of Evaluation to provide evidence to inform two evaluations led by the FAO Office of Evaluation. These are the Country Programme Evaluation (CPE), which covers the implementation period of the FAO Myanmar Country Programming Framework (CPF) (2012-2016) and a global evaluation of FAO's Emergency Prevention System (EMPRES).
- ES2 The Emergency Centre for Transboundary Animal Diseases is FAO's "*corporate centre for the planning and delivery of veterinary assistance to FAO member countries responding to the threat of transboundary animal health crises*". ECTAD management involves central and regional leadership and coordination. The programme includes country level implementation among 23 selected countries in Africa and Asia and the Pacific.
- ES3 FAO ECTAD in Myanmar is one of the eleven countries under the leadership and coordination of the ECTAD Regional Unit for South and Southeast Asia. ECTAD Myanmar is a country level project office focusing on building the capacity of the Government of the Union of Myanmar through its Livestock Breeding and Veterinary Department (LBVD) and its partners for the rapid detection and control of the highly pathogenic avian influenza (HPAI) virus.
- ES4 The establishment of ECTAD and the establishment of systems for detection, prevention and control of HPAI addressed the immediate needs of the country in responding to the threat of HPAI. From as early as 2006, ECTAD not only built the capacity of LBVD for disease surveillance and infrastructure for timely response, but also produced the national contingency plan for disease control. Activities in the country were also complemented by FAO ECTAD's involvement in regional and global projects that addressed transboundary issues and contributed to increased coordination and joint response among governments in the region.
- ES5 Between 2012 and 2016, FAO ECTAD Myanmar was found to be making an important contribution to the implementation of the Myanmar Country Programming Framework (2012-2016) and has provided a platform for the successful implementation of projects in partnership with the LBVD and other national and international partners.
- ES6 The case study found that the ECTAD programme, through its partnership with the LBVD, has demonstrated increase in capacity to address emerging zoonotic diseases in the country while addressing new areas of work and broader policy and programming opportunities. ECTAD's leadership in the development of the National One Health Strategy builds on the successful models from previous programme periods while creating new linkages with other sectors such as public health, environment and the commercial sector.
- ES7 FAO ECTAD Myanmar was found to be an effective example of a mechanism for delivery of EMPRES services for emergency management, early detection, contingency planning and rapid response to transboundary animal diseases (TADs) at country level in a developing country that is rapidly undergoing a significant social and economic transition. Reasons for this include an integrated system of central, regional and country level management, support by donors and a decade-long record of successful joint delivery of projects at local level.
- ES8 Overall, the case study concludes that:
- **The ECTAD programme has exhibited significant impact and substantially achieved project objectives.** ECTAD projects implemented under the ECTAD single programme in Myanmar, articulated the needs to be addressed in terms of disease prevention, surveillance, diagnosis and response, and refer to contributions to national policies and strategies. The approach provided complementation and helped the programme evolve from response to capacity development.

- **ECTAD has exhibited capacity to adapt to the changing policy and political environment under a new government in Myanmar.** It has done this by providing technical support for development of technical capacity, surveillance, risk assessment and contingency plans, contributing to broader livestock strategy development and addressing emerging policy areas around the liberalization of trade and One Health.
- **ECTAD contributed largely through capacity development.** A large part of ECTAD investments have shown positive results, building the capacity of LBVD to conduct surveillance and control activities in the field and in the laboratories. Included in the interventions were technical guidance in the development of guidelines in the country and the large investment in training and establishment of technical capacity.
- **ECTAD helped build and maintain resilience, livelihoods and income in the poultry industries.** Government staff, beneficiary farmers and live bird market workers now have an enhanced awareness of avian influenza and measures for prevention to improve hygiene and biosecurity at farms and live bird markets.
- **ECTAD's comparative advantage, importance and contribution to the sector is recognized by partners from the government, international agencies and donors.** ECTAD's partnerships with the World Organisation for Animal Health (OIE) and the World Health Organization (WHO) are a mix of joint implementation and normative activities. An example of technical leadership is ECTAD's inputs to the WHO programme on emerging infectious diseases (EIDs) and the United States Agency for International Development's (USAID's) PREDICT programme in Myanmar. While ECTAD is currently solely funded by USAID's Emerging Pandemic Threats (EPT 2) programme, funding has been maintained over the years, with current funding commitment until 2019.

ES9 The upcoming programme period presents several opportunities for ECTAD within the country programme and in the region. As the current project (MYA/501) continues to support preparedness for HPAI, ECTAD in Myanmar should be able to capitalize on its comparative advantage in exploring new partnerships and programme areas that cater to the emerging needs in the animal health sector. The formulation of the Country Programming Framework for 2020 and the development of the Regional Office for Asia and the Pacific's (RAP's) One Health pillar would be opportunities to link with the broader development needs in the country and in the region.

