

# A new animal health and livestock training network for sub-Saharan Africa

RIU

## Validated RNRRS Output.

A new network of African universities is being developed to produce teaching materials for disseminating the results of DFID-funded research into animal health and livestock production in sub-Saharan Africa. It aims to overcome the fact that the massive amount of DFID-funded research done to improve animal health and livestock keeping has had very little impact—mainly because new knowledge simply isn't reaching the people who need it. The African Universities' Veterinary E-Learning Consortium (AUVEC) therefore aims to provide bite-sized, easy-to-revise, distance-learning materials that animal health professionals can use to regularly update their knowledge and skills. This developing network consists of veterinary departments and veterinary bodies in Ethiopia, Kenya, South Africa, Sudan, Tanzania, Uganda, Zambia, Zimbabwe and Malawi.

Project Ref: **AHP08:**

Topic: **2. Better Lives for Livestock Keepers: Improved Livestock & Fodder**

Lead Organisation: **African Universities Veterinary e-Learning Consortium**

Source: **Animal Health Programme**

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## Description

## Research into Use

NR International  
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Bradbourne Lane  
Aylesford  
Kent  
ME20 6SN  
UK

## Geographical regions included:

[Ethiopia](#), [Kenya](#), [Malawi](#),  
[South Africa](#), [Sudan](#),  
[Tanzania](#), [UK](#), [Uganda](#),  
[Zambia](#), [Zimbabwe](#),

## Target Audiences for this content:

[Livestock farmers](#),

**AHP08****A. Description of the research output(s)***1. Working title of output or cluster of outputs.*

**Transforming existing animal health and production research outputs into interactive continuing professional development (CPD) modules to support in-practice training of animal healthcare professionals**

*2. Name of relevant RNRRS Programme(s) commissioning supporting research and also indicate other funding sources, if applicable.***DFID Animal Health Programme***3. Provide relevant R numbers (and/or programme development/dissemination reference numbers covering supporting research) along with the institutional partners (with individual contact persons (if appropriate)) involved in the project activities. As with the question above, this is primarily to allow for the legacy of the RNRRS to be acknowledged during the RIUP activities.....*

**R7597, R7596, R8151, R8022, R8208, R8042, R7173, R7987, R7229, R7357, R5406, R8318**

Project Partners (contact person):

1. Centre for Tropical Veterinary Medicine, The University of Edinburgh, **UK**, (Dr Mark Eisler; [mark.eisler@ed.ac.uk](mailto:mark.eisler@ed.ac.uk)).
2. Faculty of Veterinary Medicine, Makerere University, Kampala **Uganda**, Prof. Kabasa; [kabasajd@vetmed.mak.ac.ug](mailto:kabasajd@vetmed.mak.ac.ug)).
3. Faculty of Veterinary Medicine, Nairobi University, **Kenya**, (Prof. Paul Kanyari)
4. Faculty of Veterinary Medicine Sokoine University of Agriculture, **Tanzania** (Prof. Rudovic Kaswala)
5. Faculty of Veterinary Medicine **Addis Ababa** University, **Ethiopia** (Prof. Merga Bekana)
6. Faculty of Veterinary Medicine University of **Zambia** (Prof. Andrew Nambota)
7. Faculty of Veterinary Medicine University of Harare, **Zimbabwe** (Prof. Thokozani Hove)
8. Faculty of Veterinary Medicine University of Pretoria, **South Africa** (Prof. Koos Coetzer)
9. University of Science and Technology, **Sudan** (Dr Seif Barakat)
10. Faculty of Veterinary Medicine University of Khartoum, **Sudan** (Prof. Khirtma Elmalik).

*4. Describe the RNRRS output or cluster of outputs being proposed and when was it produced?*

This output involves utilizing the African Universities Veterinary **E-Learning Consortium** (AUVEC) to **disseminate research** findings through Continuing **Professional Development** (CPD) learning opportunities. Consortium members represent the veterinary faculties in **Ethiopia, Kenya, South Africa, Sudan, Tanzania, Uganda, Zambia, Zimbabwe** and veterinary bodies in **Malawi**.

Despite significant DFID funding to support research in **animal health and livestock production in sub-**

**Saharan Africa** over the last decade or more, there has been little real impact. One of the problems is that traditional research outputs, such as academic publications, reports and PhD theses, are often not widely available. Meanwhile **stakeholder** consultations have demonstrated strong but currently unmet demand for **CPD** - delivered using flexible distance-learning formats - that would enable animal **health professionals** to keep abreast of new developments and regularly update their **knowledge** and **skills**. The need is therefore to transform existing research outputs into CPD materials that meet the needs of animal health professionals.

