Designing and piloting interventions to improve food safety in value chains

Safe Food, Fair Food APM

ILRI, Addis, 17th April 2014

Delia Grace

International Livestock Research Institute

CGIAR | Research Program on Nutrition and Health

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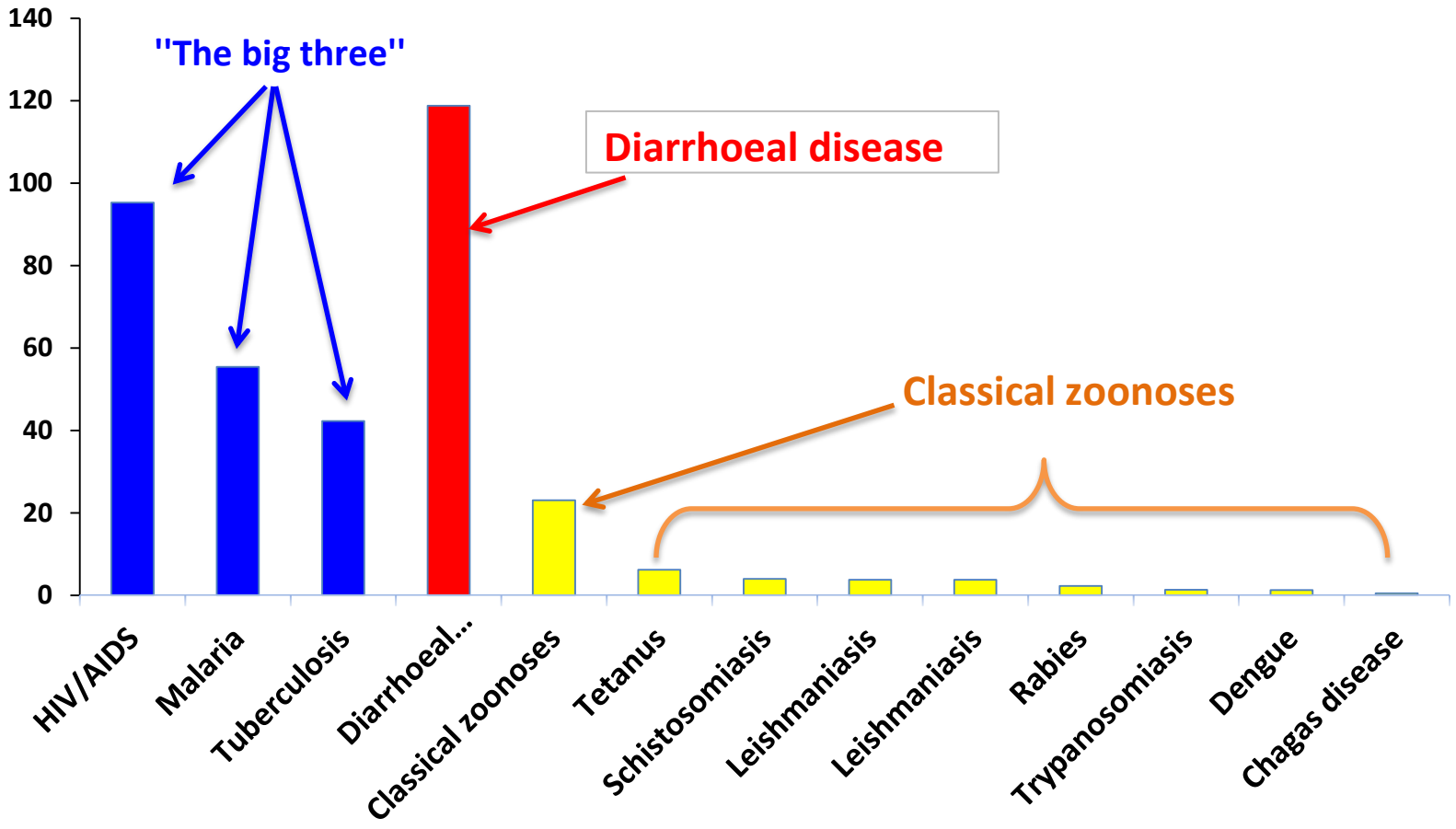
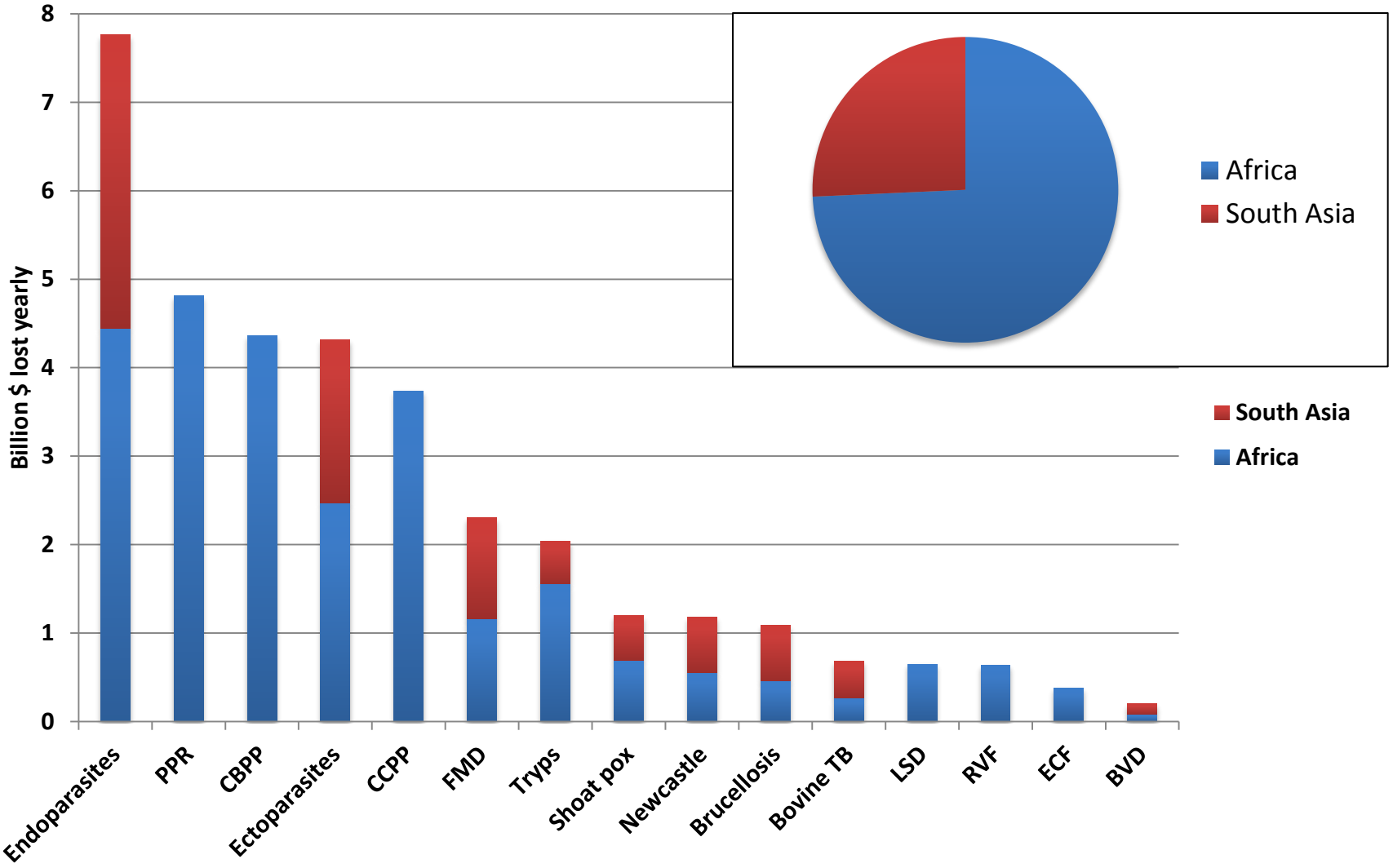
Global Burden of Communicable Diseases (WHO, 2011)



Cost of animal disease



Estimates from BMGF

Criteria (APM 2013)