ES10 Potential ways forward:

- To continue addressing national animal health priorities, it will be necessary for ECTAD in Myanmar to **actively explore a wider range of partners and projects in the future**, capitalizing on FAO's comparative advantage.
- **One Health and its interdisciplinary and multi-sectoral approach** has emerged as an important milestone as evidenced by a collaboration among livestock, health and environmental authorities on the development of the National One Health Strategy (2017) and the use of joint outbreak surveillance activities of the Department of Public Health and the Livestock Breeding and Veterinary Department in some cases. ECTAD could expand its leadership in One Health by facilitating the participation of the commercial and disaster risk reduction (DRR)/emergency response sector in multi-sectoral pandemic planning process.
- **Future projects should continue investing in the capacity** of the diagnostic laboratories to ensure sustained proficiency and quality of disease surveillance activities. Additionally, a phased plan and strategy could be developed to institutionalize resource provision for these, within the government.

1. Introduction

- 1 The Emergency Centre for Transboundary Animal Diseases (ECTAD) is the Food and Agriculture Organization of the United Nations' (FAO's) "*corporate centre for the planning and delivery of veterinary assistance to FAO member countries responding to the threat of transboundary animal health crises*".¹ Established in 2004, ECTAD is considered to be an operational arm of the FAO Emergency Prevention System (EMPRES), a programme that provides support for emergency management, early detection, contingency planning and rapid response to emerging infectious diseases (EIDs) and transboundary animal diseases (TADs).
- 2 The ECTAD technical and operational activities are coordinated and supported by the ECTAD Regional Office in the Regional Office for Asia and the Pacific (RAP) and Animal Health Service at FAO headquarters.² An annual regional meeting of ECTAD and its partners also helps determine the direction of ECTAD and its country offices, including that of ECTAD Myanmar. Regional meetings also help tailor priorities in countries and ensure coherence and synergy among FAO objectives and ECTAD country and global contributions. ECTAD has country level implementation in 23 selected countries in Africa and Asia and the Pacific.

1.1 Purpose of the study

- 3 The study's objectives include:
 - Showcase results and challenges in terms of implementing ECTAD in Myanmar;
 - Contribute to the ongoing Myanmar Country Programme Evaluation (CPE);
 - Provide additional evidence for a global review of FAO's Emergency Prevention System that is being conducted concurrently.

1.2 Scope of the study

- 4 This case study covers the implementation of project activities of the Emergency Centre for Transboundary Animal Diseases (hereafter 'ECTAD') from 2012 to 2016. This period constitutes the overall implementation of FAO Myanmar's Country Programming Framework (CPF)³ which is currently the subject of the Country Programme Evaluation. By reviewing projects implemented by ECTAD in Myanmar, the case study seeks to document and highlight significant contributions of ECTAD to country development priorities and the regional level disease surveillance and control under the broader regional ECTAD Programme.

1 FAO ECTAD

2 The global structure combines the technical and operational expertise of the Animal Production and Health Division and the Emergency and Rehabilitation Division.

3 The CPF is a tool for the FAO country-level strategic prioritization and overall medium-term country-level programming. CPFs also constitute FAO's input into the national development frameworks and planning cycles, as well as into the United Nations Development Assistance Framework.

2. Methodology and limitations

- 5 The case study was conducted by two independent international experts. The case study team (hereafter “the Team”) conducted interviews and field visits from October to November 2016.
- 6 Interview respondents and fieldwork sites were selected after review of CPE and ECTAD documents, with the advice of the ECTAD Team. Individuals and agencies involved in the implementation of ECTAD project activities as beneficiaries or as partners were identified and interviewed. Meetings with key government officials were conducted in Nay Pyi Taw and Yangon as well as with relevant Livestock Breeding and Veterinary Department (LBVD) and livestock related actors⁴ at the local levels. The Team also identified and met with agencies implementing related programmes to inform on the wider reach of ECTAD and inform potential directions and partnerships. The team met with close to 100 stakeholders from government, international non-governmental organizations, donors and interest organizations. In addition to specific meetings for ECTAD, the Team also attended stakeholder meetings for the Country Programme Evaluation in Nay Pyi Taw and Yangon and in Bangkok for the Emergency Prevention System evaluation.
- 7 Discussions with stakeholders broadly revolved around three themes: ECTAD’s strategic position, the programme’s contribution to the needs at different levels and perceived opportunities for the programme in the medium-term. Detailed questions on relevance to needs, alignment to country priorities and how ECTAD activities were seen to contribute to increase in capacity for the prevention and control of highly pathogenic avian influenza (HPAI) in the country.
- 8 In addition, the Team visited live bird markets, poultry farms and the two Livestock Breeding and Veterinary Department diagnostic laboratories in Mandalay and Yangon to speak with staff and operators as well as observe activities. Discussions at the field level looked for specific examples of outputs and outcomes of project activities and to triangulate information on efficiency of the surveillance, prevention and control systems as well as evidence of good practices among poultry operators and field workers.
- 9 The Team regularly shared information with the CPE team members concurrently completing their fieldwork and interviews to share progress and validate information in real time, through regular meetings and workgroups. The Team also presented and validated initial findings with the ECTAD team in Yangon and participated in the debriefing with the Myanmar country team.

⁴ These include members of market and livestock associations, extension workers and poultry producers.

