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# Poultry and small ruminant vaccine availability and effectiveness

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### Notes to broadcaster

In Burkina Faso, 80% of the population live in rural areas and farms for a living. Every rural household has a small poultry and small ruminant farm, including goats and sheep. But there are an increasing number of small modern broilers and laying hen farms around big cities. In all, Burkina Faso has over 25 million birds and over 20 million small ruminants.

However, poultry and small ruminant farming is subject to diseases that can destroy a whole poultry farm or a small ruminant herd.

In this script, we hear from three poultry and small ruminant farming sector stakeholders, including an animal health expert who will talk about poultry and small ruminant diseases, as well as vaccines to manage these diseases, and the availability and effectiveness of these vaccines. Two farmers will also share their experiences regarding how they protect their animals against these diseases.

To produce a similar program on animal health, you may wish to draw inspiration from this text. If you choose to present this radio script as part of your farming program, you can use voices to represent the people interviewed in this case. In this case, please tell your audience at the very beginning of the program that the voices are those of actors and not of the actual participants.

If you want to air programs on animal health, especially about vaccines, talk to farmers who rear animals, animal health specialists, and other stakeholders in the livestock value chain. You may wish to ask them the following questions, among others:

* What are the most important livestock diseases in this area?
* For which of these diseases are vaccines available?
* How can farmers access these vaccines? What are the details related to cost, frequency of administering the vaccines, etc.?

Estimated duration with music, intro and extro, is 20 minutes.

**HOST:**  In this program, we will talk about poultry and small ruminant diseases. What are the most common poultry and small ruminant diseases? What is their impact on poultry and small ruminant farms?

Which treatments are available for these diseases and how effective are they? Are treatments and vaccines accessible for average farmers?

To answer all these questions, we have an animal health expert. Dr. Dominique Ilboudo is a veterinarian and animal health specialist at a project that supports animal farming sector development in Burkina Faso. Dr. Ilboudo is in Ouagadougou. We also have Mr. Ernest Tibiri, farmer in Passakongo village, western Burkina Faso, more than three hundred kilometres from Ouagadougou in west central Burkina Faso. Finally, we have Mr. Zongo, who lives in Sabou municipality, one hundred kilometres from Ouagadougou in west central Burkina Faso. The two farmers breed poultry and small ruminants and usually vaccinate their animals.

**HOST:** We will start with our animal health expert. Dr. Dominique Ilboudo, how many birds and small ruminants are there in Burkina Faso nowadays?

**DR. ILBOUDO:** I should point out that there are two types of poultry farming. There is modern poultry farming which is typically close to large cities. This includes laying hen and broiler farming. The second type is traditional farming where people breed local birds, including chickens, guinea fowl, turkeys, and ducks. Most poultry farmers do traditional farming. Between both types, there are more than 25 million birds. And there are about 20 million small ruminants, including goats and cattle. There is also semi-modern poultry farming, mainly includes local chickens, although some semi-modern poultry farming raises chickens that are cross-bred between local and imported breeds.

**HOST:** What are the common poultry diseases?

**DR. ILBOUDO:**  There are many. But those that have a significant impact on poultry are Newcastle disease, which is a viral disease affecting birds at any age, and avian smallpox and parasitic diseases like coccidiosis.

**HOST:** What are the common small ruminant diseases?

**DR. ILBOUDO:** For small ruminants, there are infectious diseases like peste des petits ruminants that can be tackled by a vaccination campaign. There are also other diseases like blackleg and anthrax.

**HOST:** What is the impact of these diseases on poultry and small ruminants?

**DR. ILBOUDO:** Concerning Newcastle disease, note that it is an endemic disease, that is, it is in the whole country. It is infectious, deadly, and it affects at least 80% of farms. One hundred per cent of birds can be infected and between eighty and ninety percent can die—even 100% can die if chickens are not vaccinated.

**HOST:** What about small ruminants?

**DR. ILBOUDO:** It’s the same thing for small ruminants. The diseases are endemic and can kill 80-100% of the herd if it is not vaccinated. Peste des petits ruminants is a typical example of an infectious disease. Therefore, vaccination campaigns are organized to manage the two diseases.

**HOST:** What actions does the government take to manage these diseases?

**DR. ILBOUDO:** We monitor the diseases across the country. There is passive monitoring and active monitoring. Passive monitoring consists of cases reported to veterinary services by all stakeholders.

