OFFICE OF INSPECTOR GENERAL

AUDIT OF USAID'S COMMODITIES FOR AVIAN INFLUENZA ACTIVITIES

AUDIT REPORT NO. 9-000-09-006-P
April 30, 2009

WASHINGTON, DC

April 30, 2009

MEMORANDUM

TO: GH/HIDN/AI, Director, Dennis Carroll

FROM: IG/A/PA, Director, Steven H. Bernstein /s/

SUBJECT: Audit of USAID's Commodities for Avian Influenza Activities (Audit Report No. 9-000-09-006-P)

This memorandum transmits our final report on the subject audit. We have considered your comments on the draft report in finalizing the audit report and have included your response in appendix II of the report.

The report contains five recommendations to improve USAID's management of the commodities for avian influenza. Based on your comments and documentation provided, final action has been taken on all five recommendations.

I appreciate the cooperation and courtesy extended to my staff during this audit.

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SUMMARY OF RESULTS

The U.S. Government has grown increasingly concerned about the presence and rapid spread of the H5N1 strain of highly pathogenic avian influenza virus around the world, and the potential that it could spark a deadly human flu pandemic. U.S. Government support for avian influenza control is designed with the overall goal of protecting human and animal health and mitigating the economic, social, and security consequences of highly pathogenic avian influenza in all regions of the world. In accordance with the U.S. Government's National Strategy for Pandemic Influenza, USAID plays a leading role in the international effort to combat avian influenza. In December 2005, Congress appropriated $56.3 million to USAID for the prepositioning and deployment of essential supplies and equipment to prepare for and respond to the avian influenza virus (page 3).

The Office of Inspector General conducted this audit to determine if USAID properly procured, deployed, and warehoused avian influenza commodities (page 4).

In general, USAID properly procured, deployed, and warehoused its avian influenza commodities for the locations tested. USAID properly procured these commodities in accordance with USAID guidance, commodities were received in a timely manner and were available when needed, and storage conditions at warehouse facilities visited by the auditors generally met the standard warehouse operating procedures approved by USAID (page 5). However, the audit noted some opportunities for USAID to improve program operations. Some areas of concern noted in Indonesia and Thailand were related to (1) determining the usefulness of the regional distribution center in Thailand (page 8); (2) reducing excess warehouse space (page 10); (3) properly disposing of unusable, expired, and damaged commodities (page 15); and (4) obtaining a formal agreement with one of the implementing partners (page 17).

This report recommends that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit (Avian Influenza Unit):

- Ensure that a cost analysis and justifications for all shipments to Asia are documented, and conduct an assessment of the usefulness of the regional distribution center in Thailand (page 10).

- Establish a procedure to review warehouse space requirements, review the flexibility under the current lease agreement to renegotiate warehouse space, and consider options for alternate warehousing to realize savings of approximately $91,000; ensure that unusable, expired, or damaged commodities are properly identified and isolated; and stack commodities as efficiently as possible to make full use of the space available (page 14).

- Work with the appropriate United Nations Food and Agriculture Organization personnel to develop procedures for proper inventory management of commodities (page 14).

- In conjunction with its implementing partners, review the items at the warehouse in Thailand and determine the possible uses or need for disposal, request and arrange for approval to dispose of the items, and notify

appropriate personnel at the United Nations Food and Agriculture Organization of the need to evaluate commodities for disposal and proceed to dispose of any relevant items (page 17).

- Document an understanding with the United Nations Food and Agriculture Organization in Indonesia regarding the management of commodities (page 18).

USAID's Avian Influenza Unit agreed with the recommendations in our draft audit report and has implemented all five recommendations. Actions taken by management in response to our recommendations include: deciding to close the regional distribution center in Thailand; proposing 446 unusable items (valued at $2,325) for disposal; and reducing the amount of warehouse space leased for a cost savings of approximately $106,000. As a result of management's actions, final action has been reached and all five recommendations are closed upon issuance of this report. Management comments are presented in their entirety in appendix II.

BACKGROUND

Avian influenza reemerged in Southeast Asia in 2003 and has since spread across Asia, Europe, Eurasia, and Africa. Since 2003, 61 countries have reported highly pathogenic avian influenza (H5N1 strain) in domestic poultry and wildlife. A total of 387 human cases have been recorded in 15 different countries, 63 percent of which have been fatal. Fears that the disease could become a global human pandemic with the potential to kill millions have prompted a serious response on the part of the U.S. Government.

In accordance with the U.S. Government's National Strategy for Pandemic Influenza, USAID plays a key part in the international effort to combat avian influenza. In December 2005, Congress appropriated $56.3 million to USAID for the prepositioning and deployment of essential supplies and equipment to prepare for and respond to the avian influenza virus.

In response to this mandate from Congress, USAID created a stockpile mainly composed of personal protective equipment kits. These kits contain items such as coveralls, respirator masks, and goggles to protect workers in outbreak clean-ups and investigations. Decontamination kits (used in outbreak clean-ups) and laboratory specimen collection kits (used to collect and manage specimens for detecting avian influenza) were also stockpiled in significant numbers.

In March 2007, USAID contracted John Snow, Inc. to support avian influenza commodity procurement and distribution under a USAID task order. John Snow, Inc. has identified the following three objectives for this task order:

- Establish and operate a secure, reliable global mechanism to store, transport, rapidly deliver, and track in-country distribution of current and future USAID avian influenza international stockpile assets. This global distribution mechanism requires in-country distribution coordination with USAID missions, USAID implementing partners, host country governments, United Nations agencies, nongovernmental organization partners, and other Federal agencies.

- Establish a comprehensive management information system that can provide current information about all aspects of the avian influenza global distribution mechanism, from procurement to end use.

- Procure, assemble, and distribute additional assets, as needed.

USAID Global Health Bureau's Avian and Pandemic Influenza Response Unit (Avian Influenza Unit) has indicated that its current objectives are centered on prepositioning commodities in order to respond to and be prepared for outbreaks. The task force is also focused on reviewing and improving the selection of items in the commodity stockpile.

The Avian Influenza Unit headquarters is in Washington, DC. The stockpile of goods held domestically is located at a warehouse in Savannah, Georgia. The Avian Influenza Unit recently opened its first regional distribution warehouse in Bangkok, Thailand.

AUDIT OBJECTIVE

As part of the fiscal year (FY) 2008 annual audit plan, the Office of Inspector General conducted this audit to answer the following question:

- Has USAID properly procured, deployed, and warehoused its avian influenza commodities?

Appendix I includes the details of the audit's scope and methodology.