3. Background

3.1 Transboundary animal diseases in Myanmar

- 10 The Government of the Republic of the Union of Myanmar faced its first major outbreak of highly pathogenic avian influenza (H5N1) in 2006, which provided the impetus for the government to build its capacity for prevention, detection and control of highly pathogenic avian influenza and other emerging infectious diseases. FAO was at the forefront of this work, capitalizing on its history of a close-working relationship with the Government of Myanmar.
- 11 Since the first outbreak of HPAI in Myanmar in 2006, the country has had an average of one reported and confirmed outbreak annually until 2013. Despite there being no HPAI outbreaks in recent years, there has been significant expansion of avian influenza viruses in China since 2014. H5N8 has spread around the world via migratory waterfowl and H5N6 is spreading more widely and affecting humans in Asia, and these present imminent threats to poultry in Myanmar.
- 12 As Myanmar is rapidly developing its market and opening more to trade, the livestock industries are changing rapidly. This includes intensification of poultry, pig and dairy industries which increased export potential and movements of large numbers of cattle through and from Myanmar to the People's Republic of China.⁵
- 13 Meanwhile, emerging infectious diseases and transboundary animal diseases still pose a significant threat to Myanmar and other countries in the region and it is believed that they are likely to increase and continue to threaten national, regional and global communities in the future. Examples in Myanmar include: high impact influenza viruses (H5N1 HPAI, H1N1 Pandemic, H7N9 and H5N6), foot and mouth disease, porcine reproductive and respiratory syndrome and antimicrobial resistance. These and other high impact diseases could continue to emerge and spread due to increasing interaction between large and increasing animal and human populations, threatened environments, rapid agricultural and industrial development, global trade and movements of people, livestock and animal products.

3.2 ECTAD within the FAO Myanmar CPF 2012-2016

- 14 ECTAD in Myanmar is a unit within FAO Myanmar country office that provides a framework for joint delivery of projects addressing EIDs and TADs. Initial ECTAD projects were funded by the World Bank, the Australian Aid for International Development/Department of Foreign Affairs and Trade, the United States Agency for International Development (USAID) and other bilateral donors. They aimed to build technical and human resource capacity within the Livestock Breeding and Veterinary Department as well as provide technical support by developing enabling mechanisms such as policies and the infrastructure to support operational functions. Since then, USAID has been the main donor, with projects including highly pathogenic avian influenza and the Regional H7N9 Preparedness and Response project. These and other related activities have now been incorporated into the Emerging Pandemic Threats (EPT 2) project that will be implemented from 2015-2019.
- 15 Because of its distinct feature as part of a global programme, projects implemented by ECTAD in Myanmar contribute to objectives under FAO Myanmar's Country Programming Framework while contributing to regional and global objectives under the ECTAD Strategy for South and Southeast Asia.
- 16 The ECTAD Myanmar Team, which is housed at the LBVD compound in Yangon, is headed by an international Chief Technical Adviser and a team of national staff which include a National Project Manager and dedicated officers for disease control technical support, biosecurity and risk management, laboratory support, adult learning and One Health. The

5 http://www.rr-asia.oie.int/fileadmin/SRR_Activities/documents/movement.pdf

ECTAD Team also has its own operations and administration support unit and occasionally brings in international and national specialists.

- 17 The two country level projects of ECTAD within the Country Programme are listed below. ECTAD activities are currently funded through the Emerging Pandemic Threats (EPT 2) Programme of the Government of the United States. As one of its major implementers in Myanmar, ECTAD contributes to the EPT Global Goal of 'reduced risk and impact of emerging pandemic threats and applying One Health approaches'.
- **OSRO/MYA/702/USA – “Immediate Technical Assistance to Strengthen Emergency Preparedness for Highly Pathogenic Avian Influenza (HPAI)”**. From 1 January 2008 to 31 December 2015. Between 2012 and 2016, MYA/702 completed four of the eight project phases with a combined budget of USD 1.4 million.⁶ The project's main objective was to address the urgent short-term actions to strengthen Myanmar's capacity to rapidly detect HPAI and minimize its spread.
 - **OSRO/MYA/501/USA – “Immediate Technical Assistance to Strengthen Emergency Preparedness for Highly Pathogenic Avian Influenza (HPAI)”**. From 1 October, 2015 to 30 April 2019.⁷ The immediate objective of the project is to enhance Myanmar's capacity to prevent, detect and respond to zoonotic diseases, especially to those caused by avian influenza viruses or emerging infectious viral agents.
- 18 The primary beneficiary of ECTAD projects is the LBVD, given that most investments are on building technical capacity within the department, building the surveillance infrastructure through the diagnostic laboratories and linking with technical agencies in the region. ECTAD investments were mostly directed towards the government services responsible for maintaining healthy livestock production.⁸ Specifically, the LBVD epidemiology and laboratory services directly benefitted from strengthened management, technical understanding and articulated responsibilities around the prevention and control of animal diseases.
- 19 Rural and small farmers/livestock producers are also considered to be beneficiaries in that they primarily benefit from effective and efficient disease surveillance, control and related extension services of the LBVD. Similarly, the good health of the animal industry (particularly poultry) benefits the entire country.

