

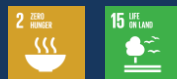


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RESPONSE TO INCREASED LIVESTOCK DISEASE OUTBREAKS IN SOUTH SUDAN

February 2021

SDGs:



Countries:

South Sudan

Project Code:

TCP/SSD/3702

FAO Contribution

USD 250 000

Duration:

8 November 2019 – 7 November 2020

Contact Info:

FAO Representation in South Sudan

FAO-South-Sudan@fao.org

Implementing Partner

Ministry of Livestock and Fisheries.

Beneficiaries

Livestock-owning households and their representatives in the affected areas.

Country Programming Framework (CPF) Outputs

CPF 2018-2021 – Priority Area 3: Increased resilience of livelihoods to threats and crises.



BACKGROUND

In South Sudan, livestock provide food, income and security. They also serve as a currency for payment of dowry, dispute settlement and, in the absence of an established banking sector, constitute a reliable means of securing assets. In many cases, livestock represent the main source of livelihood, with any threat to livestock assets therefore undermining household food and nutrition security and socio-economic welfare. Around 80 percent of South Sudan's population relies upon the country's estimated 43 million heads of livestock, which include cattle, goats and sheep. Meanwhile, according to estimates in August 2019 from the Integrated Food Security Phase Classification (IPC), an estimated 6.35 million people (54 percent of the population) are classified as living in acute food insecurity (IPC Level 3 and above), of whom around 1.7 million were in a "Humanitarian emergency" situation (Level 4) and 10 000 in a state of "Famine/Humanitarian catastrophe" (Level 5). It was feared that rising livestock losses would lead to a further deterioration of the food security situation.

In late 2017 and early 2018, South Sudan experienced an outbreak of Rift Valley Fever (RVF), resulting in the loss of over 2 000 cattle and at least five human fatalities, compounding the heavy rains and flooding experienced in areas of Lakes State. This situation resulted in increased alerts across the country concerning livestock disease such as East Coast Fever, anthrax, blackleg and haemorrhagic septicaemia (HS).

In this context, the objective of the project was to ensure access to food by boosting livestock productivity in the states of Eastern Equatoria, Lakes, Upper Nile, Unity, Warrap, Western Bahr el Ghazal and Western Equatoria, as well as states affected by the recent increase in animal morbidity and mortality resulting from increased incidences of animal disease.

IMPACT

The project was expected to contribute to the improvement of food security and the reduction of rural poverty by increasing the resilience of livelihoods to threats and crises caused by livestock diseases.

ACHIEVEMENT OF RESULTS

A series of disease intervention missions was conducted by FAO, in collaboration with project partners, between January and November 2020. A total of 55 alerts were received from different locations, with risk assessments carried out for 37 of them (67 percent of the total alerts). The missions were undertaken in order to investigate the cause of the alerts, treat sick animals and collect epidemiological data and samples for laboratory diagnostic confirmation of the diseases. This information was used to inform subsequent interventions by FAO and its partners. With the support of community-based animal health workers (CAHWs) and the office of the United Nations Mission in South Sudan (UNMISS) in Likuangle, Pibor (Jonglei State), the project safely disposed of 2 230 carcasses. Messaging was also disseminated on the safe disposal of carcasses to sensitize local communities on the safety and health risks of improper disposal practices.

One of the main outputs of the project was the protection of livestock from diseases and pests through the provision of veterinary services and extension advice, such as vaccinations, spraying and treatment. Under this output, the project reached 131 249 households, vaccinating over 3.5 million livestock and treating more than 400 000 against animal diseases across the country. The project also conducted initial workshops and refresher trainings for more than 500 CAHWs across South Sudan, whose work is crucial in the provision of livestock treatment, vaccination and advisory services, in particular to agropastoralists in remote locations.