AUDIT FINDINGS

In general, USAID properly procured, deployed, and warehoused its avian influenza commodities at the locations tested. However, the audit noted some opportunities for USAID to improve program operations. Some areas of concern noted in Indonesia and Thailand were related to (1) determining the usefulness of the regional distribution center; (2) reducing excess warehouse space; (3) disposing of unusable, expired, and damaged commodities; and (4) obtaining a formal agreement with the United Nations Food and Agriculture Organization in Indonesia. Despite these issues that arose during the course of the audit, the audit noted improvements in managing the commodity stockpile. Specifically, USAID achieved the following targets:

Procured – USAID has approved the purchase of 28 million vaccinations for avian influenza and 14 million doses for Newcastle disease (a highly contagious bird disease affecting many domestic and wild avian species). From February 2007 through September 30, 2008, under John Snow, Inc. USAID Deliver Project Task Order 2 (Avian Influenza), USAID procured approximately $1,200,000 of avian influenza commodities. Of this amount, $247,711, or 20 percent, was for the procurement of approximately 9.8 million avian influenza and Newcastle disease vaccine doses, for distribution only in Indonesia. The remainder of the procured commodities included vaccination equipment, lab specimen kits, and other items as specified in its agreement with USAID. The vaccines were distributed directly from the manufacturer to 16 districts in Indonesia and were administered by the United Nations Food and Agriculture Organization and Indonesian veterinary authorities on a quarterly basis. USAID properly procured these commodities in accordance with USAID guidance. No personal protection equipment kits were procured during this period as USAID is working to deplete its existing stockpile.

Deployed – This audit's testing of commodity deployment concluded that commodities were received timely and were available when needed. Affected countries request commodities from USAID to respond to animal and human avian influenza outbreaks. Upon requests and further research to determine the actual country needs, USAID deploys the commodities to a representative in the country. Generally, the commodities are transferred to a USAID implementing partner, such as the United Nations Food and Agriculture Organization, World Health Organization, Ministry of Health, Ministry of Agriculture, or others as determined by USAID. The commodities are then distributed to districts, subdistricts, and ultimately to the end users (persons using the commodities). From March 2007 through September 30, 2008, a total of $5,561,087 in commodities was distributed to 76 countries.

Warehoused – The audit concluded that the warehouses generally met the standards established by USAID. In March 2007, USAID transferred responsibility for managing its commodity stockpile from the USAID Office of Foreign Disaster Assistance to the Global Health Bureau's Avian and Pandemic Influenza Response Unit (Avian Influenza Unit). The Avian Influenza Unit contracted with John Snow, Inc. to manage the commodity stockpile, which had previously been managed by Federal Occupational Health within the U.S. Department of Health and Human Services, under a contract with the Office of Foreign Disaster Assistance. The commodities, under Federal Occupational Health's management, were stored at an Air Force base in Atlanta, Georgia. After John Snow,

Inc. assumed management of the commodities, the commodities were transferred to Savannah, Georgia.

In March 2008, USAID also established a regional distribution center in Thailand to test the effectiveness of a regional distribution center as a way to ensure timely and effective responses to outbreaks in neighboring countries. John Snow, Inc. subcontracted with Medical Assistance Programs International and United Parcel Service to manage the warehouse facilities in Georgia and Thailand, respectively. As of October 17, 2008, the inventory on hand in Georgia and Thailand is summarized as follows:

Table 1. Commodities Warehoused in Georgia and Thailand

	Georgia		Thailand	
Item Description	**Quantity**	**Value**	**Quantity**	**Value**
Personal Protection Equipment	913,650	$7,994,437	40,900	$357,875
Decontamination Kit	794	$277,900	202	$70,700
Laboratory Kit	187	$110,422	9	$5,314
Total	**914,631**	**$8,382,759**	**41,111**	**$433,889**

Storage conditions generally met the standard warehouse operating procedures approved by USAID at both warehouses. (See appendix III for the standards tested.)

Photograph of avian influenza commodities stockpiled at the UPS warehouse in Bangkok, Thailand. Taken by an Office of Inspector General auditor on November 12, 2008.

USAID's Avian Influenza Unit has made notable improvements in managing commodities over the past 2 years. The following sections discuss the improvements, as well as opportunities to improve performance management or program operations.

Improved Process for Managing Commodities

The Avian Influenza Unit has improved its process for managing commodities under the John Snow, Inc. task order, as noted below:

Storage Conditions – According to USAID officials, John Snow, Inc., the contractor, replaced boxes with higher-grade cardboard boxes and stacked the commodities on pallets that could be shipped easily. Because of the large number of boxes, this process is still under way. Boxes that contained large amounts of empty space were replaced with boxes of more efficient sizes. The contractor also sorted the personal protection equipment kits so that they could be shipped by size, which was important as certain sizes were impractical in countries where the people tend to be smaller or larger. Lastly, the contractor tracked the commodities using a computer-based system that provided timely inventory reports based on quantity and value of commodities.

Implementation of Inventory Data Management System – The enterprise resource planning software application, ORION, tracked inventory from the Georgia warehouse through delivery to the implementing partner in the recipient country. The inventory could be accessed online by personnel from implementing partners to track delivery of commodities. The system allowed Avian Influenza Unit personnel in Washington to easily check the availability, location, and expiration of commodities. One important feature of the system was the ability to track expiration dates, which allows the Avian Influenza Unit to ship commodities that are closer to expiration first and to quarantine expired commodities.

Supply of Commodities – The Avian Influenza Unit reassembled some avian influenza commodity kits. For example, the original decontamination kit contained an inflatable swimming pool to walk through while disinfecting footwear. According to Avian Influenza Unit personnel and commodity end users, there was not usually a way to inflate the pools, which made them useless. Furthermore, the image on the box that contains the pool could be offensive to more conservative cultures. Users of the decontamination kits have found alternative methods for disinfecting footwear, and the pools have been removed from the kits (see finding later in report that deals with disposal of unusable commodities). The kits also contained 1-gallon sprayers for dispersing disinfectant. These were too small to be practical and were replaced with 2.5-gallon sprayers. In addition, many of the commodities contained disinfectant wipes with an alcohol content that was too high to be shipped by air. Each kit was opened to check for the type of wipe, and the unallowable wipes were replaced.

Moving the commodities to the Georgia warehouse, implementing the inventory data management system, and reviewing the contents of the commodity kits have resulted in a more efficient and effective avian influenza commodity program.

Photograph of commodity kits being reassembled at the Medical Assistance Program warehouse in Savannah, Georgia, a process which involved opening each kit individually and removing and replacing items as determined by the Avian Influenza Unit at USAID. Taken by an Office of Inspector General auditor on October 20, 2008.

Although USAID's Avian Influenza Unit has made notable improvements in managing the commodity stockpile, opportunities exist to improve performance management or program operations related to (1) determining the usefulness of the regional distribution center; (2) reducing excess warehouse space; (3) disposing of unusable, expired, and damaged commodities; and (4) documenting an understanding with the United Nations Food and Agriculture Organization in Indonesia.

USAID Needs to Determine the Usefulness of the Regional Distribution Center

Summary: United States law and USAID policies require effective and efficient use of resources. USAID has not had to use the regional distribution center in Thailand (as of December 31, 2008). According to USAID, since the opening of the distribution center, other donors have contributed to the region's supply of avian influenza commodities, and the need for the commodities has changed as the virus appears to be changing over time. Without a careful analysis of the current environment to determine the needs and demands for the commodities, USAID's avian influenza efforts will not be as effective and efficient as they could be.

According to the Foreign Assistance Act of 1961 (Public Law 87-195, as amended), Congress requires that development concerns be fully reflected in U.S. foreign policy and that U.S. development resources be effectively and efficiently utilized. Also,

according to the President's Emergency Plan for AIDS Relief 5-year strategy, the goal of the U.S. Government is to "encourage partners, including multilateral organizations and other host governments, to coordinate at all levels to strengthen response efforts, to embrace best practices, to adhere to principles of sound management, and to harmonize monitoring and evaluation efforts to ensure the most effective and efficient use of resources." In addition, USAID's Automated Directives System (ADS) 596.2k stipulates that managers ensure the quality and timeliness of program performance and that programs are managed with integrity and in compliance with applicable law.