3.3 ECTAD prior to the FAO Myanmar CPF 2012-2016

- 20 By 2011, ECTAD was on its fourth phase of one of its projects, **OSRO/MYA/702/USA, “Immediate Technical Assistance to Strengthen Emergency Preparedness for Highly Pathogenic Avian Influenza”**, a project supported by USAID since January 2008. By its completion in December 2015, the project had completed eight phases amounting to USD 3 129 million. Despite predating the CPF under review, the project continued to address the disease control needs in the livestock sector, gradually integrating coordination activities and joint initiatives in the region including One Health.
- 21 By 2014, the scope of work of project MYA/702 had broadened from avian influenza to include other emerging zoonotic diseases. The project's main objective was to address the urgent short-term actions to strengthen Myanmar's capacity to rapidly detect HPAI and minimize its spread. Specifically, the project aimed to provide necessary assistance in:
- Strengthening HPAI prevention and control in Myanmar, particularly the capacity to effectively contain outbreaks, including animal surveillance, collaboration and communication between the animal and human health sectors;
 - Strengthening the capacity for the veterinary services at the field level; and

6 MYA/702 annual budget between 2012 to 2016 are broken down into: USD 279 000 (2012); USD 275 000 (2013); USD 450 000 (2014); and USD 400 000 (2015).

7 This project is relatively new and overlaps with the current period under review by three months. The project budget is USD 700 000 per year.

8 Including diagnostic laboratories, provision of extension services, capacity-building and policy development.

- Mobilizing stakeholders towards building community-based rapid warning and response systems to meet the challenge of an avian influenza outbreak in Myanmar.

22 The expected outputs were categorized in four key areas:

- Strengthened cross-sectoral coordination at the national level;
- Strengthened capacity in HPAI disease surveillance;
- Strengthened capacity in HPAI laboratory diagnosis;
- Enhanced risk management measures including biosecurity improvement in farm poultry and live bird markets.

23 In addition to project MYA/702, ECTAD also implemented two other projects specifically to address regional level disease surveillance and control:

- A regional project OSRO/RAS/901/EC - Regional Cooperation Programme on Highly Pathogenic and Emerging and Re-emerging Diseases in the South Asia Association for Regional Cooperation from December 2009 to December 2013.
- A global project, OSRO/GLO/302, Emergency Surveillance Response to Avian Influenza A (H7N9) in China and High Risk Countries, from October 2014 to 30 September 2015, also supported by USAID.

4. Findings

4.1 Findings on alignment on global and regional strategies

- 24 **ECTAD is aligned with FAO's global and regional objectives.** ECTAD as a global facility is aligned and directly contributes to two of FAO's Strategic Objectives (SOs).⁹ It is aligned with FAO Strategic Objective 2, *"Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner"* through its activities that support bio-safe and sustainable poultry production.
- 25 Also, it is aligned with FAO's Strategic Objective 5 *"Increase the resilience of livelihoods to threats and crises"*. Specifically in Myanmar, where livestock is a major source of livelihood, contribution to SO5 is embodied in activities that build national capacity for preparedness to respond and manage crises in livestock production and public health, due to highly pathogenic avian influenza and other emerging zoonotic diseases. ECTAD addresses the need for prevention and rapid response to disease emergencies, contributing to the resilience of communities and the country's animal health system.
- 26 ECTAD was found to be aligned to the Regional Strategic Priority Area D of FAO RAP, *"Improve capacity to respond to food and agricultural threats and emergencies"*. Most recently, the FAO Asia and Pacific Regional Conference (APRC)¹⁰ in March 2016 demonstrated that countries in the region came to a common understanding that issues faced in the country and in the region are becoming more complex and this resulted in One Health and Climate Change becoming new regional priorities, which ECTAD embodies through its efforts in reducing the risk from high impact influenza viruses and other zoonotic diseases.
- 27 In addition to alignment with FAO global and regional strategies, ECTAD is also aligned with the Global Health Security Agenda (GHS).¹¹ Myanmar is currently not a member of GHS however, recent projects such as MYA/501, refer to the GHS framework, as with USAID's global Emerging Pandemic Threats Program (EPT 2), which funds the ECTAD Programme.

4.2 Findings on ECTAD and its alignment to national strategies and the FAO Country Programming Framework

- 28 Several medium- and long-term policies were developed by the Government of the Republic of the Union of Myanmar since the establishment of ECTAD. The National Comprehensive Development Plan for Myanmar lays down the strategic direction for a twenty-year period. The direction for the livestock sector including animal health and production are further expounded in the Framework for Economic and Social Reforms policy priorities for 2012-2015 and the Long-Term Goals of the National Comprehensive Development Plan.
- 29 As part of the National Action Plan for Agriculture, a Livestock Working Paper was produced with support by FAO, which highlights the importance of animal disease prevention. In its interim report produced in November 2014, a comprehensive assessment of the sector

9 The FAO Strategic Framework for 2014-2017 guides the global programme of FAO as it meets its overall goal of battling hunger, malnutrition and rural poverty. To this end, FAO developed five Strategic Objectives which are; *Contribute to the eradication of hunger, food insecurity and malnutrition; Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner; Reduce rural poverty; Enable more inclusive and efficient agricultural and food systems and, Increase the resilience of livelihoods to threats and crises.*

10 The Asia and Pacific Regional Conference is a bi-annual meeting of FAO Regional office for Asia and the Pacific and its partner governments to discuss opportunities and challenges in the region and priority areas of work to improve food security and nutrition, increase agricultural productivity, raise the standard of living in rural populations and contribute to sustainable economic growth. The APRC held in 2016 specifically discussed Sustainable Development Goals, revitalizing the rural economy through enhanced linkages between small-scale agricultural production and value chains; promoting national nutrition policies and investments, and integrating nutrition objectives into food and agriculture policy, programme design and implementation; and 'blue growth'. FAO 2016.