Early warning and surveillance systems were strengthened, facilitating the recognition of and timely reaction to outbreaks, as well as monitoring for control and prevention. As part of this output, the FAO Emergency Centre for Transboundary Animal Diseases (ECTAD)'s regional office in Eastern Africa established a presence in the South Sudan country office, while a series of coordination meetings were held with livestock sector partners through the Food Security and Livelihood (FSL) Cluster's Livestock Technical Working Group (LTWG). The project also supported the operationalization of the Central Veterinary Diagnostic Laboratory (CVDL) in Juba by procuring laboratory testing kits and other consumables. Awareness-raising campaigns were conducted in the 37 communities from which livestock disease alerts were received. The livestock technical teams in these locations worked to create awareness among livestock-keepers on how to control and prevent the spread of diseases within the herds, in particular in cross-border locations. Weekly radio programmes were developed on transboundary animal diseases (TADs), while control campaigns for *Peste des petits ruminants* and rabies were also launched. Finally, command and coordination structures were established and maintained to coordinate the implementation of zoonotic disease response activities at national and subnational levels with One Health partners. Activities carried out as part of this output included a series of joint meetings with the relevant ministries and the World Health Organization (WHO) on disease outbreak control measures and cross-border exercises on zoonotic disease surveillance.

IMPLEMENTATION OF WORK PLAN AND BUDGET

The response to the disease alerts was effective and conducted in a timely manner. However, some delays in reporting were experienced as a result of the security situation in Jonglei State, which was the scene of intermittent intercommunal fighting. Another reason for the delays was the difficulty in accessing the region, as illustrated by the cancellation of United Nations Humanitarian Air Service (UNHAS) flights, in particular to Ayod and Akobo, Pibor and Gumuruk, which prevented the timely response to the reported livestock alerts. In 2020, supply chains for animal vaccines were also affected by the COVID-19 pandemic, resulting in the unavailability for some time of vaccines for diseases such as HS, Contagious bovine pleuropneumonia (CBPP), Newcastle disease and sheep and goat pox. In addition, the development of standard operating procedures (SOPs) could not be undertaken due to the COVID-19 preventative measures currently in place.

Pastoralists were initially reluctant to participate in the disposal of carcasses. In some locations with clay soils (which are difficult to dig) and where firewood is difficult to obtain, disposal by burial and burning remains a challenge.

Difficulties were experienced in the mobilization of stakeholders for participation in the development of the system, which is crucial to ensuring ownership. A key reason for this was that most stakeholders had only limited access to Internet for online participation.

During the project period, the emergence of an Ebola epidemic in countries neighbouring South Sudan (Uganda and the Democratic Republic of the Congo) and the global COVID-19 pandemic meant that priority was given by the public sectors to controlling these diseases, with only limited time and resources allocated for the surveillance and control of other zoonotic diseases.

FOLLOW-UP FOR GOVERNMENT ATTENTION

In order to increase the level of livestock protection, there is a need for all partners to follow the seasonal countrywide vaccination calendar. This is not always easy due to the seasonal inaccessibility of some locations, with roads affected by wet weather in particular. In addition, stakeholders are advised to lobby the UNHAS to mitigate access challenges by giving priority booking to animal vaccines, drugs and technical staff on livestock disease surveillance missions to the field.

The development of carcass disposal regulations and coordination among livestock and public health partners and local authorities is strongly recommended.

In addition, it is essential to develop SOPs and guidelines on surveillance and outbreak interventions. It is expected that these will be conducted under FAO's Emergency Livelihood Response Programme (ELRP) in 2021.



SUSTAINABILITY

1. Capacity development

There are no legal frameworks currently in place for the livestock sector – the draft legislation(s) remain in draft form. However, FAO has supported the development of the National Livestock Development Policy. Work has also commenced to harmonize a range of training curricula and guidelines for the training of CAHWs in line with the guidelines of the World Organisation for Animal Health (OIE). The project provided trainings for 716 CAHWs (631 male, 85 female) on the delivery of animal health services, as well as disease surveillance and reporting, and vaccine and drug management embedded within communities. A total of 22 technical staff were trained in necropsy, while 21 took part in a training of trainers (ToT) session in participatory disease search techniques and sample collection, the effects of which are expected to cascade to field level. In addition, the collaboration of FAO with both national and international Non-governmental Organization (NGO) partners, as well as state governments, CAHWs and agropastoralists, has strengthened the overall capacity and cooperation of the target staff and interlocutors.