**HOST:** How is active monitoring done?

**DR. ILBOUDO:**  National veterinary service officers do active monitoring in national animal breeding laboratories. These officers do periodic sampling of specific sites and analyze samples to detect the presence of germs. This monitoring helps veterinary services to detect diseases early and to respond.

**HOST:** How is this response carried out?

**DR. ILBOUDO:** It is implemented in various ways depending on the type of germ. The response can even consist in slaughter as in the case of avian flu, or in giving advice to farmers to stop the spread of the disease.

**HOST:** What about poultry?

**DR. ILBOUDO:** To manage poultry diseases, especially Newcastle disease and avian smallpox, mass vaccination campaigns are organized every year to help producers protect their flocks. One mass vaccination campaign takes four months.

**HOST:** Are there other vaccination sessions apart from campaigns?

**DR. ILBOUDO:** Apart from campaigns, vaccination be done any time all the year. Usually, vaccines are not fully funded. Farmers contribute to the vaccination of their poultry and animals. But 2020 was a special year. Because of the coronavirus disease, the government adopted some measures, including covering the total cost of avian smallpox and Newcastle disease vaccines for poultry, and the costs of peste des petits vaccinations for small ruminants. Vaccination was free in 2020. This was also the case for contagious pleuro-pneumonia in cattle.

**HOST:** How effective are vaccines?

**DR. ILBOUDO:** The effectiveness of the vaccines can be checked by taking samples from vaccinated animals three weeks after the vaccination to analyze them. But due to a lack of means, veterinary services don’t do these follow-ups. They do random sampling and analysis of small ruminant herds six months after vaccination but don’t target vaccinated animals. With poultry, these samplings should be done well before. The effectiveness of the avian smallpox vaccine can be checked just one week after vaccination by looking for small pimples in the area where the vaccine was administered.

I should say that we don’t make vaccines. We order them and they are registered within the West African Economic and Monetary Union. They are certified by a pan-African body and governments have a monopoly on the purchase and distribution of animal health products used for these diseases. The products are widely used. Vaccination against these diseases is compulsory.

**HOST:** Who gives vaccines to farmers?

**DR. ILBOUDO:**  It’s the government who must provide these vaccines, so that there is no disruption. The vaccines are distributed from Ouagadougou to remote municipalities. There are village vaccinators who come to collect these products. We take samples and analyze them to ensure they are still active and good quality.

**HOST:** Does it ever happen that the vaccines are expired?

**DR. ILBOUDO:** Despite measures taken and caution, we can sometimes miss something. Indeed, the cold chain required to keep vaccines safe and effective must be ensured at all levels. But with power outages, products might deteriorate. Vaccines approved for market must be more than 90% effective.

**HOST:** Is there a booster vaccination?

**DR. ILBOUDO:** Yes. There are two types of vaccines. There are vaccines that require a booster to be administered six months after the first vaccine was given and others for require a booster one year later. There are also other vaccines which require an earlier booster vaccination.

**HOST:** Can you give some examples?

**DR. ILBOUDO:** For avian smallpox, for example, in a herd that has never been affected by the disease, the booster vaccination is done one year after the first vaccination. But if nearby herds have been infected or if the herd itself has had a few cases, the booster vaccination is done four months after the first vaccine was administered.

**HOST:** What about small ruminants?

**DR. ILBOUDO:** For peste des petits ruminants, if the vaccine is good, it is effective for three years. We say that it’s effective for the whole lifetime because these animals are sold before they are more than three years.

**HOST:** Is there any cure?

**DR. ILBOUDO:** For peste des petits ruminants, there is no cure. But if an infected animal survives the disease, it is immune for all its life. It’s the same thing for the Newcastle disease. For avian smallpox, there is a cure, but the cure is difficult. Symptoms of this disease include pimples around the bird’s beak. Mortality is not significant, but the disease decreases production because birds can’t eat well. When chicks are affected and can’t eat, they die from hunger.

**HOST:** Do you have experts who monitor and conduct vaccination campaigns?

**DR. ILBOUDO:** Oh no!! We don’t have enough technical staff. For example, we have three hundred and fifty-one municipalities\* and there are rarely two staff per municipality who can carry out vaccination, monitoring, and other activities. Rural areas lack the staff to support farmers.

**HOST:** Are farmers interested in vaccination to protect their farms?

**DR ILBOUDO:** We can’t say yes because, we rarely reach 50% of animals vaccinated. This is either because farmers don’t have the information or because veterinary services are not accessible.

It should also be noted that most traditional breeders are only interested in veterinary services when there is a health problem within their farms. And most of the time they administered veterinary drugs that they bought informally on the street.