11 The Global Health Security Agenda was launched in February 2014 as a growing partnership of 50 nations, international organizations and non-governmental stakeholders to help build countries' capacity to help create a world safe and secure from infectious disease threats and elevate global health security as a national and global priority. FAO is one of the advisors to the Steering Group. GHS 2016

and six livestock related interventions and investment projects were provided. The first of these was a National Animal Health Programme which includes plans for disease control, national surveillance, contingency planning for emerging diseases, capacity-building of human resources, extension workers and the laboratories and engagement of various stakeholders from the community and private sector. The ECTAD programme is not only aligned with the planned developments for the sector but also provides a model and early building blocks to more long-term and wider programming.

- 30 The current FAO Country Programming Framework was developed in 2012, with clear recognition of gaps and priorities in the livestock sector. Among these are strengthening disease control and human resource capacity, and delivery of effective services in the livestock sector. **While aspects of ECTAD Myanmar pre-date the Country Programming Framework, ECTAD activities clearly contribute to specific CPF outputs and clearly articulate this contribution within ECTAD project documents.**
- 31 Of the seven Outcomes¹² outlined in the CPF for 2012–2016, ECTAD project documents contribute to CPF Outcome 2, *Improved food safety and quality* and with its associated outputs:
- 2.1 Enhancing food safety and quality improvement of food products;
 - 2.2 Strengthening disease control systems which support farm- and village-level services.
- 32 While current ECTAD projects do not articulate a link to disaster risk reduction, ECTAD activities around strengthening the capacity to detect, prevent and control HPAI (and other zoonotic diseases) directly contribute to most components of the Myanmar Action Plan on disaster risk reduction (MAPDRR 2012).

4.3 Case study findings

4.3.1 Programme approach

- 33 The ECTAD programme can be classified into three specific areas of intervention namely **surveillance, control and prevention**. Several activities were conducted under this component of ECTAD throughout the period under review. For MYA/702 alone, ECTAD completed 27 surveillance activities, 17 training courses, 12 workshops, six meetings, four outbreak containment activities, two standard operating procedures, development activities and a seminar.
- 34 **Complementarity of projects** under the ECTAD programme paved the way for activities under MYA/302 which were carried forward by succeeding projects MYA/702 and MYA/501 under USAID, ensuring sustainability of early outcomes and continuation of support. Also, as ECTAD activities are both emergency and development in nature and in more recent times there has been **greater focus on pro-active approaches to building resilience, prevention and preparedness**; an approach being implemented in FAO Myanmar.
- 35 **ECTAD strengthened capacity for disease surveillance** in the field through training of field workers and support for surveillance (such as sample collection) activities across the supply chain through the provincial Livestock Breeding and Veterinary Department and their Community-based Animal Health Workers (CAHWs).
- 36 ECTAD continues to **improve institutional and technical capacity for disease surveillance** through the Mandalay and Yangon laboratories, with investments in laboratory equipment, technical training in and out of the country and the improvement in quality standards.

12 1. Increased agricultural production to enhance food security; 2. Improved food safety and quality; 3. Sustainable management of natural resources and the environment; 4. Human resource development and institutional capacity building; 5. Land use and land management; 6. Rural livelihoods improvement; 7. Preparedness for and mitigation of disasters and climate change.

- 37 The capacity of the laboratories is demonstrated by the implementation of upgrades and improvement in proficiency tests coordinated by the Australian Animal Health Laboratory (AAHL). These laboratories have shown increased capacity and achieved international standards for proficiency (bio-safety level 2 – BSL-2). Identification of new strains and new diseases have also been confirmed by AAHL. In addition to disease surveillance, both Mandalay and Yangon diagnostic laboratories have the capacity to respond to private requests for testing of meat and food products.
- 38 **The early detection of diseases and viruses has largely contributed to early action in terms of outbreak control.** Surveillance samples were collected from farms, small and medium live bird markets and collection points. LBVD also regularly collected samples from high risk areas, including the import/export markets for day old chicks. Information produced is shared with the government and relayed back to the township/farmer level through LBVD staff. **Myanmar has not reported a major outbreak of HPAI since 2013.**
- 39 **The first detections in Myanmar of highly pathogenic H5N6 Influenza in chickens and ducks imported from China in 2016¹³ demonstrates the success of ECTAD's work with the LBVD on strengthening diagnostic capacity and implementing surveillance programmes at live-bird markets and poultry collecting points.** The H5N6 strain has also been detected in the People's Republic of China, Lao People's Democratic Republic, Japan, the Socialist Republic of Viet Nam, South Korea and Taiwan. It has been linked to 17 cases of illness in humans, all from the People's Republic of China. Lessons learned from ECTAD in Myanmar also contributed to the control of influenza viruses and to regional knowledge of the risks of H7N9.
- 40 Furthermore, FAO's work in the geo-tagging of commercial farms and areas with large ruminants is useful in monitoring risk areas and production practices