- Feasibility
- Acceptability
- Affordability
- Scalability
- Sustainability

- VC based
- Important problem

- Demand/interest
- Participation

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Training farmers in rational drug-use improves their management of cattle trypanosomosis: A cluster-randomised trial in south Mali

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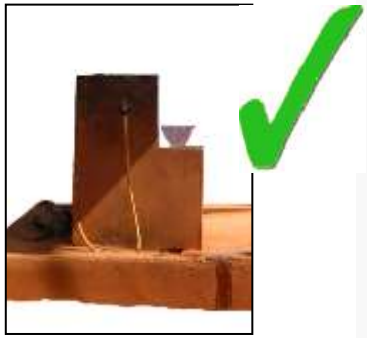
Simple messages on treatment for farmers



Results

- Improvement in knowledge
  - Intervention 30 points, control 8 points; $p<0.000$
- Improvement in practice
  - Intervention 16 ml; Control 12 ml $p=0.001$
- Better clinical outcomes
  - Fewer side-effects: intervention 15%, control 25%, $p=0.035$
  - Fewer treatment failures Intervention 1%, control 3%; $p=0.535$

Evaluating a group-based intervention to improve the safety of meat in Bodija Market, Ibadan, Nigeria

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The group-based intervention comprised:

- Targeting interventions based on CCP and risk factors
- Providing new technologies such as disinfectants
- Training by experts
- Followed by peer-to-peer training
- Followed by hand-holding and support
- Branding to identify butchers trained in hygienic practices.

Results

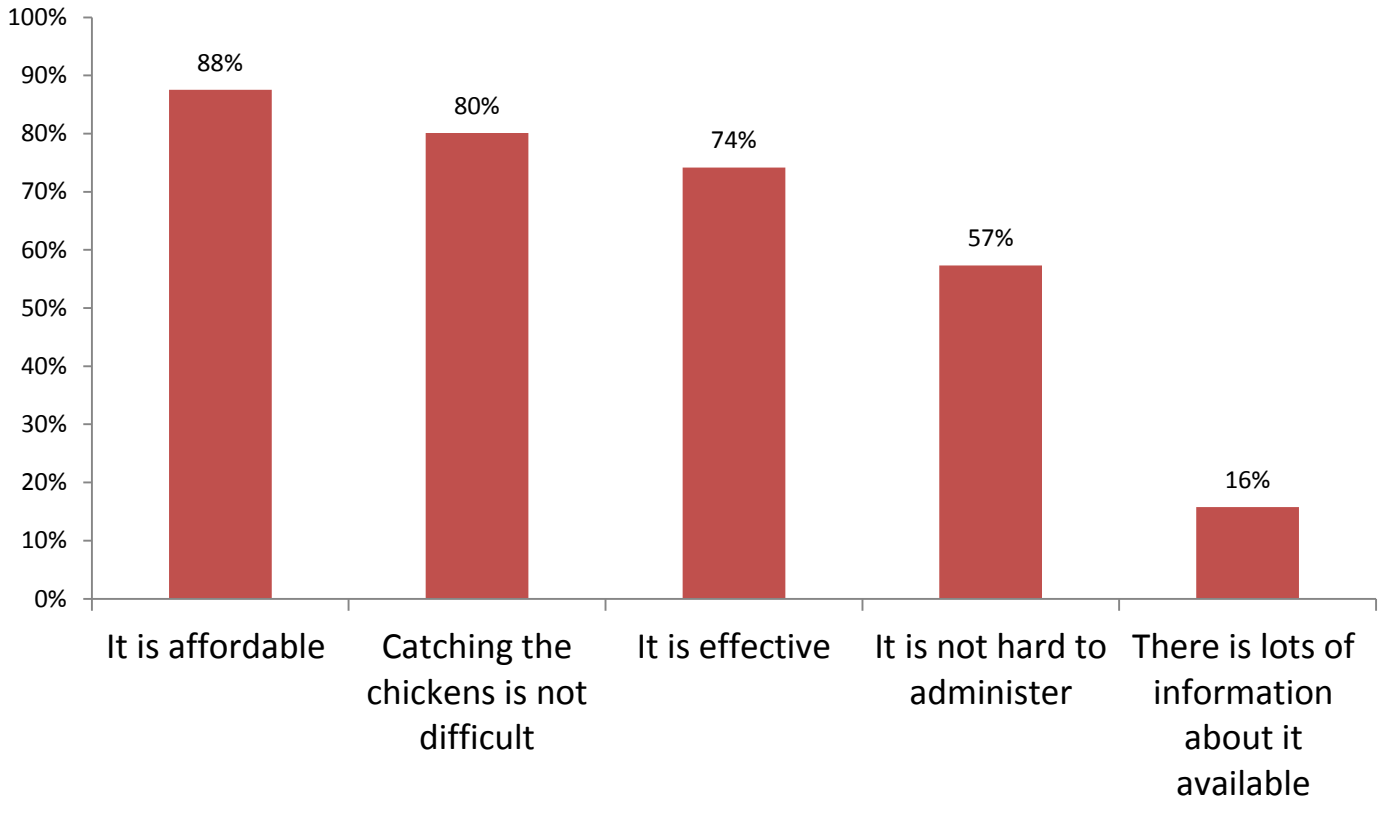
- Group-based interventions were successful at delivering information and innovation for meat safety.