2. Gender equality

Both men and women participated in training activities for CAHWs, parasitology, participatory disease search, necropsy and others. However, female participation remains a challenge due to the significant responsibilities faced by women, as well as the widespread lack of basic numeracy skills. The project contributed to the achievement of objectives of the FAO Policy on Gender Equality (equitable participation in decision-making; access to and control over decent employment and income). Traditionally, women and girls are mainly involved in looking after small stock (including poultry), as well as the milking of cows and selling milk, while men undertake the management of large ruminants. The project helped to protect all livestock assets and livelihoods.

3. Environmental sustainability

The countrywide cold chain network has been strengthened with the installation of solar-powered fridges. Guidelines for the proper disposal of dead animals developed by the project have been used in field locations where large number of animals died due to the effects of flooding and diseases. Communities were sensitized and trained in the burial and burning of dead carcasses to avoid the infection of humans with zoonotic diseases and to protect animals from contamination through grazing land or water points.

4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

Trainings were conducted in a participatory manner, with participation open to both men and women. The project also contributed towards protecting livelihoods in pastoralist communities and to the employment of laboratory staff. The project facilitated compliance with the Right to Food Guidelines by promoting food safety (diagnosis of zoonoses) and better nutrition through consumption of animal-sourced proteins.

5. Technological sustainability

Solar power is highly effective in the project areas, as it allows the solar vaccine fridges to operate sustainably off-grid. For the provision of animal health services, the project recognized local/traditional approaches to animal husbandry and health, integrating these practices into the community-based approach. The central veterinary adopted Flinders Technology Associates (FTA) technology for the shipment of samples abroad for further specialized testing. FTA cards are used for preservation and transport of a sample suitable for molecular identification without the risk of disease contamination.

6. Economic sustainability

The project encouraged as far as possible the delivery of animal health services with a cost-recovery approach. Agropastoralists can afford the services offered by CAHWs. However, they have to be sensitized on the need to pay for services. In addition, their ability to do so is affected by protracted humanitarian shocks and natural disasters (mainly floods).

Through the embassy of the United States of America, the project created synergies with the United States Army Civil Affairs Division to support trainings in parasitology, necropsy and livestock showmanship. Support from the Office of U.S. Foreign Disaster Assistance (OFDA) for the training of CAHWs contributed to providing an opportunity for the training of paraveterinary workers in more advanced skills. As a result, the Government of Japan provided FAO with resources to initiate the rehabilitation of the Marial Lou Livestock Training Centre for the training of paraveterinary workers.

DOCUMENTS AND OUTREACH PRODUCTS

- ❑ Final report for the emergency interventions and control of livestock diseases and other conditions during floods and other emergencies during 2019 -2020. (Under publication).
- ❑ Outreach material on “How to dispose of carcasses”.
- ❑ Radio programmes produced on the prevention and control of both RVF and rabies.



ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	Contribute to improved food security and reduction of rural poverty through increasing the resilience of livelihoods to threats and crises caused by livestock diseases		
Outcome	Reduced incidence of livestock diseases		
	Indicator	Percentage of new livestock disease alerts responded to in an effective and timely manner.	
	Baseline	39 disease alerts.	
	End Target	80 disease alerts.	
	Comments and follow-up action to be taken	<p>Disease intervention missions were conducted by FAO in collaboration with partners between January and November 2020. In total, 55 alerts were received from different locations, of which 37 alerts were attended to/risk assessed, representing 67 percent of the total number of alerts reported. Some alerts, however, were not necessarily related to a disease outbreak, while access was also a key determining factor in response. The missions were undertaken to investigate the cause of the alerts, treat sick animals and collect epidemiological data and samples for laboratory diagnostic confirmation of the diseases. This information was used to inform subsequent interventions by FAO and its partners.</p> <p>With the support of CAHWs and the UNMISS office in Likuangle, Pibor (Jonglei State), the project oversaw the safe disposal of some 2 230 carcasses. Elsewhere in Jonglei (Ayod and Akobo, Uror and Nyirol counties), partners and communities were supported with the safe disposal of carcasses. In addition, messaging was disseminated on the safe disposal of carcasses in order to sensitize communities on the safety and health risks of improper disposal practices. The response to the disease alerts was effective and conducted in a timely manner. However, some delays were recorded as a result of cancelled flights. In addition, there was underreporting or late reporting from the field, in particular from Jonglei, which was the scene of intermittent intercommunal fighting. This factor contributed to the lack of response to some alerts. Transportation of inputs by the UNHAS was another key challenge faced during the project. There is a need for stakeholders to lobby the UNHAS to mitigate access challenges by giving priority booking to animal vaccines, drugs and technical staff on livestock disease surveillance missions to the field.</p>	
Output 1	Livestock protected from diseases and pests through provision of veterinary services and extension advice such as vaccinations, spraying and treatment		
	Indicators	Target	Achieved
	Number of livestock treated and vaccinated.	3.5 million livestock vaccinated and 150 000 treated.	Yes
Baseline	1.5 million animals vaccinated and 70 000 treated.		
Comments	<p>FAO and partners were able to reach 131 249 households with the necessary services, with 3 665 950 livestock vaccinated and 433 723 treated against a range of animal diseases across South Sudan. The project also conducted initial workshops and refresher trainings for more than 500 CAHWs countrywide. These cadres are crucial in the provision of livestock treatment, vaccination and advisory services, especially to agropastoralists in remote locations.</p> <p>In order to increase the level of livestock protection, there is a need for all partners to follow the seasonal countrywide vaccination calendar. This is not always easy due to the seasonal inaccessibility of some locations, with roads affected by wet weather in particular. In 2020, supply chains for animal vaccines were also affected by the COVID-19 pandemic, resulting in the unavailability for some time of vaccines for diseases such as HS, CBPP, Newcastle disease and sheep and goat pox.</p> <p>The Ministry of Livestock and Fisheries and its partners are advised to carry out sero-monitoring for immune response checking after livestock vaccination countrywide, in order to ensure the effectiveness of vaccine inoculation. The roll-out of this activity was affected by the COVID-19 pandemic – it is now due to be introduced in 2021, as the Central Veterinary Diagnostic Laboratory – the only such facility in the country – is now functional.</p> <p>The project experienced impediments to providing a timely response to the reported livestock alerts. These included the security situation and access challenges, the latter involving the cancellation of UNHAS flights, in particular to Akobo, Ayod, Pibor and Gumuruk.</p>		