4.3.2 Improved capacity for rapid disease control

- 41 Myanmar has not experienced major H5N1 outbreaks since 2013. The infrastructure and guidelines that were developed for HPAI have been used in recent disease incidents and capacity for control within a one-month period is reported.
- 42 Outbreak and contingency plans developed for HPAI have also been adapted for H7N9 Low Pathogenic Avian Influenza under MYA/302. Rapid response procedures developed for HPAI have also been useful for dealing with foot and mouth disease and porcine reproductive and respiratory syndrome outbreaks in recent years.
- 43 The global project, GLO/302 was also responsible for strengthening surveillance and quarantine capacity for avian influenza H7N9 along pathways from China. The results combined with similar surveillance and value chain studies in Lao People's Democratic Republic and the Socialist Republic of Viet Nam have demonstrated absence of H7N9 influenza outside China but have identified risk pathways that need further management.

4.3.3 Prevention, awareness and risk reduction

- 44 Policies, guidelines and protocols for disease surveillance and control are seen to have potential long-term effects and have already exhibited results. For example, a number of avian influenza **outbreaks have been contained within one month.** Protocols for rapid response and surveillance developed for avian influenza have also been used to respond to other emerging diseases.
- 45 ECTAD investments focused on building and strengthening the operational infrastructure and human resource for disease surveillance, prevention and control, contributing to long-term capacity for animal disease management capacity in the country.

13 CIDRAP News February 2017 - <http://www.cidrap.umn.edu/news-perspective/2017/02/myanmar-confirms-its-first-h5n6-outbreak>

- 46 Through MYA/702, ECTAD convened meetings, including National Steering Committee Meetings that brought together and coordinated senior decision-makers. The project supported Myanmar's participation in two high level meetings between the People's Republic of China, Lao People's Democratic Republic and the Republic of the Union of Myanmar, where issues relating to international trade and livestock disease were discussed.
- 47 Poultry farmers and traders also directly benefitted from disease control and prevention activities. Rural households whose livelihoods are closely tied to poultry production benefitted from the reduced incidence of HPAI, and have improved poultry disease prevention and control methods. Ultimately, the general population of Myanmar has benefitted from safe and adequate supply of animal products and reduced exposure to H5N1. This work also had positive implications for regional and global communications by reducing the risks of a potential global avian influenza pandemic.
- 48 **There is relatively good knowledge and understanding of good poultry production practices and their importance in the safety of those in the market and the consumers. Much of this increased awareness is due to work by ECTAD and LBVD. However, this knowledge has been inconsistently practiced. The case study Team saw little evidence of bio-security and bio-safe practices in live bird markets visited.** The application of these practices at individual farm and live bird market operators have been hindered by cost and perception constraints, indicating further need for monitoring, behavioural change communication, stronger enforcement and improved biosecurity. Examples of poor biosecurity practices are the lack of segregation of live ducks and chickens, poor handling and slaughtering facilities, poor hygiene and waste management practices in slaughterhouses, and lack of personal protection practices in sellers (mask, gloves, hand washing). More targeted work is needed in order to turn awareness of biosecurity measures into action.

4.3.4 Partnership

- 49 The close partnership with LBVD and the Ministry of Agriculture, Livestock and Irrigation¹⁴ since the establishment of ECTAD and its implementation of projects in the last six years has facilitated greater ownership by the government. This was observed during field visits, when LBVD staff often spoke of FAO supported activities as their own or described LBVD activities implemented 'with FAO support'. Policies and guidelines, developed with FAO technical support are being utilized across the levels of LBVD.
- 50 ECTAD and LBVD have been working with the University of Veterinary Science in Yezin and a priority has been the provision of seminars and student field projects as part of the introduction of veterinary epidemiology to undergraduate training at the University. The University and its staff are also a resource to be used in the delivery of ECTAD research and extension projects and the implementation of plans for a National Field Epidemiology Training Program.
- 51 ECTAD already bridges the gap with the private sector through partnerships with the Myanmar Veterinary Association and the Myanmar Livestock Association, although these relationships mostly revolve around capacity-building opportunities for members and value chain studies.
- 52 Furthermore, ECTAD project activities are also informed by experiences from other Mekong countries, through regional networks (epidemiology and laboratory), technical training such as the Regional Field Epidemiology Training Program and through regional workshops where countries are able to share experiences.