In March 2008, USAID established a regional distribution center in Thailand for the stockpile of avian influenza commodities, including personal protective equipment, decontamination kits, laboratory specimen collections kits, and training packs. The center was established to evaluate the cost-effectiveness of a regional distribution center to meet routine and emergency needs for surveillance and rapid response teams and outbreak investigation efforts, and to resupply the countries in the region with commodities. The center was also established to determine whether a forward deployment of key commodities would better enable quicker reaction to emergency animal and human outbreaks within 24 hours following a reported outbreak.

According to a cost comparison (based on estimated costs) for shipping rates for shipments originating from the regional distribution center and Georgia warehouse for selected locations in Asia conducted by the Avian Influenza Unit below, the shipping costs were approximately 15 percent to 490 percent higher for emergency shipments and 15 percent to 199 percent higher for nonemergency shipments from the United States. Also, the response time for emergency shipments was approximately 1–2 days slower from the United States. According to an official from the Avian Influenza Unit, although this assessment does not take the sea freight and storage costs into account, the savings are significant, particularly for emergencies. The variable of response time cannot be attributed a monetary value, but is much more important than cost.

Table 2. Regional Distribution Center and Georgia Warehouse Cost Comparison

	Emergency Shipments				**Nonemergency Shipments**			
	Shipping Cost From		**Response Time (Days) From**		**Shipping Cost From**		**Response Time (Days) From**	
Ship To:	**Regional Center**	**Savannah**	**Regional Center**	**Savannah**	**Regional Center**	**Savannah**	**Regional Center**	**Savannah**
Bangladesh	$1.55	$9.20	1 to 5	3 to 7	$1.22	$3.42	3 to 7	10 to 14
Burma	$1.09	$2.76	1 to 5	3 to 7	$0.90	$1.65	3 to 7	10 to 14
China	$1.21	$1.61	1 to 5	3 to 7	$1.21	$1.39	3 to 7	10 to 14
India	$1.55	$4.03	1 to 5	3 to 7	$1.41	$1.75	3 to 7	10 to 14
Indonesia	$1.55	$9.20	1 to 5	3 to 7	$1.22	$3.42	3 to 7	10 to 14
Mongolia	$6.00	$6.90	1 to 5	3 to 7	$2.24	$3.36	3 to 7	10 to 14
Vietnam	$1.55	$3.68	1 to 5	3 to 7	$0.91	$1.98	3 to 7	10 to 14

However, despite advantages of the regional distribution center, since its establishment in March 2008, only one test shipment of 4,500 personal protection equipment kits was deployed from there. Also, from March through December 31, 2008, four shipments to Asia were deployed from Georgia instead of the regional distribution center. According to the Avian Influenza Unit, the shipments were deployed from Georgia because it was

deemed to be more cost effective, considering the efforts to restock the regional distribution center.

According to officials from the Avian Influenza Unit, the regional distribution center was established to test the regional distribution concept to determine if such a model would provide a viable, cost-effective solution. The intent of the regional distribution center was to respond to emergency outbreaks or stockouts of commodities. The regional distribution center was established at a time when Southeast Asia significantly needed commodities on an emergency basis. However, since that time, other donors have contributed to the supply of avian influenza commodities available in the region, thereby making the supply of commodities more abundant.

Based on the changing environment of the virus and the uncertain level of demand for the commodities in the region, USAID should evaluate the usefulness of the regional distribution center. USAID has established a set of shipping procedures based on cost comparisons designed to ensure that shipments are made from the appropriate source (Georgia or Thailand). This process is critical and should continue in order to determine the most cost-effective method of shipping. Using this information, USAID will be able to determine if the regional distribution model will serve the purpose for which it was intended. Without a careful analysis of the current environment to determine the needs and demands for the commodities, USAID avian influenza efforts will not be as effective as they could be. Therefore, this audit makes the following recommendation:

> *Recommendation No. 1: We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit conduct an assessment (within 6 months) of the usefulness of the regional distribution center in Thailand and determine what future actions to take as a result of the assessment.*

Warehouse Space Could Be Managed More Efficiently

Summary: According to the Foreign Assistance Act of 1961, resources should be effectively and efficiently utilized. Also, according to USAID guidance, managers should implement appropriate, cost-effective controls to reasonably ensure that assets are safeguarded against waste. The warehouse in Georgia had excess space, and the stored commodities were not arranged to allow efficient warehouse management in both the Georgia and Indonesia warehouses. Warehouse managers did not see the need to reduce the space, as this was not their responsibility. Orderly storage of the commodities could result in improved efficiencies; furthermore, the reduced leased space would result in savings of approximately $91,000 per year.

According to the Foreign Assistance Act of 1961 (Public Law 87-195, as amended), at 22 USC 2151(a), "The Congress declares that pursuit of these goals requires that development concerns be fully reflected in United States foreign policy and that United States development resources be effectively and efficiently utilized." Also, ADS 596.3.1, "Establishing Internal Controls," requires USAID managers to implement appropriate, cost-effective controls to reasonably ensure that assets are safeguarded against waste.

In addition, according to the storage guidelines for storage of health commodities established by John Snow, Inc. in collaboration with the World Health Organization, aisles should be clear, expired and damaged goods should be separated from usable stock, and goods should be arranged to facilitate the first-to-expire, first-out policy.

During site visits, the audit team noted that the warehouse in Georgia had excess space, and the stored commodities were not arranged to allow efficient warehouse management. In addition, there were some concerns about the arrangement of commodities in the United Nations Food and Agriculture Organization's warehouse in Indonesia, as noted below.

Excess leased space – The warehouse in Georgia had excess leased space that cost approximately $91,000 per year. John Snow, Inc. leased 61,500 square feet of storage space in Georgia to house the original quantity of commodities. The warehouse space is divided into two sections, including one enclosed air-conditioned room to store climate-sensitive commodities. However, during a visit to the warehouse, the audit team noted that the commodities were stored sparingly in the two sections. Large areas were unused, and boxes were stacked low, thereby not optimizing the height of the warehouse. In addition, the enclosed air-conditioned room did not store any climate-sensitive commodities, except for expired antigen kits that were to be used for training purposes. Instead, the space was used to store miscellaneous empty boxes and packing supplies.

According to the Avian Influenza Unit officials, the original space requirements were based on calculations of stock acquired in March 2007. Since then, 500,000 personal protection equipment kits have been shipped from the warehouse. This is a dynamic operational environment and warehouse space requirements will change over time depending on shipment and procurement actions. However, the warehouse manager and USAID personnel agreed that the space was extraneous and a review of the lease was warranted to determine if USAID could reduce one section of the warehouse, thereby reducing approximately one-third of the leased space. The reduction in the leased space will provide cost savings on rental expenses, taxes, insurance, and utilities. Below is an approximate estimate of the cost savings:

Table 3. Calculation of Leased Space Savings

Description	Annual Warehouse Expense	Potential Warehouse Savings
61,500 sq. ft. leased space	$224,000	$74,667
Common area maintenance	$30,750	$10,250
Utilities	$17,000	$5,667
Total	**$271,750**	**$90,584**

According to the warehouse manager, the space was used sparingly because it was available. Because he was not aware of whether anyone at John Snow, Inc. or USAID had questioned the excess space, he continued to use all the space that was available. Also, if the commodities were arranged more efficiently (stacking the boxes higher and disposing of unused, expired, and damaged commodities, as discussed later in the report), additional leased space could be reduced, if this is possible under the terms and conditions of the lease.

