

## 2. Objectives

The general objective of this study was to improve control of cattle trypanosomosis in villages under risk of trypanocide resistance in the cotton zone of west Africa. Specific objectives were:

1. To characterise trypanosomosis epidemiology and management in villages with presence or potential for drug resistance in the cotton zone of west Africa.
2. To develop, test and evaluate best-bet strategies for the control of trypanosomosis in the presence or risk of drug resistance.
3. To model the dynamics of trypanocide resistance, in order to better understand epidemiology and control of trypanosomosis in the presence and risk of drug resistance.

Under objective one the following field-based activities were carried out:

- A review of previous vector control (VC) projects in Burkina Faso (n=nine projects).
- A questionnaire survey on Knowledge, Attitude and Practice (KAP) of trypanosomosis management in Burkina Faso, Mali and Guinea (n=894 farmers).
- A questionnaire survey on farmer-perceived needs for information on trypanosomosis and on information sources preferred and actually used by farmers in Burkina Faso (n=100 farmers).
- A questionnaire survey of animal health service providers, and the quantity and quality of trypanosomosis management goods and services provided (n=73 service providers).
- A questionnaire survey on farmer management of trypanosomosis in Mali (n=400 farmers).
- Participatory Rural Appraisals (PRA) of the farming system and trypanosomosis management in Burkina Faso and Guinea (n=400 farmers).
- Cross sectional and longitudinal surveys of trypanosomosis prevalence in 46 villages in Mali and eight in Burkina Faso (n=16 935 samples).
- Surveys of other diseases relevant to trypanosomosis, specifically: gastrointestinal parasites (n=1 463 samples) and tick born diseases (n=884 samples) in Burkina Faso and Mali.

Under objective two, the following three evaluations were carried out:

- Evaluation of participatory vector control (Burkina Faso, n=eight villages).
- Evaluation of trypanotolerant cattle-keeping (Burkina Faso, Mali and Guinea, n=64 villages).
- Evaluation of interventions to improve trypanocide use and AAT management through:
  - provision of Rational Drug Use pamphlets to farmers (Mali, n=46 villages).
  - establishing primary animal health services (Burkina Faso, n=eight villages).
  - workshops on Rational Drug Use for service providers (Guinea, n=46 trainees).

Under objective three, the following activities were carried out:

- Adaptation of a trypanosomosis mathematical model to incorporate resistance.
- Modelling the effects of control strategies (trypanotolerance, drug use and vector control), on drug resistance and AAT control.