4.3.5 Capacity Development

- 53 **Capacity building is at the core of ECTAD** and is implemented through different modes including workshops, training, technical support and provision of equipment. Overall, the activities widely contribute to the increase in capacity of the government department

14 Previously, Ministry of Livestock Fisheries and Rural Development.

(LBVD) to rapidly detect HPAI and prevent the spread of the disease. Increase in capacity and raised awareness both have longer term benefits. ECTAD not only focuses on building capacity but also provided partners with the equipment and means to showcase this capacity at the laboratory or at the field level. In addition to regular workshops and training, laboratory equipment and operational support have been provided at various levels.

- 54 By focusing on building the capacity of the LBVD, FAO ensures that small to large scale poultry producers have access to surveillance and control services from the government. Policies and guidelines developed also benefit the whole country and ensure that the Government of the Republic of the Union of Myanmar is also able to contribute to regional efforts on transboundary animal diseases.

4.3.6 Gender and community participation

- 55 Gender balance is designed into capacity-building activities and monitored through basic attendance lists. The implementing partners in the livestock sector have more male staff however, from field visits, it was observed that there is an increasing participation of women. A number of township veterinary staff are women and community-based animal health workers are now increasingly able to attract younger and female volunteers.



Figure 1. Staff of Mandalay Diagnostic Laboratory. 2016

- 56 Female leadership in the two diagnostic laboratories has increased over time. The Mandalay diagnostic laboratory is led and mostly staffed by women.
- 57 Risk communication messages do not specifically target women as ECTAD and partners see that disease impact does not discriminate on gender. For ECTAD the whole population must all be aware of the risks and protective practices. There is more that could be done in terms of targeting women, especially as active participants in the livestock supply chain and at the farm and home level.
- 58 As ECTAD does not directly work at the farm level, community participation is determined by the depth of engagement of the local LBVD staff. This is in the form of recruitment and training of volunteer CAHWs or local awareness raising and surveillance activities. During field visits, LBVD collection points composed of consolidators, market and independent vendors are agreeable to continued surveillance/sampling activities because this helps monitor the health of their products. However, there is limited individual initiative for reporting and bio-safe practices at the farmer and trader level.

4.3.7 Comparative advantage

- 59 International donors have indicated that at the time when access to Myanmar was limited, FAO ECTAD was one of the only implementing agents with the capacity to deliver projects on zoonotic emerging infectious diseases and transboundary animal diseases in Myanmar. FAO is currently viewed as a preferred partner under USAID's EPT 2 programme because of the reason stated. Evidence of donor confidence is the steady funding to the programme, as is the commitment of funding through 2019. This is a strong comparative advantage for ECTAD in Myanmar. At present, there is a heavy reliance on a single donor with a project completion date of 2019.
- 60 As Myanmar continues to open to international aid and the development community, FAO ECTAD's reputation for effective project delivery positions it well to work with a more diverse set of partners in the future.
- 61 FAO ECTAD has a comparative advantage for its work in Myanmar for a number of reasons including:
- FAO is a trusted United Nations agency with a long history of successful programme delivery in Myanmar;
 - FAO's mandate is to deliver bilateral projects at country level;
 - FAO ECTAD has a close relationship with its key national partner, the LBVD, and a decade-long experience in the successful delivery of joint projects;
 - Ability to work with LBVD and other national partners at all levels;
 - FAO ECTAD headquarters and the Regional Office for Asia and the Pacific provide strong leadership, management and technical support.

5. Summary of findings

- 62 **The ECTAD programme has exhibited significant impact and substantially achieved project objectives.** ECTAD projects implemented under the ECTAD single programme in Myanmar, articulated the needs to be addressed in terms of disease prevention, surveillance, diagnosis and response and refer to contributions to national policies and strategies. The approach provided complementation and helped the programme evolve from response to capacity development.
- 63 **ECTAD has exhibited capacity to adapt to the changing policy and political environment under a new government in Myanmar.** It has done this by providing technical support for development of technical capacity, surveillance, risk assessment and contingency plans, contributing to broader livestock strategy development and addressing emerging policy areas around the liberalization of trade and One Health.
- 64 **ECTAD contributed largely through capacity development.** A large part of ECTAD investments have shown positive results building the capacity of LBVD to conduct surveillance and control activities in the field and in the laboratories. Included in the interventions were technical guidance in the development of guidelines in the country and the large investment in training and establishment of technical capacity.
- 65 **ECTAD helped build and maintain resilience livelihoods and income in the poultry industries.** Government staff, beneficiary farmers and live bird market workers now have an enhanced awareness of avian influenza and measures for prevention to improve hygiene and biosecurity at farms and live bird markets.
- 66 **ECTAD's comparative advantage, importance and contribution to the sector is recognized by partners from the government, international agencies and donors.** ECTAD's partnerships with the World Organisation for Animal Health and the World Health Organization are a mix of joint implementation and normative activities. An example of technical leadership is ECTAD's inputs to the WHO programme on emerging infectious diseases and USAID's PREDICT program in Myanmar. While ECTAD is currently solely funded by USAID's EPT 2 programme, funding has been maintained over the years, with current funding commitment until 2019.

