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IMPROVING THE IMPLEMENTATION OF SANITARY AND PHYTOSANITARY STANDARDS AND NORMS FOR ANIMAL AND PLANT HEALTH IN SUDAN

June 2020

SDGs:



Countries:

Sudan

Project Codes:

TCP/SUD/3606

FAO Contribution

USD 409 000

Duration:

1 January 2018 – 31 December 2019

Contact Info:

FAO Representation in Sudan

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Implementing Partners

Ministry of Agriculture and Forestry (MOAF) and Ministry of Animal Resources (MOAR).

Beneficiaries

Farmers, pastoralists and others (both men and women) who depend on plants and livestock for their livelihoods, exporters and importers of plant products and livestock, and the Government of Sudan.

Country Programming Framework (CPF) Outputs

CPF (2017-2020) Priority 1: Enabling Policy and the Institutional Environment for Food Security and Nutrition.



BACKGROUND

It has been estimated that the animal sector in Sudan supports approximately 30 percent of the country's human population, contributing around 20 percent to national gross domestic product (GDP) and 47 percent to agricultural GDP. According to recent estimates, the country has about 30 million heads of cattle, 40 million heads of sheep and 30 million heads of goats, as well as around 4.5 million camels, largely owned by pastoralists. Small ruminants account for 30 percent of the livestock units of the country and contribute significantly to the national economy.

The animal sector is affected by various transboundary animal diseases (TADs) that have a negative impact on livestock trading. Among the most important of these are foot and mouth disease (FMD), *Peste des petits ruminants* (PPR), brucellosis, Rift Valley fever (RVF) contagious bovine pleuropneumonia (CBPP) and bluetongue (BT). As a member of the World Animal Health Organization (OIE), Sudan has taken important steps towards controlling FMD and PPR. The country currently exports livestock (mainly small ruminants and camels) to Saudi Arabia and chilled sheep meat to Jordan. However, exports are often impeded by outbreaks of one of the TADs listed above. This has a serious impact on livestock trading in Sudan, owing to the lack of an early warning system and poor skills in outbreak investigation. In addition, risk-based strategic plans and contingency plans for important TADs in Sudan do not exist. The main objective of this project was to support MOAF and MOAR to strengthen their technical capacities in issues related to animal health, phytosanitary and food safety and quality control (QC) to bring them into line with the relevant international standards and guidelines, and to develop appropriate responsive policies and regulatory frameworks.

IMPACT

The project has supported the establishment of risk analysis units in the relevant government ministries; these units will be integrated into a single national unit for risk analysis. Capacity development in MOAF and MOAR will ensure that staff possess the requisite skills in their fields of expertise. Export opportunities of agricultural products and farmer incomes have increased, and the risk of invasive animal and plant pests and food insecurity has been reduced. In addition, the project is expected to have a positive impact on the national economy and on national food security through an improved system for import and export regulations, and the facilitated trade of animal and plant products.



ACHIEVEMENT OF RESULTS

The project contributed to the improvement of sanitary and phytosanitary measures (SPS) and the food safety system by strengthening technical capacities in issues related to animal health, phytosanitary and food safety, and QC, ensuring that these were in harmony with the relevant international standards and guidelines, and by developing responsive policies and regulatory frameworks in these fields. The phytosanitary national system was assessed and a development plan of action was created and shared with beneficiaries. Training was provided to 407 ministry professional staff and standard operating procedures (SOPs) for SPS inspectors were reviewed or reformulated. The project assisted MOAF, MOAR, the Ministry of Health (MOH) and the Sudanese Standards and Metrology Organization (SSMO) to establish units for pest risk analysis (PRA), food safety risk analysis, and importation and exportation risk analysis. National workshops on SPS, Codex, the International Plant Protection Convention (IPPC) and ISPMs were organized to develop national capacity in international standards. Training sessions were also held on food safety, food quality, good agricultural practices (GAP) and weed management. The project enabled MOAF and MOAR to evaluate their needs and to formulate the necessary regulatory frameworks for the Government allowing the country to begin the process of becoming a contracting member of IPPC and the World Trade Organization (WTO) SPS Agreement.