Activity 1.1	Distribution of inputs in the affected areas	
	Achieved	Yes
Activity 1.1	Comments	The project procured and subsequently supplied assorted drugs, veterinary and sampling equipment and vaccines (list of items procured available upon request). The project supported the provision of total mixed rations (TMR), a livestock feed, to the starving cattle of displaced pastoralists as a result of flooding and desert locusts in the areas of Bor, Terekeka, Yirol, as well as locations along the Juba-Nimule road, and those around Juba, Mangalla, Torit and Kapoeta. Flight delays and a lack of access were among the constraints experienced during the delivery of the inputs to the affected locations, in particular Pibor, Gumuruk and Ayod in Jonglei State. Delays also occurred in the procurement of inputs as a result of the COVID-19 pandemic. Flights arranged to deliver the inputs were also delayed, with internal flights suspended for some time. Despite this, FAO worked with its field offices to pre-position inputs as far as possible.
	Treatment, spraying and vaccination of livestock	
Activity 1.2	Achieved	Yes
	Comments	A total of 3 665 950 livestock were vaccinated against HS, blackleg, CBPP, <i>Peste des petits ruminants</i> , sheep and goat pox. In addition, 433 723 animals were treated against various diseases and conditions across the country, benefiting 131 249 households.
Activity 1.3	Isolation of sick animals and safe disposal of dead carcasses	
	Achieved	Yes
Activity 1.3	Comments	In collaboration with Vétérinaires sans Frontières Germany (VSFG), FAO carried out a mission to Likuangle, Pibor to support humanitarian organizations and communities in the safe and hygienic disposal of the large quantities of livestock carcasses. The animals had died of flood-related starvation, animal diseases and gunshots, among other causes, with their carcasses littering residential areas of Likuangle and causing public health concerns. Overall, 2 230 carcasses were safely disposed of with the support of CAHWs and the UNMISS Pibor Office. Elsewhere, in Ayod and Akobo, Uror and Nyirol, partners and pastoralist communities were supported in conducting safe disposal of carcasses. Delays were experienced due to insecurity, which caused access challenges and directly affected the timely and effective response to the alerts.
	Mobilization of community animal health workers for provision of treatment and vaccination of livestock in the affected areas	
Activity 1.4	Achieved	Yes
	Comments	More than 1 200 CAHWs were mobilized countrywide and provided with veterinary kits to conduct treatment and vaccination campaigns in the cattle camps. The CAHWs were organized into teams to conduct vaccinations in their respective payams and villages. In areas affected by floods and other emergencies, the CAHWs were mobilized and trained on how to dispose safely of carcasses of dead animals. In Ayod and Akobo, Uror, Nasir and Nyirol counties (Jonglei State), CAHWs were also mobilized to sensitize communities on how to dispose of dead animals in a safe manner. Pastoralists were initially reluctant to participate in the disposal of the carcasses. In some locations with clay soils (which are difficult to dig) and where firewood is difficult to obtain, disposal by burial and burning remains a challenge. FAO supported partners with resources such as digging tools, kerosene/diesel for burning and burial of large numbers of carcasses. CAHWs were also mobilized to participate in the disposal exercise. However, this approach is not sustainable and further sensitization and awareness-raising on the importance of proper disposal of carcasses will be carried out in order to equip communities with the knowledge to perform this themselves. Coordination among the livestock and public health partners and local authorities is required, as is the development of carcass disposal regulations.

Output 2	Early warning and surveillance systems strengthened to recognize and react in a timely manner to outbreaks and monitor for control and prevention		
	Indicators	Target	Achieved
	<ul style="list-style-type: none"> – Number of community members aware of where and how to report livestock diseases. – Number of disease alerts received from communities per month. 	<ul style="list-style-type: none"> – 7% of community members. – 15 disease alerts, reflecting increased awareness and information flow. 	Partially
Baseline	1% of community members and 7 disease alerts per month.		
Comments	<p>The ECTAD regional office for Eastern Africa established a presence in the South Sudan country office. The present project worked with ECTAD technical staff to develop and test an electronic reporting system. Meetings were conducted with FAO headquarters, in particular In Service Applied Veterinary Epidemiology Training (ISAVET), the Event Mobile Application (EMA-i) and ECTAD, to discuss the provision of technical support to further develop and strengthen the livestock surveillance system in South Sudan. Epidemiological laboratories (Epi-Lab) were identified as the key areas that ECTAD will support in South Sudan. A blueprint on the key areas of collaboration is being developed.</p> <p>Six coordination meetings were held with livestock sector partners through the FSL Cluster’s LTWG. Stakeholders were sensitized on the importance of disease reporting and timely response to alerts. FAO also supported states in submitting reports to South Sudan’s Ministry of Livestock and Fisheries. Over the course of the project, 55 alerts were received, with an average of six reports received each month.</p> <p>The project supported the operationalization of the CVDL in Juba by procuring laboratory testing kits and other consumables (list of items procured available upon request), but also the testing and analysis of samples delivered to the laboratory from different locations. Support was provided for the shipment of samples collected from dead wild birds (egrets) in Yirol, Lakes State to the Avian Influenza reference laboratory in Padua, Italy, for further specialized testing.</p> <p>The development of SOPs could not be undertaken due to the COVID-19 preventative measures currently in place. It is essential that SOPs and guidelines on surveillance and outbreak interventions be developed. It is expected that these will be conducted under FAO’s ELRP in 2021.</p>		
Activity 2.1	Review of the surveillance system and development of outbreak intervention contingency plans and SOPs		
	Achieved	Partially	<p>In collaboration with the ECTAD regional office for Eastern Africa, the project supported the establishment of the ECTAD South Sudan country office. Review of the disease-reporting formats remains ongoing. While an electronic format was developed for field veterinary workers, the system is being tested to determine if it is working efficiently. Meetings with partners in the LTWG on disease reporting were held to sensitize stakeholders on the reporting of the alerts for timely response.</p> <p>Review meetings were held during the project period with FAO headquarters (ISAVET, Epi-Lab, EMA-i units) and the ECTAD Eastern African regional office in order to review surveillance systems and suggestions for improvement. The project also participated in the ECTAD weekly Epi-Lab meetings and provided updates on zoonotic diseases and TADs. ECTAD and the FAO South Sudan Livestock Unit are in the process of developing a blueprint on key areas for technical support. The CVDL has now adopted the use of FTA card technology, which will make it easier to ship samples to reference laboratories abroad.</p> <p>Despite the efforts described above, COVID-19 restrictions, together with the widespread occurrence of livestock emergencies resulting from severe flooding, led the project to prioritize lifesaving activities over the review of the surveillance system and development of SOPs and guidelines. In addition, the mobilization of stakeholders to participate in the development of the system, a crucial element in ensuring ownership, proved difficult as most had limited access to Internet for online participation. ECTAD will follow up on the issue of SOPs and guidelines as part of broader Epi-Lab support.</p> <p>Training of staff from the Ministry of Livestock and Fisheries on EMA-i, with collaboration and support from the EMA-I team in FAO headquarters, will continue, as will collaboration with ECTAD.</p>