6. Programme opportunities and ways forward

- 67 To continue addressing national animal health priorities, it will be necessary for ECTAD in Myanmar to **actively explore a wider range of partners** and projects in the future, capitalizing on FAO's comparative advantage. Most of ECTAD's project work on livestock and poultry diseases implemented through the LVBD, and so there is a need to develop joint activities that **facilitate greater engagement with mid-level traders and small farmers**.
- 68 Develop new partnerships that **link the commercial sector and the small-holder farms** to implement activities that mitigate the possible risks of a more open and commercial market to the animal industry and the human population. An example is to use the Myanmar Livestock Federation and the Myanmar Veterinary Association to encourage behavioural change and improve standards amongst members and their farmer contacts at the community level.
- 69 ECTAD has contributed to the development of the curriculum of the University of Veterinary Science through the introduction of One Health and Epidemiology seminars. The partnership could further be strengthened by **investing in information resources, engaging the University in joint research and utilizing the University of Veterinary Science on-site training of extension workers** as a possible component to a strategy for long-term capacity-building and extension of surveillance and risk communication at the local level.
- 70 One Health and its interdisciplinary and multi-sectoral approach has emerged as an important milestone as evidenced by a collaboration among livestock, health and environmental authorities on the development of the National One Health Strategy (2017) and the use of joint outbreak surveillance activities of the Department of Public Health and the Livestock Breeding and Veterinary Department in some cases. ECTAD could expand its leadership in One Health by facilitating the participation of the commercial and disaster risk reduction/emergency response sector in multi-sectoral pandemic planning process. This brings in a deeper analysis of the impact of transboundary animal diseases and emerging infectious diseases on the whole of society and facilitates more comprehensive planning.
- 71 ECTAD needs to **build a portfolio that enables programme expansion to a wider range of transboundary animal diseases, emerging animal diseases and the rapidly changing environment in the animal industry**. The contribution of the ECTAD programme is largely focused on emerging zoonotic diseases particularly in the poultry sector, but there are needs to address surveillance and control of a growing list of diseases in the livestock sector, some of which are foot and mouth disease, porcine reproductive and respiratory syndrome, rabies, African swine fever, brucellosis, tuberculosis and anti-microbial resistance.
- 72 The ECTAD programme has evolved over its implementation to adapt to the changing needs and the context in the country and in the region. For instance, despite being designed primarily for avian influenza, ECTAD, through MYA/702 had started to work on other emerging diseases by 2014. This approach needs to be intentionally pursued during the formulation process for the CPF to 2020 and in the next regional ECTAD conference.
- 73 The impact of risk management and bio-security practices in poultry farms and live bird markets are limited and this area needs further work. So far, ECTAD has organized country and regional risk management workshops and while this is a good step, activities that promote risk awareness and management at the local level still need to be further improved. This could be done by **developing a risk communication and behaviour change strategy** as part of the programme's bio-security component to promote good practices and health seeking behaviour at the market, farm and individual level. Consistent monitoring of the application and improvement in practices could also be integrated at the local LVBD level.

- 74 There is a need for **improvement of risk awareness and risk management** in the production and market chain as Myanmar moves towards a more trade-oriented economy. In addition to strengthening surveillance in high risk areas ECTAD could also focus on behaviour change and awareness of small-scale actors within the supply chain as well as develop policies that reduce the risk of emergence of diseases. One FAO China South-South-Cooperation project involving cooperation among the People's Republic of China Lao People's Democratic Republic and the Republic of the Union of Myanmar on transboundary animal diseases is under development and active participation in this will provide ECTAD in Myanmar and the LBVD with the opportunity to work on a wider range of TADs in the future. This includes building regional links and complementing efforts of other FAO projects in the region while strengthening the linkages in country.
- 75 As the trade and market continue to grow in Myanmar, these changes need to be accompanied by changes in policy and legislation to ensure that small producers are able to benefit from a more open market. For example, ECTAD may need to **assist LBVD in building a stronger position in the collaboration with the People' Democratic Republic of China and other neighbouring countries** in managing the risks posed by the movements of large numbers of cattle and buffaloes through and from Myanmar to China (OIE and FAO reports). This presents opportunities for FAO and LBVD to manage the supply chains and provide benefits to Myanmar.
- 76 Future projects should **continue investing in the capacity of the diagnostic laboratories to ensure sustained proficiency and quality of disease surveillance activities**. Additionally, a phased plan and strategy could be developed to institutionalize resource provision for these, within the government.
- 77 Contribute to the policy work of FAO in Myanmar by following-up on related investment and development plans stated in the National Action Plan for Agriculture and contribute to the inclusion of small-holder farmers, especially in disease prevention. Recently, ECTAD staff assisted in the development of a livestock strategy for the Rakhine Development Plan. ECTAD could expand this support by also **providing technical advice in the development and implementation of emergency projects** and advice on standards and risk management. This could be done in collaboration with the FAO Myanmar Emergency Team or through representation in emergency or DRR coordination platform.

Minister of Health, the Department of Public Health (DoPH) Director General, Dr Soe Lwin Nyein
"Many of the emerging infectious diseases are highly infectious and animal origin accounts for 70 %. Myanmar is growing fast in terms of social and economic development. Trade, travel and tourism sectors become more developed with these positive transformations, increasing the cross-border movement of humans, animals and products. This leads to higher risk of transmission of communicable diseases including avian influenza".



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