- Impact evaluation showed:
  - improvement in knowledge, attitude and practice
  - a 20% reduction in unacceptable meat samples ($p<0.001$)
  - training butchers cost $9 per butcher and reduced cases of diarrhoea among their customers by 10% or 1,600 episodes resulting in $780 saved in treatment costs.

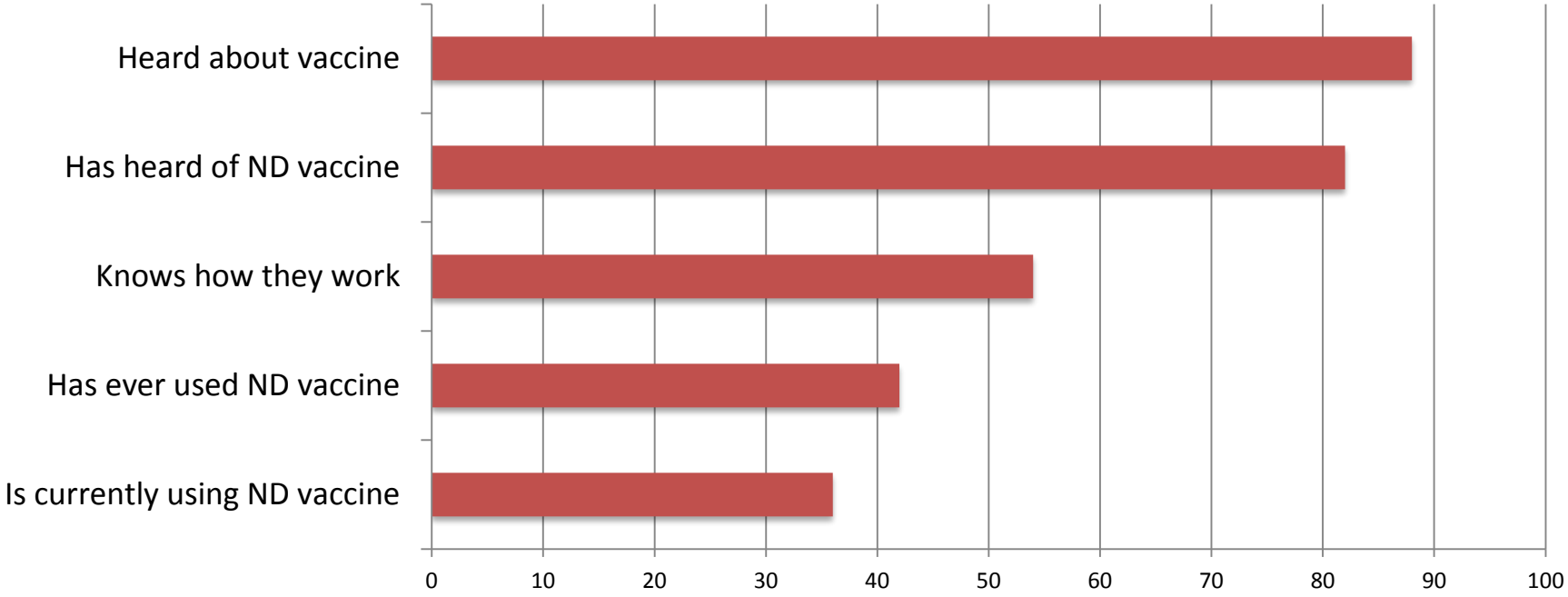
Newcastle disease vaccine in Tanzania

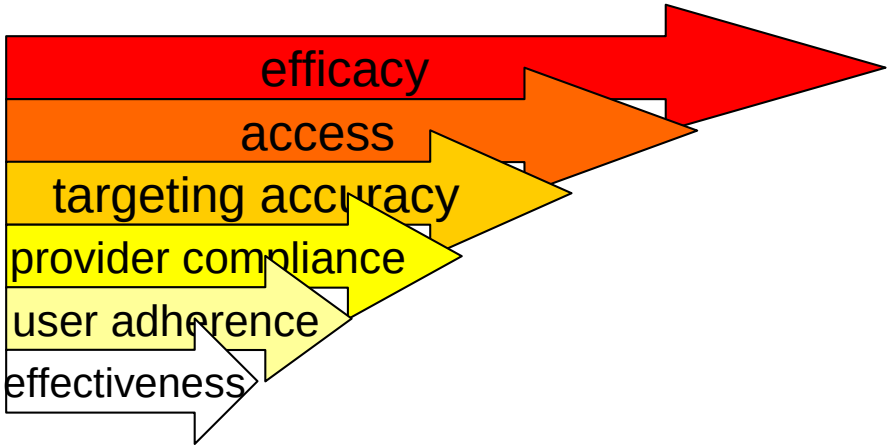
94% owned chickens in last year; 58% say most important livestock

- On average have 14 birds
- 22 lost last year from all causes: 16 lost from ND



Vaccine uptake





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Risk assessment of staphylococcal poisoning due to consumption of informally-marketed milk and home-made yoghurt in Debre Zeit, Ethiopia

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ABSTRACT

The objectives of the study were twofold: to prove that participatory risk assessment can be applied to informally-marketed foods, and to assess the risk of staphylococcal poisoning through consumption of raw milk and home-made yoghurt in Debre Zeit, Ethiopia. Rapid urban appraisals were combined with conventional interviews to identify and quantify formal and informal milk value chains and to collect information on consumers' food preparation and consumption behavior. Milk was sampled in 170 dairy farms and 5 milk collection centers and microbiological tests were conducted. Published data on milk fermentation in Ethiopia was combined with a growth model of *Staphylococcus aureus* to develop a stochastic risk model. The annual incidence rate of staphylococcal poisoning was estimated to be 20.0 (90% CI: 13.9–26.9) per 1000 people. When the effect of fermentation was removed from the model, the annual incidence rate increased to 315.8 (90% CI: 224.3–422.9) per 1000 people, showing the importance of traditional food preparation methods in risk mitigation; traditional milk fermentation reduced the risk by 93.7%. Improving the safety of milk and dairy products could be achieved through supporting appropriate traditional food preparation and consumption where an industrial risk mitigation system is not feasible. Participatory risk assessment was shown to be applicable to informal food value chain.