This will entail delivering CPD in formats most appropriate to the working lives of the animal health professionals. Where online **dissemination** is appropriate, this will be the first choice but the CPD materials will be developed such that they may be distributed on paper, via CD or even via mobile **technologies**. The CPD materials will not be static documents but will be dynamic **educational resources**. They will be developed as discrete units of learning designed to engage the learner for short periods of study. These units will be designed such that they may be amalgamated to create longer study modules, which could form parts of Masters level courses offered by local universities. This unitized approach also makes it much easier to update educational content, share content between teachers and to adapt/modify (edit) the materials to meet local needs. The flexibility of offering informal **just-in-time**, bite-sized quantities of **learning** alongside more formalized, award-bearing courses in which learning is facilitated by tutors and rigorously assessed will enable as wide a range of **animal healthcare** workers to benefit as possible. Thus, **women** who are unable to participate in formal education due to family circumstances and cultural restrictions, veterinary assistants working in **rural communities** and those seeking formal **qualifications** through residential study at **universities** and **colleges** will be catered for. The fact that the materials can be delivered online also greatly increases flexibility as anyone with **Internet access** can benefit.

5. What is the type of output(s) being described here?

<b>Product</b>	<b>Technology</b>	<b>Service</b>	<b>Process or Methodology</b>	<b>Policy</b>	<b>Other Please specify</b>
			X		

6. What is the main commodity (ies) upon which the output(s) focussed? Could this output be applied to other commodities, if so, please comment

The main commodity is livestock but also human health through prevention of zoonotic diseases. Other commodities: crops, through provision of manure and draught power. An important 'commodity' is adequately trained and educated animal healthcare professional on whom poor livestock owners are dependent. This commodity is scarce in sub-Saharan Africa.

More generally, this approach is transferable to research outputs in any discipline and would be a model for ensuring that such outputs create tangible and measurable benefits for the communities that the research was targeted at, i.e. facilitating 'research into use'.

7. What production system(s) does/could the output(s) focus upon?

<b>Semi-Arid</b>	<b>High potential</b>	<b>Hillsides</b>	<b>Forest-Agriculture</b>	<b>Peri-urban</b>	<b>Land water</b>	<b>Tropical moist forest</b>	<b>Cross-cutting</b>

X	X	X		X			
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8. What farming system(s) does the output(s) focus upon?

Please tick one or more of the following options (see Annex B for definitions).

<b>Smallholder rainfed humid</b>	<b>Irrigated</b>	<b>Wetland rice based</b>	<b>Smallholder rainfed highland</b>	<b>Smallholder rainfed dry/cold</b>	<b>Dualistic</b>	<b>Coastal artisanal fishing</b>
X	X		X	X		

9. How could value be added to the output or additional constraints faced by poor people addressed by clustering this output with research outputs from other sources (RNRRS and non RNRRS)?

AUVEC will serve as an efficient mechanism for disseminating research finding. It is easier, quicker and cheaper to update e-learning based courses and training modules than traditionally delivered ones: research findings can more readily and rapidly be incorporated into electronic materials than into textbooks. AUVEC can therefore facilitate the dissemination of any livestock or animal health output, including those that arose from the DFID AHP or LPP.

AUVEC will facilitate dissemination of research findings from the following RNRRS outputs, for which proformas are currently being prepared: sleeping sickness; rabies; TB/brucellosis; integrated tsetse control; infection and treat method for ECF control; control of worms in southern Africa; decision support for diagnosis; information kiosks in India; influencing animal health policy in Africa.

Clustering this proposal with others directed at augmenting and strengthening collaborative links between animal healthcare education providers such as the AUVEC consortium would add significant value.

Clustering this proposal with others directed at developing new e-learning methodologies particularly those which contextualise learning to capitalize on teaching and learning opportunities offered by new technologies would add significant value. Projects which seek to increase access to computers, access to the Internet and access to mobile technologies to both urban and rural communities would also add significant value.

## Validation

### B. Validation of the research output(s)

10. **How** were the output(s) validated and **who** validated them?

A demand for flexible-access, online CPD resources for animal health professionals was a major outcome of a meeting of around 30 stakeholders, drawn primarily from the African animal health sector, who met in Kenya in 2005 to discuss animal healthcare education in sub-Saharan Africa. They concluded that the current learning

opportunities was not meeting the demand which fell broadly into two areas:

- formal Masters-level courses and
- less formal, shorter duration learning opportunities that meet the emerging need for CPD, delivered in a flexible format which enabled students to remain in their home environment and continue working whilst studying.
- CPD needs included emerging specialist knowledge and skills and generic career development skills such as practice management, research skills, communication skills.

Having witnessed the power of e-learning approaches in a medical and veterinary context – through demonstration of sophisticated ‘virtual patients’ and other tools and approaches by e-learning experts from the University of Edinburgh, a recognised centre of excellence in the field - the stakeholders concluded that it was desirable to pursue an agenda based on collaboration between African veterinary schools to develop and deliver new learning opportunities, including Masters-level courses and CPD modules, using a blended approach within which e-learning was an important component. The deans of eight eastern and southern African veterinary schools formalised this approach through the creation, in 2006, of AUVEC as the coordinating body responsible for achieving these objectives. The founding group of deans of African veterinary schools has recently been expanded: the deans of Sudanese veterinary schools have now joined the group and Nigerian veterinary schools have also expressed interest in becoming members of AUVEC.