IMPLEMENTATION OF WORK PLAN

Challenges were faced during project implementation, caused by delays in appointing the national project coordinator as a result of administrative disputes within the Ministry of Agriculture and by the unstable security situation, which led to the suspension, rescheduling or modification of many project activities. Despite this, following a no-cost extension, all activities were implemented within the planned and approved budget. Risks envisaged in the Project Document included a deteriorating security situation, delays in the recruitment of international and national consultants, and delays in the procurement of reagents for the laboratory training workshops. These risks were successfully mitigated by the project.

FOLLOW-UP FOR GOVERNMENT ATTENTION

It is recommended that guidelines on the procedures and requirements of exported commodities be developed. In order to sustain the impact of the project, efforts should also be made to complete the accreditation of the Central Veterinary Research Laboratory (CVRL) in line with ISO 17025:2017.

SUSTAINABILITY

1. Capacity development

The project developed institutional capacity and basic phytosanitary and animal health policies in support of food security and safety in both MOAR and MOAF, and supported Sudan's application to become a WTO member, which will contribute to strengthening and supporting SPS systems through access to further training, technical backup and possible funds.

The project helped to establish risk analysis units in government institutions; these will be integrated into a single national unit for risk analysis in the future.

The project contributed to the development of local knowledge and skills for beneficiaries through training and SPS awareness sessions.

2. Gender equality

Gender equality was considered throughout the implementation process of this project; over 70 percent of the targeted beneficiaries were female government personnel.

3. Environmental sustainability

Most training sessions were paperless, with training materials being distributed electronically to participants to reduce paper consumption. Participants were either accommodated at the workshop venue or transported in groups to minimize CO2 emissions.

The project supported the efforts of the Plant Production Directorate (PPD) of MOAF in fighting and managing weed by providing an intensive course in weed management, leading to a reduced use of pesticide and herbicide.

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

Human rights issues were not specifically addressed during the design of the project.

5. Technological sustainability

The project introduced improved technologies that were developed and released by national research institutions in the field of agriculture (particularly certified seeds of improved varieties of sorghum, sesame, cowpea, okra and watermelon) with the aim of increasing the productivity of these crops per targeted beneficiary.

The project contributed to the development of local knowledge and skills for beneficiaries by providing both on-the-job training and SPS awareness sessions. It also linked beneficiaries to the relevant line ministries in order to sustain the technical knowledge acquired.



6. Economic sustainability

Government institutions contributed to the project by issuing an administrative order to create risk analysis units. The Government also participated in the transfer of its cadres to attend training courses and workshops. The services developed by the project are intellectual services that are affordable and can be implemented using existing resources.

ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	Support the national economy and conserve national food security through improved system for import and export regulations, and facilitated trade of animal and plant products	
Outcome	Increase export opportunities of agricultural products and farmer incomes, and reduce the risk of invasive animal and plant pests and food insecurity	
	Indicator	<ol style="list-style-type: none"> 1. Number of trained MOAF and MOAR staff members. 2. Number of SOPs for SPS (animals and plants) inspectors developed and regulations/procedures harmonized. 3. Number of training courses and guidelines/manuals produced on implementation of SPS standards.
	Baseline	<ol style="list-style-type: none"> 1. Few staff members are trained in SPS standards in reference to animal and plant trading. 2. Existing procedures and regulations to be verified at inception period. 3. Baseline data could be gathered at the inception workshop.
	End Target	<ol style="list-style-type: none"> 1. At least 200 professionals from MOAF and MOAR trained in SPS standards (at least half of the trained staff women); 15 staff members from CVRL trained in diagnostic tools for infectious diseases. 2. SOP inspectors developed and existing SPS regulations/procedures updated and harmonized. 3. At least 30 training courses conducted to support implementation of SPS standards and four manuals produced.
	Comments and follow-up action to be taken	<ol style="list-style-type: none"> 1. The project exceeded the 200 government personnel target in the Project Document by training 407 (343 from Khartoum and 64 from different states) professionals from MOAF, MOAR, MOH in SPS standards (365 of the trained staff were women). This increase in number was achieved by including trainees from government institutions that were not initially targeted, such as MOH and SSMO. 2. Fourteen SOPs from PPD-MOAF were reviewed. Forty-five SOPs from CVRL-MOAR, were reformulated according to ISO 17025:2017. Two SOPs for brucellosis and CBPP (bacterial) were prepared according to OIE standards. Five SOPs for PPR, FMD, RVF, BT and pox (viral) were prepared according to OIE standards. The SOPs were reviewed and recommendations for updating current procedures recommunicated to beneficiaries. 3. Eighteen training courses were held to support implementation of SPS standards, compared to 26 training courses planned in the Project Document. Three training courses were planned to be conducted in different states as follows. International Standards of Phytosanitary Measures (ISPMs) training was to be conducted in four states. TADS for viral disease training was to be conducted in four states. Epidemiological approaches to disease investigation survey and surveillance training was to be conducted in three states. Four international standards for food safety and QC training courses were planned to be conducted under the project. Other than the training session on ISPMs held in Port Sudan for PPD-MOAF, the state training plan was not implemented owing to the limited time of the project caused by administrative problems related to the Ministry of Agriculture, in addition to the security situation in Sudan until June 2019. To compensate for the non-implementation of training in the states, training was organized in Khartoum and Port Sudan, and state employees were invited to attend training sessions in the selected states.

Output 1	A national plan of action for capacity development in phytosanitary, animal health standards, and food safety and quality control system		
	Indicators	Target	Achieved
			Yes
Baseline	0		
Comments	The phytosanitary national system was assessed and a detailed development plan of action was created and communicated to beneficiaries. The assessment included legal, regulatory, structural, operational and human capacity aspects.		
Activity 1.1	Develop a proposal for strengthening phytosanitary services		
	Achieved	Yes	
	Comments	An international phytosanitary expert worked with PPD staff in developing an action plan for capacity development of the phytosanitary system in Sudan. A national legal expert prepared a food safety legal report and the legal framework of the current phytosanitary system was discussed.	
Activity 1.2	Review and assess the OIE Performance of Veterinary Services and GAP analysis		
	Achieved	No	
	Comments	<p>In response to a request by the director of the Animal Health and Epidemiology Department, MOAF, it was agreed to cancel this activity and to replace it by the following:</p> <ul style="list-style-type: none"> – Review of the concept of epidemiology of infectious and zoonotic diseases. – Discussion of the concepts of population hierarchy, samples, and how to draw correct valid and reliable inferences. This included the collection and summarizing of data. – How to carry out an outbreak investigation as a part of a surveillance programme or as an independent event. – A focus on measurement of disease, exposure, and risk factors. Emphasis was given to the measurement of diseases and the ability of the diagnostic tests used in improving the diagnostic ability of veterinarians. A frequent issue was interpretation of the results of diagnostic tests in the context of the outbreak or the survey and surveillance data collected. – Revision of the concept and use of statistics in epidemiology to summarize epidemiological data and present results. Participants used Excel spreadsheets to this end. – Discussion of potential errors in epidemiological studies, including selection bias, information bias and confounding bias, and their impacts on the objectives of the study. Discussion of ways to minimize the impact of these errors in studies, including surveys and surveillances. – Epidemiological approaches to carrying out surveys and surveillance and to determining the optimal number of animals/samples when collecting data, without jeopardizing the reliability of the study. – Review of the different sampling approaches and methods to compute optimal sample size, using Excel. These methods included: simple random sample, stratified sampling, systematic sampling and cluster sampling. Discussion of the utility of each sampling design and the advantages and disadvantages of each. 	
Activity 1.3	Strengthen the National Animal Diseases Information System (NADIS)		
	Achieved	Yes	
	Comments	<p>NADIS was strengthened by:</p> <ul style="list-style-type: none"> – Reviewing and assessing current practices for animal disease surveillance and animal health information management. – Assessing the epidemiology unit/office at federal, state and locality level (data collection, analysis and monitoring) and designing tailor-made training courses to strengthen capacity of staff in those aspects. – Supporting the expansion and successful implementation of an animal disease information system, linking laboratory and epidemiology data from outbreaks and active surveillance. – Training animal health and laboratory staff at federal, state and locality level in application of the database. 	
Activity 1.4	Review the food safety control system in the country		
	Achieved	Yes	
	Comments	This activity was finalized in February 2019 under the title: Assessment of the National Food Control System of Sudan. FAO-facilitated assessment using the 2018 draft. FAO/World Health Organization Food Control System Assessment Tool.	