Outcome mapping for fostering and measuring change in risk management behaviour among urban dairy farmers in Nairobi, Kenya

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Accepted: 30 May 2012

Abstract A study was undertaken to investigate and mitigate the risk from zoonotic *Cryptosporidium* associated with dairy farming in Dagoretti division, Nairobi, Kenya. Outcome mapping (OM), a relatively new tool for planning and evaluation, was used to foster and then monitor changes in farmer management of health risks. Elements of the OM framework, including the vision, mission and expected progress markers, were developed in participatory sessions and a set of progress markers was used for monitoring behaviour change in farmers participating in the project (the boundary partners). Behaviour change (the outcome challenge) was supported by a range of awareness and educational campaigns, working with strategic partners (extension agents and administrative leaders). The farmers the project worked with made considerable progress according to the markers; they demonstrated an understanding of cryptosporidiosis, established or maintained clean and well drained cattle sheds, and took conscious effort to reduce possible infection. Farmers who did not participate in the project (non-contact farmers) were found to be less advanced on the progress marker indicators. Non-contact farmers who carried out risk-reducing practices had done so independently of the project team. The administration leaders, as strategic partners, had a positive attitude towards the project and confidence in their ability to support project objectives. The study demonstrates the utility of OM in helping to identify and support behavioural change.