Photograph depicting one example of the excess space available in the warehouse in Savannah, GA. A large amount of floor space is vacant and commodities are not stacked as high as they could be stacked. Taken by an Office of Inspector General auditor on October 20, 2008,

Photograph of the air-conditioned room at the warehouse in Savannah, GA, holding only a few items. Taken by an Office of Inspector General auditor on October 20, 2008,

Arrangement of Commodities – During site visits to the warehouses in Georgia and Indonesia, the audit team noted that stored commodities were not arranged to allow efficient warehouse management. In Georgia, items that were quarantined (to be

disposed of) were located in the same area as items that were in good condition and ready to be shipped. For example, containers of expired Virkon—a disinfectant used to clean poultry cages and other potentially contaminated areas—were located next to the unexpired Virkon. Other items, such as RelyOn brand disinfectants and other various items to be disposed of, were located in several different areas throughout the warehouse.

According to the warehouse manager, since the staff was aware of the quarantined items, there was no need to completely separate them and store them in a centralized location.

In Indonesia, the audit team noted that items to be disposed of were located in the same areas as items in good condition and ready to be shipped, and USAID items were stored with non-USAID commodities. In addition, there were no clear aisles, and the commodities were not arranged to allow for easy access. Because there was limited access to the older inventory (specifically, the personal protection equipment) located in back, newer inventory was stored in front and was also being shipped out first, leaving the older commodities untouched.

Photograph of older commodities in the back rows at the United Nations Food and Agriculture Organization warehouse in Jakarta, Indonesia, collecting dust for long periods of time without being shipped. Taken by an Office of Inspector General auditor on November 19, 2008.

Photograph of commodities at the United Nations Food and Agriculture Organization warehouse in Jakarta, Indonesia. The absence of aisles in the arrangement of commodities restricts access to the stockpile. Taken by an Office of Inspector General auditor on November 19, 2008.

According to the warehouse manager, since the personal protection equipment did not have an expiration date, he did not see the need to use the older inventory. However, even though the personal protection equipment does not have an expiration date, it is good management practice to use the first-in/first-out inventory system. Orderly storage of the commodities could result in better quality and efficacy. It should be noted that the warehouse in Indonesia is under the control of United Nations Food and Agriculture Organization and not USAID. Therefore, this audit makes the following recommendations:

Recommendation No. 2: We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit (a) establish a procedure to review warehouse space requirements and document the justification for the space and capability requirements; (b) review the flexibility under the current lease agreement to renegotiate warehouse space and consider options for alternate warehousing to realize savings of approximately $91,000; (c) identify and isolate unusable, expired, or damaged commodities; and (d) stack commodities as efficiently as possible to fully use the space available.

Recommendation No. 3: We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit submit to the United Nations Food and Agriculture Organization recommendations to properly manage the inventory of commodities.

USAID Should Dispose of Unusable, Expired, and Damaged Commodities

Summary: The Foreign Assistance Act (as amended Public Law 87-195), USAID policy, and the John Snow, Inc. task order set standards for U.S.-financed commodities to reasonably ensure that assets are safeguarded against waste. In the Thailand and Indonesia warehouses, several unusable, expired, and damaged commodities had been stored for up to 15 months. USAID officials had not taken action on the stored items because they were waiting on the approval for the disposition of other goods in Georgia. Without the timely disposal of the unusable, expired, and damaged commodities, USAID is incurring unnecessary and avoidable storage costs.

The Foreign Assistance Act (Public Law 87-195, as amended), at 22 USC 2151(a), USAID policy, and the John Snow, Inc. task order set standards for U.S.-financed commodities to reasonably ensure that assets are safeguarded against waste. For example, according to the Foreign Assistance Act of 1961, "The Congress declares that pursuit of these goals requires that development concerns be fully reflected in United States foreign policy and that United States development resources be effectively and efficiently utilized." Also, 596.3.1, "Establishing Internal Controls," requires USAID managers to implement appropriate, cost-effective controls to reasonably ensure that assets are safeguarded against waste. In addition, according to the John Snow, Inc. task order, the contractor was to ensure the "proper disposal of expiring or damaged items in the existing stockpile."

Several unusable, expired, and damaged commodities had been stored for up to 15 months awaiting disposal. Only items noted at the Georgia warehouse have been addressed. A summary of the items found are listed below:

Georgia Warehouse

On August 1, 2008, the Avian Influenza Unit requested the Office of Acquisition and Assistance's approval for the disposal of a number of unusable, expired, and damaged items currently warehoused in Georgia. Items requested for disposal included expired disinfectants, unusable children's inflatable pools, respirator fit test kits, and other damaged commodities, and have a cost of approximately $2.3 million. On December 1, approval was granted for the disposal of the items; therefore, this report does not make a recommendation related to these items held in Georgia.

Thailand Warehouse

Unusable, expired, and damaged items that cost approximately $6,500 have not been addressed by USAID. The regional distribution center for avian influenza commodities in Thailand was established in March 2008. Shortly before this, in January 2008, the Centers for Disease Control and Prevention (CDC) and USAID agreed to transfer the custody of existing CDC commodities to USAID to manage on behalf of CDC. As summarized below, some of the items transferred to USAID were determined to be unusable, expired, or damaged (the list also includes some existing USAID items):

- 500 respirators (donated by CDC)
- 71 items of personal protection equipment (donated by CDC)
- 8 rubber gloves (from CDC)
- 4 laboratory specimen kits (USAID)
- 420 ice packs (USAID)
- 12 cold compresses (USAID)
- 10 (5-kilogram) pails of Virkon (USAID)

Indonesia Warehouse

Unusable, expired, and damaged commodities that cost approximately $49,000 have not been addressed by USAID. (This amount does not include the value of 750 boxes of Bitrex, a chemical used in the respirator test kits, for which the dollar value is unknown.) Indonesia has had the world's largest number of confirmed human infections (137 cases as of September 10, 2008) and is uniquely vulnerable to the threat of ongoing outbreaks and the emergence of a pandemic strain because of its high human population and poultry densities. Therefore, Indonesia has received the largest amount of commodities in the world to combat the disease. The commodities are donated to the United Nations Food and Agriculture Organization, which manages the warehousing facilities. During the site visit to the warehouse, the audit team noted the following:

- 750 boxes of Bitrex, stored since July 2007, have not been used.

- 288 respirator test fit kits, stored since August 2007, have not been used. (The kits were too complicated for the end users to assemble.)

- 3 decontamination kits, stored since July 2007, have not been used. According to the warehouse manager, the sanitary cloth wipes included in the decontamination kits were damaged and could not be used. However, the kits contained several other items, including brushes, gloves, and plastic containers. The cloths were the only items that could not be used, but the entire box has been left untouched with no plans for reinspection or disposal.