Activity 1.5	Assess traceability requirements in key value chains and develop a traceability system for a selected value chain (VC)		
	Achieved	Yes	
	Comments	A national value chain and traceability expert assessed and described the key sesame VC(s) in Sudan with a focus on traceability, developed a plan for establishing a traceability system and presented this to VC stakeholders, and finalized a plan through the incorporation of feedback from stakeholders.	
Output 2	National phytosanitary and animal health regulatory framework created and endorsed by relevant national and international organizations and technically competent bodies		
	Indicators	Target	Achieved
			Yes
Baseline	0		
Comments	SOPs from CVRL-MOAR and the plant quarantine department were reviewed and updated according to the requirements of OIE, ISO 17025 and IPPC. The legislative framework of food safety and quality control was reviewed and shared with beneficiary ministries.		
Activity 2.1	Develop manuals on standard operating procedures for SPS		
	Achieved	Yes	
	Comments	Fourteen SOPs from PPD-MOAF were collected and reviewed. Forty-five SOPs from CVRL-MOAR were reformulated according to ISO 17025:2017. Two SOPs for brucellosis and CBPP (bacterial) were prepared according to OIE standards. Five SOPs for PPR, FMD, RVF,BT and pox (viral) were prepared according to OIE standards.	
Activity 2.2	Harmonize the current national legislation related to food safety and quality and to animal health with the international standards		
	Achieved	Yes	
	Comments	The national legal consultant finalized the assessment of national legislation relevant to SPS and food safety, and identified gaps and weaknesses. The assessment was shared with the Government, a three-day legal evaluation workshop was conducted and comments from stakeholders were collected.	
Output 3	The QC and quality assurance (QA) systems of the CVRL are improved		
	Indicators	Target	Achieved
			Yes
Baseline	0		
Comments	Awareness training in quality management system international standards ISO 9001:2015 was conducted for CVRL staff. Awareness training in ISO 17025:2017 for internal auditor was conducted. Training was also held in measurement uncertainty, laboratory risk and method validation.		
Activity 3.1	Evaluation of CVRL facility using the FAO Laboratory Mapping Tool		
	Achieved	Yes	
	Comments	The national expert (bacteriologist and virologist) worked with the Lead Technical Officer and taskforce members in evaluation of CVRL facility by using the FAO Laboratory Mapping Tool to evaluate the efficiency of CVRL and its readiness to run tasks necessary for the country's SPS activities. By using this tool, gaps and areas for corrections, either by capacity building or by legislative actions, were identified.	
Activity 3.2	Improve CVRL QC and QA capacity		
	Achieved	Yes	
	Comments	The QC and QA of CVRL were improved by implementing ISO 17025:2017, leading to enhanced documentation and data management. SOPs were developed according to ISO 17025:2017. A list of chemical and laboratory material prepared by the national (viral/ bacterial) consultant was ordered by the project.	
Activity 3.3	Capacity building of laboratory personnel in disease diagnosis		
	Achieved	Yes	
	Comments	Two diagnostic training workshops were conducted and staff from different states participated at remote laboratories (other than CVRL). OIE standards will be followed accordingly.	