Activity 2.2	Establish and support a national working group and coordination framework for the control of animal diseases	
	Achieved	Yes
Activity 2.3	Comments	<p>The project facilitated the establishment of the Livestock Emergency Response Desk, headed by the Ministry of Livestock and Fisheries, with FAO performing the role of Secretariat and with membership of the International Committee of the Red Cross, VSFG, VSF Suisse and the Smile Again Africa Development Organization (SAADO). Terms of reference were developed for the response desk following a nine-month period, outlining its role for overseeing and coordinating livestock disease emergency responses. In addition, the terms of reference included coordination with One Health partners, among others.</p> <p>The Livestock Emergency Response Desk tasked FAO with initiating plans to mobilize further funds and support disease surveillance. The Desk held eight meetings with the aim of coordinating the surveillance of and responses to livestock disease alerts. Due to COVID-19, restrictions on gatherings led to fewer meetings being held. However, in order to ensure continuity, the Desk adopted and used platforms such as Zoom to conduct meetings and coordinate activities virtually. Internet access, however, was a challenge for technical staff and partners from the Ministry of Livestock and Fisheries. Synergies were created with other FAO projects.</p>
	Collection and transportation of samples to the Central Veterinary Diagnostic Laboratory in Juba and abroad when necessary	
Activity 2.4	Achieved	Yes
	Comments	<p>Twelve field missions were conducted between January and March 2020 to the counties of Mayom and Rubkona (Unity State); Old Fangak, Nasir, Fashoda, Kodok and Manyo counties (Upper Nile State); and Akobo, Pibor, Gorwai, Ayod, Twic East and Duk counties (Jonglei State). Overall, 73 diagnostic samples were collected from Ayod counties. The results released by the CVDL in June 2020 were as follows: 56 out of 73 serum samples were positive for foot-and-mouth disease (FMD) virus, with the remaining 17 samples testing negative.</p> <p>From March to November 2020, investigation missions were conducted to Bari, Amadi, Kediba and Lakamadi (Western Equatoria State); Fashoda, Balliet, Malakal South (Upper Nile State); and Yirol East, Rumbek East and Abiriu (Lakes State). As a result, 177 samples were collected from animals in those locations, the results of which were as follows: 43 were positive for brucellosis, 58 were positive for RVF and 73 tested positive for FMD virus. Of the 40 blood smears and lymph biopsies collected from animals suspected of being infected with East Coast Fever in Mundri County (Western Equatoria State), 19 were positive for the diseases (piroplasm and schizont).</p> <p>290 samples were collected from 23 locations in South Sudan, with 17 of these sent to Padua, Italy for further analysis and testing.</p> <p>The project also supported the training of two laboratory staff from the Ministry of Livestock and Fisheries on FTA cards (a chemically treated filter paper designed for the collection, preservation and shipment of biological samples for subsequent DNA and RNA analysis without the risk of disease contamination), sample processing and packaging for shipment abroad.</p>
Activity 2.4	Provision of testing kits and laboratory consumables	
	Achieved	Yes
Activity 2.4	Comments	<p>Laboratory equipment and consumables were provided to ensure the smooth and effective running of the CVDL and support for disease investigation. The majority of the assorted laboratory consumables required, including sample collection equipment, was procured and used in the collection and testing of samples. The use of FTA cards for processing and sending the samples abroad should be continued.</p> <p>Delays were experienced in the procurement and delivery of the items due to COVID-19.</p>