According to the warehouse manager, the items have been stored for 15 months without any instruction for disposition or otherwise from either CDC or USAID officials. According to USAID officials, they were waiting on the approval from the Office of Acquisition and Assistance for the disposal in Georgia before making plans for these commodities. It should also be noted that the control of commodities in Indonesia has been turned over to the United Nations Food and Agriculture Organization and any subsequent disposal is the responsibility of this organization. Without the timely disposal of unusable, expired, or damaged commodities, USAID and its implementing partners are incurring unnecessary and avoidable storage costs. Therefore, this audit makes the following recommendation:

Recommendation No. 4: We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit in conjunction with its implementing partners (a) review the items that have been stored at the warehouse in Thailand and determine the possible uses or need for disposal, (b) request approval to dispose of the items, and (c) notify appropriate personnel at the United Nations Food and Agriculture Organization of the need to evaluate commodities for disposal and proceed with the disposal of any relevant items.

USAID Should Document Understanding with the United Nations Food and Agriculture Organization in Indonesia

Summary: U.S. Government regulations and USAID policy state that management controls should include appropriate documentation of transactions. However, USAID and its implementing partners have not documented their understanding of roles and responsibilities for maintaining, storing, and distributing commodities at the country level. USAID officials stated that documentation of this understanding had not taken place because they thought that the umbrella grant was sufficient in documenting the understanding between the two parties. Without a documented understanding, USAID cannot be assured that the purpose, rights and responsibilities, or expectations of this transaction will be fully understood or executed.

U.S. Government regulations contained in Office of Management and Budget Circular A-123, *Management's Responsibility for Internal Control*, defines management's control activities, which include policies, procedures, and mechanisms in place to help ensure that agency objectives are met. One example of a procedure is to have appropriate documentation and access to that documentation. The circular states, "Agency management should determine the appropriate level of documentation needed to support this assessment." In addition, USAID's ADS 596, *Management Accountability and Control*, requires its managers to employ management controls to appropriately document transactions and safeguard assets.

According to officials from the Avian Influenza Unit, avian influenza commodities are received by implementing partners in recipient countries. The implementing partners are determined by USAID and could be any one of the following: United Nations Food and Agriculture Organization, World Health Organization, Ministry of Health, Ministry of Agriculture, a nongovernmental organization, or others. In many cases, the implementing partner accepts the donated commodities and maintains a small stockpile that will be distributed to districts and subdistricts to respond to emergency and nonemergency outbreaks. Upon receipt of the donated goods, both parties sign a receiving report to document the transfer of ownership; however, no document describes the maintenance, storage, and distribution of the commodities.

In June 2006, USAID developed an umbrella Public International Organization grant with the United Nations Food and Agriculture Organization to provide support to at-risk countries for USAID's global avian influenza control and eradication program. As a part of this agreement, the United Nations Food and Agriculture Organization provides a number of key countries with assistance in planning, surveillance, and response

activities. The agreement, however, does not include any definition of the roles and responsibilities of this organization regarding the commodities in the USAID stockpile when the United Nations Food and Agriculture Organization is the designated implementing partner for commodity management. For example, there was an understanding in Indonesia that USAID commodities in Indonesia were to be managed by the United Nations Food and Agriculture Organization. This included management of the commodities at the warehouse, in-country freight forwarding logistics, and status reports of the commodities. However, USAID did not have a documented understanding with the United Nations Food and Agriculture Organization regarding this organization's specific responsibilities for these functions.

USAID/Indonesia staff did not document the understanding because the relationship was already working well and they did not see a need for a written agreement. Also, some USAID officials understood that what was covered in the umbrella grant was sufficient. However, as a prudent management control to ensure accountability of government resources, USAID should establish a formal agreement that documents the understanding between the two parties for the oversight and management of the commodities. Furthermore, depending on the language used, an agreement might free USAID of any warranty about the condition or serviceability of the materials, and claims and damages arising from the use of the materials. Also, this agreement can specify USAID conditions and standard provisions that should be followed. In addition, this agreement can clearly define the expectations for a written report from the implementing partner to provide to USAID a detailed report on the amount of the commodities that has been used, as well as how and in what specific instances the commodities were used.

Given the emergency nature of USAID's avian and pandemic influenza program, it is not practical to expect such documentation for each country given that commodity response needs to be timely in order to be effective. The uniqueness of the program in Indonesia, however, makes it possible to have a documented understanding with the implementing partner. As opposed to other countries, where USAID faces challenges with the bureaucracies of national ministries of health and agriculture, a documented understanding with the United Nations Food and Agriculture Organization in Indonesia can be accomplished expediently. Furthermore, a documented understanding is important since the United Nations Food and Agriculture Organization receives the largest amount of commodities and is dealing with the most avian influenza outbreaks. Without a documented understanding, USAID cannot be assured that the purpose, rights and responsibilities, or expectations of the transaction will be fully understood or executed.

Recommendation No. 5: We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit establish a document of understanding with the United Nations Food and Agriculture Organization in Indonesia regarding the management of commodities.

EVALUATION OF MANAGEMENT COMMENTS

USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit (Avian Influenza Unit) agreed with the recommendations in the draft audit report and has implemented all five recommendations, as described below:

- In response to recommendation no. 1, the Avian Influenza Unit conducted a cost and usefulness assessment for the regional distribution center in Thailand. This assessment revealed the questionable cost effectiveness and necessity of maintaining the regional distribution center. The Avian Influenza Unit has since determined to close the regional distribution center in May 2009, unless other circumstances arise that would dictate a change in this decision.

- In response to recommendation no. 2, the Avian Influenza Unit reviewed warehousing requirements, available leasing options, and commodity storage methods. Based on the findings from these reviews, the Avian Influenza Unit identified alternative options for warehousing and commodity storage that reduced space requirements, resulting in approximately $106,000 in cost savings.

- In response to recommendations no. 3 and no. 5, the Avian Influenza Unit developed a Document of Understanding and provided the United Nations Food and Agriculture Organization in Indonesia with reference materials, recommendations, and guidance on the proper storage and maintenance of avian influenza commodities. This information supports and enhances the United Nations Food and Agriculture Organization in Indonesia's current capacity to manage USAID provided avian influenza commodities.

- In response to recommendation no. 4, the Avian Influenza Unit conducted a review of the quarantined items in the regional distribution center in Thailand, consulted with CDC in Thailand to identify items for use, salvage, or disposal, and requested approval from the Office of Acquisition and Assistance for the disposal of identified commodities. Subsequent to providing its response on the draft audit report, management supplied additional documentation on the items proposed for disposal at the regional distribution center in Thailand. This documentation indicated 446 items proposed for disposal, amounting to $2,325 in unusable commodities. Furthermore, the Avian Influenza Unit developed a Document of Understanding and notified appropriate personnel at the United Nations Food and Agriculture Organization in Indonesia regarding the need to evaluate and dispose of damaged or expired products.

Accordingly, final action has been reached and all five recommendations are closed upon issuance of this report. Management comments in their entirety are presented in appendix II.