Output 4	National capacities in phytosanitary standards enforcement and sanitary (food safety and quality) control are strengthened		
	Indicators	Target	Achieved
Baseline	0		
Comments	National workshops on SPS, Codex, IPPC and ISPMs were organized to develop national capacity in international standards. Training sessions were also held on food safety, food quality, GAP and weed management. Owing to the limited time available a national expert on trade standards was not hired to develop guidelines on the procedures and requirements of exported commodities.		
Activity 4.1	National workshop on IPPC, ISPMs, Codex and SPS		
	Achieved	Yes	
	Comments	National workshops on SPS, Codex, IPPC and ISPMs were organized to develop national capacity on international standards. In addition, training sessions were held on food safety, food quality, GAP and weed management. Owing to the limited time available, a national expert on trade standards was not hired to develop guidelines on the procedures and requirements of exported commodities.	
Activity 4.2	Review the coordination arrangements for effective pest surveillance and reporting		
	Achieved	Yes	
	Comments	The international phytosanitary expert designed a questionnaire to collect data from PPD. The feedback from the questionnaire was used to recommend the establishment of a general surveillance system for plant pests according to ISPM#6. The components of the system were described in the report and operational aspects were clarified.	
Activity 4.3	Training in PRA		
	Achieved	Yes	
	Comments	Twenty staff members from PPD were trained in PRA (ten from Khartoum and five from other states) for two weeks. The training covered the essential components, including theoretical basis, hands-on training, review of PRA, response to market access questionnaire and the development of system-approach phytosanitary measurement. PRA team was formulated and one of the major training outputs was the establishment of a risk analysis unit in the public administration for plant protection, comprising five specialists. The new unit will adopt and implement the PRA approaches taught in the training, and will allow the Sudanese authorities to assess pest risks associated with imported plant commodities and take the proper phytosanitary measures depending on scientific evidence. This is essential if Sudan is to fulfil the technical requirements of the SPS Agreement in order to join the WTO.	
Activity 4.4	Specific training in ISPMs		
	Achieved	Yes	
	Comments	Two training workshops (Khartoum and Port Sudan) were conducted. Details below: <ul style="list-style-type: none"> – Khartoum state: Number of participants: 15 agricultural engineers from PPD. Implementation level: Training course conducted by international expert in international sanitary and phytosanitary standards identified as necessary to be applied to agricultural imports and exports – Port Sudan-Red Sea state: Number of participants: 15 agricultural engineers (five out of state) Implementation level: Course conducted by international expert. Training course goals: Participant capacity building in the field of plant health by following and applying phytosanitary measures to agricultural imports and exports, as Port Sudan is considered the main entry and exit point for these products for international markets, in addition to animal livestock. 	
Activity 4.5	National workshop on noxious weed <i>Parthenium hysterophorus</i>		
	Achieved	Yes	
	Comments	A national workshop on weed management was organized for 25 participants from PPD and 15 from states. The main outputs were the following recommendations: <ul style="list-style-type: none"> – Urgent attention should be given to weed control and management administration with consideration of them as an agricultural pest and their negative effects on animal, environmental and human health. – PPD needs to establish a separate budget to control these weeds. 	

Activity 4.6	Capacity building on international standards for food safety and quality control	
	Achieved	Yes
	Comments	A capacity-building programme on international standards for food safety and quality control was conducted covering SPS, Codex Alimentarius and GAP, as well as a training course on ISO 22000 Standard Specifications for Food Safety. Government staff working on food safety attended the workshops.
Activity 4.7	Assist in developing GAP for the main export crops	
	Achieved	Yes
	Comments	A training workshop was organized for government staff, in which sesame was taken as a model for main crops for export, to strengthen the coordination mechanism with extension services for the implementation of such a programme and to support farmers.
Activity 4.8	Develop guidelines on the procedures and requirements of exported commodities	
	Achieved	No
	Comments	No national expert was recruited in trade standards.

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