Output 3	Awareness-raising campaigns on prevention and control of livestock diseases		
	Indicators	Target	Achieved
	Number of awareness campaign sessions conducted.	30	Yes
Baseline	0		
Comments	<p>To raise local awareness, 37 awareness campaigns were conducted in the 37 communities from which livestock disease alerts were received. In these locations, the livestock technical teams worked to create awareness among livestock-keepers on how to control and prevent the spread of disease(s) within the herds, including in cross-border locations.</p> <p>FAO developed weekly radio programmes on <i>Peste des petits ruminants</i>, RVF, rabies and other TADs covering Eastern Equatoria, Jonglei and Lakes states. Eradication and control campaigns for PPR and rabies were also launched during the project period. A rabies vaccination campaign will be launched in the first quarter of 2021, as soon as the vaccines are received.</p>		
Activity 3.1	Awareness-raising campaigns on prevention and control of livestock diseases		
	Achieved	Yes	
	Comments	<p>The project supported and conducted the virtual launch of the South Sudan <i>Peste des petits ruminants</i> control and eradication campaign, with the participation of the Ministry of Livestock and Fisheries, donors and implementing partners. Another field campaign launch for control and eradication of the disease was supported by the project in July 2020, with participation from the Ministry of Livestock and Fisheries, wildlife donors and implementing partners. Participants were also brought in from state ministries of livestock in Central Equatoria and Eastern Equatoria states, where a mass vaccination of sheep and goats had got underway.</p> <p>Awareness campaigns – through radio programmes – on prevention and control of <i>Peste des petits ruminants</i>, RVF, rabies and other TADs were prepared and aired on national and state radio stations. Banners and posters on PPR, RVF and rabies prevention and control were also developed and distributed throughout the country.</p> <p>Communities were sensitized on how to properly dispose of dead animals in order to prevent infection of both animals and humans. Pastoralists were also sensitized and trained on how to feed starving animals with TMR feed. An average of 80 community awareness sessions were conducted, with 15 to 20 participants in attendance.</p> <p>Before, during and after World Rabies Day (28 September 2020), rabies prevention and control campaign activities were organized and launched in five counties (Juba, Bor, Rumbek, Renk and Aweil). The activities included radio programmes, banners, posters and meetings, as well as the establishment of treatment and vaccination centres for dogs. In 2020, the rabies campaign was not carried out due to a lack of rabies vaccines.</p>	
Activity 3.2	Development of sensitization and awareness messages for control and prevention of livestock diseases		
	Achieved	Yes	
	Comments	<p>Due to.</p> <p>Radio programmes on PPR, RVF, rabies and other TADs were prepared and aired on national and state radio stations in Juba, Torit, Kapoeta, Rumbek and Bor.</p> <p>Awareness messages on the diseases were developed and printed on banners and posters for distribution. Presentations were made to partners on the livestock emergency and interventions during LTWG meetings. One Health messages on RVF were also developed for distribution.</p>	