SCOPE AND METHODOLOGY

Scope

The Office of Inspector General's Performance Audits Division conducted this audit in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. This audit was designed to determine whether USAID properly procured, deployed, and warehoused its avian influenza commodities.

In planning and performing the audit, we assessed the effectiveness of internal controls related to the procurement, storage, and distribution of avian influenza commodities. These controls included complying with USAID procurement policies, providing adequate storage conditions, and ensuring timely distribution of commodities. We also reviewed the Bureau for Global Health's Federal Managers' Financial Integrity Act report for FY 2007.

To manage and oversee the procurement, storage, and distribution of the avian influenza commodities, USAID contracted John Snow, Inc. The audit covered the period from the start of contract with John Snow, Inc. on March 21, 2007, through the end of site visits on November 21, 2008. As of September 30, 2008, John Snow, Inc. had procured a total of approximately $1.2 million and had distributed commodities valued at $5,561,087.

Methodology

To answer the audit objective, we interviewed officials from the avian influenza unit in Washington, DC; John Snow, Inc. officials and staff in Washington, DC; Medical Assistance Program (John Snow, Inc.'s subcontractor, which manages the warehouse facilities in Savannah, Georgia) staff; and the Office of Foreign Disaster Assistance to understand the processes by which commodities were procured, deployed, and used in the field. We then evaluated management controls and inspected relevant documents pertaining to the purchase and shipment of the commodities.

During our field work in Thailand and Indonesia, we interviewed mission staff, United Parcel Service (John Snow, Inc.'s subcontractor, which manages the warehouse facilities in Bangkok, Thailand) staff, officials from the United Nations Food and Agriculture Organization, and other selected end users of the commodities to determine the nature and extent of the missions' avian influenza activities. We also reviewed relevant documentation, such as agreements, work plans, inventory records, financial records, partners' periodic reports, and other records showing actions taken by the mission and partners to manage avian influenza commodities.

We conducted the following site visits:

- Medical Assistance Program warehouse, Savannah, Georgia (October 20, 2008): We observed storage conditions, conducted test counts of selected commodities, reviewed inventory records, and interviewed responsible staff.

- Regional distribution center, Bangkok, Thailand (November 11, 2008): We observed storage conditions, conducted test counts of selected commodities, reviewed inventory records, and interviewed responsible staff.

- International Rescue Committee office and Tham Hin refugee camp, Ratchaburi, Thailand (November 13, 2008): We observed inventory storage conditions and interviewed commodity end users as well as implementing partners.

- District-level storage facility, Temanggung, Indonesia (November 18, 2008): We observed the district-level storage of vaccines, conducted test counts of the vaccine inventory, and interviewed users of the vaccines as well as users of other avian influenza commodities, including personal protective equipment and decontamination kits.

- District-level storage facility, Kuningan, Indonesia (November 20, 2008): We observed the district-level storage of vaccines, conducted test counts of the vaccine inventory, and interviewed users of the vaccines as well as users of other avian influenza commodities, including personal protective equipment and decontamination kits.

MANAGEMENT COMMENTS

April 16, 2009

TO: IG/A/PA, Steven H. Bernstein, Director

FROM: GH/HIDN/AI, Dennis Carroll, Director /s/

SUBJECT: Management Comments on the Audit of USAID's Avian Influenza Efforts **(Report no. 9-000-09-XXX-P)**

This memorandum transmits the Bureau for Global Health, Office of Health, Infectious Diseases and Nutrition, Avian and Pandemic Influenza Management and Response Unit's (API Unit) response to the draft audit report titled "Audit of USAID's Commodities for Avian Influenza Efforts" audit report no. 9-000-09-XXX-P, dated April, 2009.

Background

In response to the threat of a global influenza pandemic, USAID, in 2005, initiated a comprehensive influenza prevention and response initiative. A major component of that program was the provision of specific commodities that were designed to allow countries to respond to an outbreak of avian influenza and protect the individuals that were engaged in that response. In 2006, the US Congress appropriated approximately $56.3 million to the Office of Foreign Disaster Assistance (OFDA) for the procurement and distribution of those commodities. In late 2007, OFDA transferred responsibility for the commodities and the remaining funding to the Bureau for Global Health. In 2008, the Bureau for Global Health awarded a contract to John Snow, Inc. to assume responsibility for management of all avian and pandemic influenza commodities. The contract GPO-I-00-06-00007-00 Task Order 2, is commonly known as the USAID | DELIVER PROJECT (Task Order 2 Avian Influenza). To date this project has completed over 200 critical shipments to approximately 80 countries on behalf of USAID.

In May 2008, the Office of the Inspector General initiated an audit of the USAID avian influenza commodity activities. The draft report to that audit was completed and transmitted to the Bureau for Global Health for comment on March 18, 2009. The Avian and Pandemic Influenza Management and Response Unit found the audit to be very professional and extremely useful. The API Unit wishes to thank the auditors for their hard work and persistent efforts to improve the API commodity program. The comments below represent the Bureau for Global Health's response to the audit report.

General comments

The USAID API Unit appreciates the recommendations made by the Inspector General and has worked to address the recommendations in an efficient and effective manner.

Recommendation No. 1: *We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit conduct an assessment (within six months) of the usefulness of the regional distribution center in Thailand and determine what future actions to take as a result of the assessment.*

Actions:

In response to Recommendation No. 1, the USAID API Unit appreciates the comments by the Inspector General. The Regional Distribution Center (RDC) was established at a time when the perceived need for avian influenza control commodities in this region was very high. It was determined at that time that the RDC would be a cost effective alternative to shipping commodities from the Global Warehouse in Savannah, Georgia. However, that assumption was not proven and so the RDC was set up on a test basis in order to determine its utility and its cost saving capacity. Since the RDC was established at the end of the flu season of 2008, it was realized that its effectiveness could only be determined if the RDC was allowed to function over a full year. During the period when the RDC was operational several new issues came to the API Unit's awareness;

- The demand for emergency commodity deliveries in the region served by the RDC was not as high as was first estimated.
- Other donors, namely the Japanese, came into the region with significant donations of funding for avian influenza commodities that relieved the burden on USAID.
- The Government of Thailand was destabilized and open access to the airport could not be guaranteed.

Even though there is a significant savings in the cost of shipping commodities from Thailand as opposed to Georgia, these other factors have made the necessity of maintaining the RDC questionable. To date, only one emergency shipment (January 2009) has been made from the RDC and the savings in time for that shipment was not critical. Therefore, it is the determination of the API Unit to close the RDC in May of 2009, unless circumstances arise that would dictate a change in this decision.

The API Unit appreciates the comments by the IG regarding this matter and welcomes this level of scrutiny. Based on the assessment conducted, and the above determination, the API Unit is requesting closure of Recommendation No. 1.

Documentation Attached:

- Annex 1.1: Assessment: Usefulness of USAID Regional Distribution Center in Thailand

Recommendation No. 2: *We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit (a) establish a*

procedure to review warehouse space requirements and document the justification for the space and capability requirements, and (b) review the flexibility under the current lease agreement to renegotiate warehouse space and consider options for alternate warehousing to realize savings of approximately $97,000, (c) identify and isolate unusable, expired, or damaged commodities, and (d) stack commodities as efficiently as possible making full use of the space available.