This paper is part of a special supplement on assessing and managing urban zoonoses and food-borne disease in two African cities (Nairobi, Kenya and Ibadan, Nigeria).

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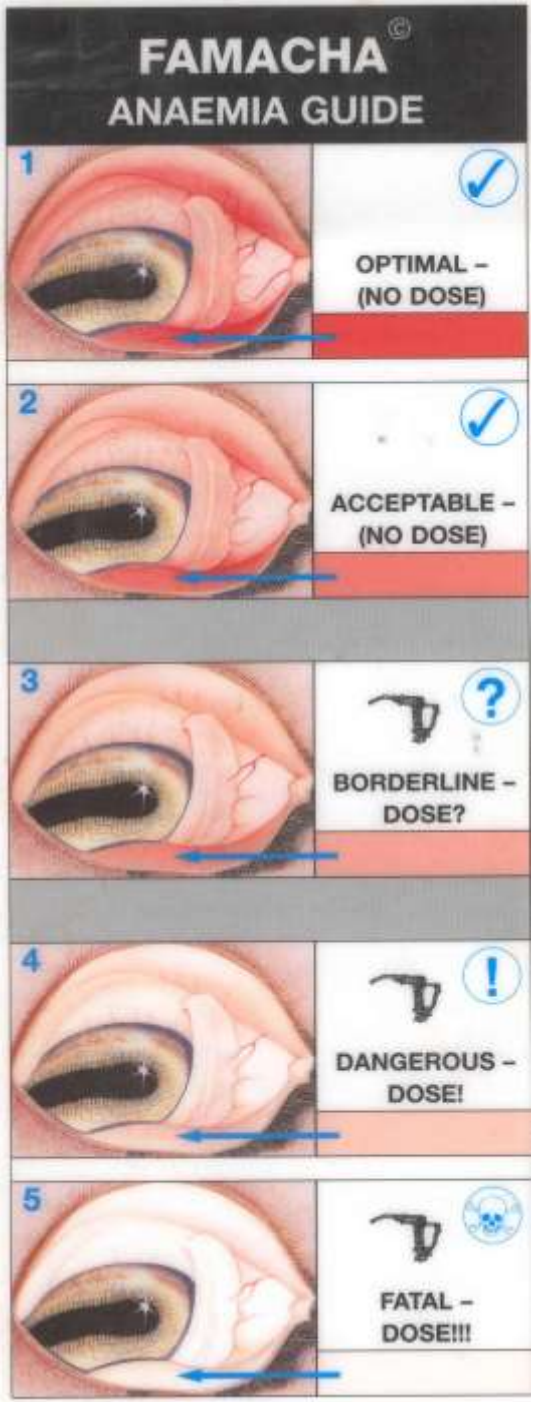

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Comparing FAMACHA© eye color chart and Hemoglobin Color Scale tests for detecting anemia and improving treatment of bovine trypanosomosis in West Africa

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Abstract

African animal trypanosomosis (AAT) is considered the most important cattle disease in sub-Saharan Africa but its diagnosis in

Take home messages: interventions

- Interventions can be exploratory or scalable
  - Include at least some scalable interventions
  - Scalable require at least a control
  - Negative results are as important as positive
- Should be evidence based
  - Rapid integrated assessment
  - Other justification
- Should be embedded in value chains & CRP4
  - Discuss with wider VC team
  - Fit with capacity-formality-incentives model
- Should be participatory & multidisciplinary
  - Include gender & economic where possible

Agriculture Associated Diseases

http://aghealth.wordpress.com/

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