Output 4	Command and coordination structures established and maintained to coordinate implementation of zoonotic disease response activities at national and subnational levels with One Health partners		
	Indicators	Target	Achieved
	Number of joint control and awareness missions.	8	Yes
Baseline	2		
Comments	<p>One of the roles of the Livestock Emergency Response Desk was to coordinate with public health sector colleagues on the surveillance and control of zoonotic diseases (those affecting livestock and humans). Three joint meetings with the Ministry of Health, the Ministry of Livestock and Fisheries and WHO were held to plan investigations and control measures for RVF and avian influenza alerts in Yirol, to share investigation reports and to develop joint messages for livestock-keepers and the general public. Two assessments and control interventions on RVF alerts and deaths in wild birds in Yirol county (Lakes State) due to suspected avian influenza were conducted jointly with the Ministry of Health, the Ministry of Livestock and Fisheries and WHO. Two meetings on planned cross-border simulation exercises between Uganda and South Sudan, focusing on zoonotic disease surveillance and control (supported by the German Corporation for International Cooperation [GIZ]) brought together participants from WHO, the Ministry of Health, the Ministry of Livestock and Fisheries, FAO, as well as police, wildlife and border control forces from both countries. One cross-border field visit to areas on the Ugandan side was carried out by participants from South Sudan. The project supported the sharing of disease alerts and outbreak reports between the livestock and public health sectors.</p> <p>Following regional alerts on a possible RVF outbreak in 2020 and reports of suspected cases in Yirol (Lakes State), joint messages were developed together with the Ministry of Health, the Ministry of Livestock and Fisheries, FAO and WHO for livestock-keepers and the general public on control and prevention from RVF infection.</p> <p>During the project period, the emergence of an Ebola epidemic in the countries neighbouring South Sudan (Uganda and the Democratic Republic of the Congo) and the global COVID-19 pandemic together meant that priority was given by the public sectors to controlling these diseases, with only limited time and resources allocated for the surveillance and control of other zoonotic diseases.</p>		
Activity 4.1	Coordination of disease control actions at the livestock-human interface to mitigate the risk of zoonotic disease transmission		
	Achieved	Yes	
	Comments	<p>Two joint assessment missions for RVF and alerts on great egret deaths in Yirol remain ongoing, with the participation of the Ministry of Health, the Ministry of Livestock and Fisheries, the Ministry of Wildlife Conservation and Tourism, WHO and Norwegian People's Aid. The project participated in meetings on a proposal (funded by the United States Agency for International Development [USAID]) to conduct research on the role of bats in the transmission of Ebola in Western Equatoria. Meetings and plans with the Ministry of Wildlife Conservation and Tourism in the surveillance of <i>Peste des petits ruminants</i> in wildlife are ongoing.</p> <p>Three joint One Health meetings were held with the Ministry of Livestock and Fisheries, the Ministry of Health and WHO to discuss two investigations and control measures for RVF and avian influenza alerts. In addition, meetings were conducted on the cross-border activities on zoonotic disease surveillance and the cross-border simulation exercise between Uganda and South Sudan.</p> <p>The combination of the global COVID-19 pandemic and the emergence of an Ebola epidemic in neighbouring Uganda and the Democratic Republic of the Congo meant that limited time and resources were allocated for the surveillance and control of other zoonotic diseases. It is recommended that One Health and anti-microbial resistance action plans for South Sudan be finalized and shared by One Health partners. It is also recommended that the existing One Health Coordination mechanism be upgraded to a One Health Platform.</p>	
Activity 4.2	Development of joint messages for sensitization and awareness-raising for prevention from zoonotic diseases		
	Achieved	Yes	
	Comments	<p>RVF joint messages were developed together with the Ministry of Livestock and Fisheries, the Ministry of Health, FAO, WHO and partner Non-governmental Organizations. However, the plan could not be finalized due to COVID-19 restrictions. Moreover, other partners did not have sufficient time to participate in this activity as they were engaged in tackling COVID-19 and Ebola diseases.</p>	

Partnerships and Outreach

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