**HOST:** Do you use traditional, indigenous knowledge to boost modern medicine?

**DR. ILBOUDO:** It’s difficult. But we know that traditional medicine exists in the field. Some farmers succeed in preventing diseases and treating their animals with traditional medicine, especially guinea fowls. Some farmers use indigenous knowledge and make it through.

**HOST:** What is the government’s position onhow traditional medicine can be used to treat animals?

**DR. ILBOUDO:** Keepers of this traditional knowledge don’t share it. And the ministry hasn’t started to organize this traditional medicine so that it can promoted like it is for human health. This prevents animal health specialists from recommending the use of this kind of medicine to farmers. Also, this medicine is sometimes wrapped up in mysticism, although it can be scientific.

**HOST:** Mr. Georges Zongo, in his sixties, farms and rears animals in the village of Sabou, in west central Burkina Faso. He usually vaccinates his chickens and small ruminants. He even treats them against pests.

Are the vaccines you use effective?

**MR ZONGO:** Yes. They are effective, but you must repeat the vaccination regardless of the type of vaccine 45 or 60 days after the first vaccination. After the two vaccines, I use plant infusions to strengthen disease prevention. For example, infusions made with cailcedrat bark (*kouka* in the local language Mooré) help prevent Newcastle disease and diarrhea. To eliminate my chickens’ parasites, I grind papaya seeds, add some hot pepper, and put the mixture in drinking troughs. With only one vaccine, one can’t be sure of its effectiveness. But with two vaccines and plant infusions, you can limit mortality to between twenty and thirty per cent.

**HOST:** What are the consequences when vaccines are not well stored and when there are not enough specialists to coach farmers?

**MR. ZONGO:** When badly stored vaccines are used, they are not effective and when the disease occurs, chickens die. This creates losses for farmers, who also don’t trust the vaccines anymore. This is why despite awareness campaigns led by the government at reduced costs and even for free like this year, some farmers are still not interested in vaccinating their birds and other animals. And since there are not enough specialists, there is a lack of information and education. As a result, our chickens die every year and farmers have losses.

**HOST:** Thank you, Mr. Zongo. Not we welcome Mr. Ernest Tibiri. He usually vaccinates his animals. What do you think about these vaccines?

**Ernest TIBIRI:**  If you really want to know, we have difficulties with vaccinating poultry. Even when we vaccinate, we still lose a few chickens to disease, but not too many. Usually, we give the first vaccine in October and a second one in January.

**HOST:** You live more than three hundred kilometres from the capital city. Do you have access to vaccines and veterinarians?

**TIBIRI:** We have a big municipality, with about forty villages. There are not enough veterinarians to cover all the municipality. But veterinarians are willing to support us. When we call them, they come and give us advice.

For products, especially vaccines, the difficulty lies in the lack of appropriate storage equipment. You know, vaccines must be kept in a cold place, and this is difficult in villages. But now with electricity extension services and particularly solar panels, farmers have fewer issues.

**HOST:** But are vaccines affordable?

**TIBIRI:** The prices are affordable. A vaccine costs fifty francs CFA. But when you have more than two hundred chickens, you can hardly afford to vaccinate all of them, and they should all be vaccinated. This year, we have some support from the government. Everything was free.

**HOST:** Do you also use traditional products made with plants to treat or prevent animal diseases?

**TIBIRI:** Yes. I use different kinds of tree bark to prevent or treat diseases, but after administering them, I conduct the two vaccines. For example, I use cailcedrat bark that I let soak in the drinking trough to manage Newcastle disease. Very often, it works.

**HOST:** This is the end of this program. We talked about poultry and small ruminant vaccinations, especially the accessibility and effectiveness of vaccines. To answer our questions, we invited Dr. Doctor Dominique Ilboudo, an animal health specialist at a project supporting the development of the animal farming sector in Burkina Faso. We also spoke with Ernest Tibiri and Georges Zongo, crop farmers and animal breeders. Thank you to all our guests and listeners.

\*A *municipality* is an administrative unit that includes many villages. It is supervised by communities who elect a mayor every five years. The national government provides the necessary financial resources and skills for the functioning of the municipality.

**Acknowledgments:**

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Dr. Dominique Ilboudo, animal health specialist, project supporting development of the animal farming sector in Burkina Faso.

Mr. Ernest Tibiri, crop farmer, Passakongo village, western Burkina Faso.

Mr. Georges Zongo, animal farmer, Sabou, west central Burkina Faso.

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