Actions:

In response to recommendation No. 2, in January, 2009 the USAID API Unit conducted a review of warehouse operations that analyzed future space and capability requirements, available warehousing options, and procedures for arrangement of inventory. This included establishing a procedure for reviewing current and future warehouse space and capability requirements, reviewing the existing warehouse lease and alternate warehousing options, identifying and isolating unusable, expired or damaged commodities, and ensuring that commodities are stored as efficiently as possible.

Based on this review, the USAID API Unit has defined future storage requirements and determined that the remaining stockpile commodities can be stored within a smaller warehouse space of approximately 40,000 sq ft. An option to access additional adjoining warehouse space is desirable to accommodate any unforeseen expansions to the stockpile in the future. The USAID | DELIVER PROJECT explored alternative warehousing options and ultimately renegotiated the terms of the current lease to reduce the rented space and ensure access to contingency space according to USAID API Unit requirements. The cost savings for this reduction in space is approximately $106,000.

Within this reduced warehouse space, unusable, expired or damaged commodities have been isolated and commodities are arranged as efficiently as possible making full use of the space available.

Based on the above actions, and attached annexes, the API Unit is requesting closure of Recommendation No. 2.

Documentation Attached:

- Annex 2.1: Procedure established to review warehouse space requirements; justifications documented
- Annex 2.2: Review of alternative warehouse options in the Savannah area and of the flexibility under the current lease agreement to renegotiate warehouse space
- Annex 2.2.1: Alternate Warehousing Cost Comparison
- Annex 2.2.2: Revised Lease Agreement
- Annex 2.3: Unusable, expired or damaged commodities isolated
- Annex 2.4: Commodities stacked as efficiently as possible

Recommendation No. 3: *We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit, submit to the United Nations Food and Agriculture Organization, recommendations to properly manage the inventory of commodities.*

Actions:

In response to Recommendations No.3 and No. 5, the USAID API Unit developed a Document of Understanding and provided FAO/Indonesia with reference materials on the proper storage and maintenance of AI commodities in order to support and enhance FAO/Indonesia's management of the USAID provided AI commodities. This information provides recommendations and guidance on appropriate warehouse configuration and commodity arrangement, lot identification and management procedures, and first-in/first-out inventory management procedures (first-to-expire/first-out in cases of product with expiry). These reference materials provide guidance that enables FAO/Indonesia to strengthen their current capacity to properly manage the AI commodities.

Based on the attached Document of Understanding, the API Unit is requesting closure of Recommendation No. 3.

Documentation Attached:

- Annex 3.1: Document of Understanding and Reference materials on proper warehouse and inventory management practices provided to FAO/Indonesia

Recommendation No. 4: *We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit in conjunction with its implementing partners (a) review the items that have been quarantined at the warehouse in Thailand and determine the possible uses or need for disposal, (b) request approval to dispose of the items, and (c) notify appropriate personnel at the United Nations Food and Agriculture Organization of the need to evaluate commodities for disposal and proceed with the disposal of any relevant items.*

Actions:

In response to Recommendation No. 4, in February, 2009 the USAID API Unit conducted a review of the quarantined items in the Regional Distribution Center in Bangkok, Thailand, identifying the items for disposal. This review included consultation with CDC/Thailand to identify products that may be salvaged and utilized for training purposes. The API Unit has prepared a submission to the Office of Acquisition and Assistance to request approval for this disposal action. In response to Recommendation No. 4(c), the USAID API Unit developed a Document of Understanding and notified appropriate personnel at the UN/FAO in Indonesia regarding the need to evaluate commodities for disposal and to proceed with the disposal of any relevant items without delay (please see Annex 3.1). The notification and instructions to dispose of damaged or expired products without delay can be found in Annex 4.1 of this report.

Based on the above actions, and attached documentation, the API Unit is requesting closure of Recommendation No. 4.

Documentation Attached:

- Annex 4.1: USAID | DELIVER PROJECT Letter to the Office of Acquisition and Assistance: Request for Approval for Disposal Action

Recommendation No. 5: *We recommend that USAID's Bureau for Global Health's Avian and Pandemic Influenza Management and Response Unit establish a document of understanding with the United Nations Food and Agriculture Organization in Indonesia regarding the management of commodities.*

Actions:

In response to Recommendation No. 5, the USAID API Unit developed a written document of understanding with FAO Indonesia regarding the proper management of USAID donated commodities in Indonesia. This document of understanding highlights the need for FAO/Indonesia to follow internationally accepted best practices in commodity and inventory management. Reference materials on the proper storage and maintenance of AI commodities were included with the Document of Understanding in order to provide recommendations and guidance on appropriate management of USAID donated AI commodities.

Based on the attached Document of Understanding, the API Unit is requesting closure of Recommendation No. 5.

Documentation Attached:

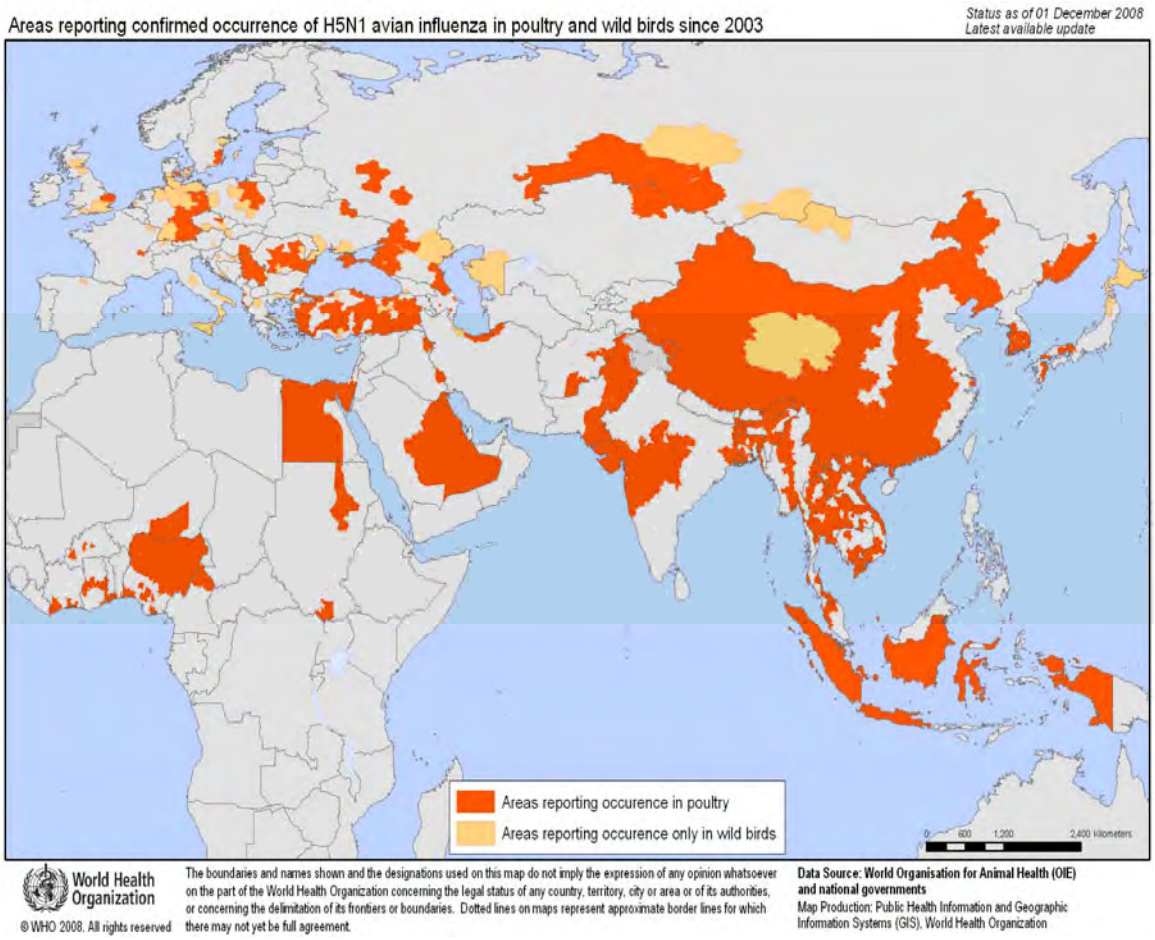
- Annex 5.1: Document of Understanding prepared between USAID/Washington and FAO/Indonesia

WAREHOUSING STANDARDS

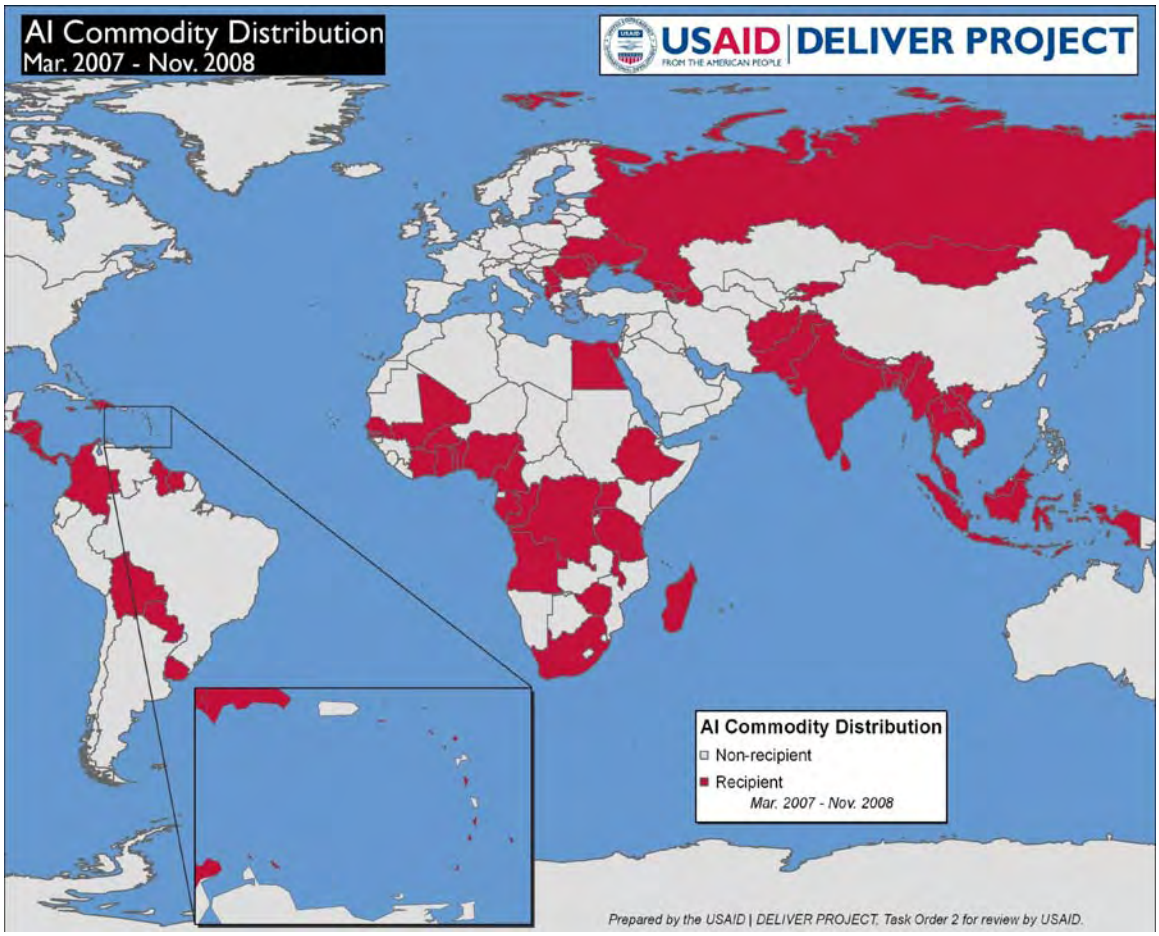
The standards below were adapted from the document *Guidelines for the Storage of Essential Medicines and Other Health Commodities*. This document was produced by John Snow, Inc. in collaboration with the World Health Organization, United Nations International Children's Emergency Fund, and USAID. These standards were used to evaluate warehousing conditions at the Medical Assistance Program warehouse in Savannah, Georgia; the United Parcel Service warehouse in Bangkok, Thailand; and the United Nations Food and Agriculture Organization warehouse in Jakarta, Indonesia.

Description
Storage area is secured with a lock and key, but is accessible during normal working hours; access is limited to authorized personnel.
Products that are ready for distribution are arranged so that identification labels and expiry dates and/or manufacturing dates are visible.
Labeling – make sure products are labeled with the date of manufacture or expiration, lot number, and manufacturer's name.
Items are stored according to instructions on carton.
Products are stored and organized in a manner accessible for first-to-expire/first-out counting, and general management.
Storeroom is maintained in good condition (clean; all trash removed; sturdy shelves; organized boxes; no insecticides, chemicals, old files, etc.).
The current space and organization is sufficient for existing products and reasonable expansion (i.e., receipt of expected product deliveries for foreseeable future).
Cartons and products are in good condition, not crushed due to mishandling. If cartons are open, determine if products are wet or cracked due to heat/radiation.
The facility makes it a practice to separate damaged and/or expired products from usable products and removes them from inventory.
Products are protected from direct sunlight.
Cartons and products are protected from water and humidity (i.e., there is no evidence of water damage).
Storage area is visually free from harmful insects and rodents, termites, etc. (check the storage area for traces of rodents [droppings] or insects).
Determine whether storage room is cleaned and disinfected regularly.
Products are stored at the appropriate temperature according to product temperature specifications.
Does the air conditioner work? Are there power outages? Is there a backup generator, cylindered gas, or kerosene-powered refrigeration?
Roof is always maintained in good condition to avoid sunlight and water penetration. Any evidence of leakage?
Products are stacked at least 10 centimeters off the floor. Ask whether the area floods.
Products are stacked at least 30 centimeters away from the walls and other stacks.
Products are stacked no more than 2.5 meters high.
Ask staff what they do in case of a fire. Is fire safety equipment available and accessible (any item identified as being used to promote fire safety should be considered, including fire extinguisher and sand or soil in a bucket)?
Manufacturing defects: incomplete supply, missing or illegible identification information.

MAP OF OUTBREAKS



DISTRIBUTION OF COMMODITIES SINCE MARCH 2007



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