**11. *Where and when* have the output(s) been validated?**

*Please indicate the places(s) and country(ies), any particular social group targeted and also indicate in which production system and farming system, using the options provided in questions 7 and 8 respectively, above.*

The original stakeholders’ workshop was held in Kenya in October 2005. Following this workshop, the deans of the vet schools returned to their home universities to share the workshop conclusions with their colleagues and the university hierarchy. The deans then reconvened twice during 2006, once in Entebbe and once in Addis Ababa, and as a result formalized the ideas that emerged during the Kenyan workshop through the formation of AUVEC.

The founder members of AUVEC were: the deans of the veterinary schools in Kenya, Uganda, Tanzania, Ethiopia, Zambia, Zimbabwe and South Africa. Malawi, which has no vet school, was a member through the Department of Animal Health and Livestock and the University of Edinburgh and the African Virtual University were associate members. In July 2006, the veterinary schools in Sudan also joined and interest has been expressed by the Nigerian veterinary schools.

## Current Situation

### **C. *Current situation***

**12. *How and by whom* are the outputs currently being used? Please give a brief description**

To the best of our knowledge the research outputs are not widely used beyond the academic communities engaged in the research. They have not been well-disseminated in forms that are useful except to the scientific

specialist. Research outputs have not been transformed into engaging CPD which meets the needs of the animal healthcare educators or the animal healthcare sector. Nor are they targeted at individuals, groups and communities who could put that research into use. This is in fact the problem that this proposal seeks to address i. e. current research outputs are not meeting user demands and are therefore not making as wide an impact as had been envisaged on poor communities. The only professional development available in most sub-Saharan African countries is via formal taught Masters programmes. Many of are experiencing poor recruitment simply because they do not meet the needs of the animal healthcare sector for learning opportunities which are flexible both in time, place and pace of learning.

This proposal will address these needs and add considerable value to existing research funded through the DfID Animal Health Programme.

**13. *Where*** are the outputs currently being used? As with Question 11 please indicate place(s) and countries where the outputs are being used

With the groundwork undertaken to demonstrate demand for new learning opportunities and AUVEC formed as the coordinating body to facilitate their joint development and delivery, support is now required to capitalize on this situation to enable the output to be put into productive use. Outputs are being adopted by the founder members of AUVEC, the veterinary schools in Kenya, Uganda, Tanzania, Ethiopia, Zambia, Zimbabwe and South Africa, Department of Animal Health and Livestock, Malawi and staff at University of Edinburgh. In July 2006, the veterinary schools in Sudan also joined the consortium and interest has recently been expressed by the Nigerian veterinary schools.

**14. *What is the scale of current use? Indicating how quickly use was established and whether usage is still spreading.***

AUVEC members are: the deans of the veterinary schools in Kenya, Uganda, Tanzania, Ethiopia, Zambia, Zimbabwe, Sudan and South Africa. Malawi, which has no vet school, is a member through the Department of Animal Health and Livestock and the University of Edinburgh and the African Virtual University are associate members. AUVEC was formed within 6 months of the first stakeholders workshop. In July 2006, the veterinary schools in Sudan also joined the consortium and expressions of interest have recently been received by the Nigerian veterinary schools, Royal Veterinary College, University of London, Imperial College and Bristol University Vet School and The University of the West Indies.

**15. *In your experience what programmes, platforms, policy, institutional structures exist that have assisted with the promotion and/or adoption of the output(s) proposed here and in terms of capacity strengthening what do you see as the key facts of success?***

The thrust of this proposal is to transform these existing research outputs into educational CPD materials suitable for animal healthcare workers and intended to ensure that these research outputs are efficiently disseminated and therefore used, are developed in flexible forms and formats designed to be educationally effective and impact on livelihoods of animal healthcare professionals and poor livestock keepers. By this route that we can ensure research outputs are disseminated to those groups of healthcare professionals who can translate research findings into practice and by thus impact on poor communities.

The AUVEC consortium has made real progress in this area and part of its mission will be to build capacity within the African veterinary/animal healthcare education sector to collaboratively create learning resources and opportunities to meet the needs of the healthcare workers. In-country training of the educational workforce in those skills which will enable them to create their own e-learning materials and deliver these in the most appropriate learning settings is fundamental. Longer term it may also be important to establish a CPD framework (similar to the portfolio systems used for trainee doctors, dentists and vets in the UK) to enable healthcare professionals to record their achievements in learning, document their skills and clinical competencies. This is important in incentivising individuals to wish to continue learn.

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## Current Promotion

### *D. Current promotion/uptake pathways*

*16. Where is promotion currently taking place? Please indicate for each country specified detail what promotion is taking place, by whom and indicate the scale of current promotion*

AUVEC members have agreed to work together, to share resources and build capacity. Individuals from member-country universities are receiving targeted training opportunities in on-line tutoring at University of Edinburgh. Face to face meetings in Kenya, Uganda and Ethiopia have expedited progress.

Promotion of AUVEC is being actively pursued in sub-Saharan Africa by key representatives from faculties of Veterinary Medicine: **Makerere** University, Uganda, (Prof. John David Kabasa); **Nairobi** University, Kenya, (Prof. Paul Kanyari); **Sokoine** University of Agriculture, Tanzania (Prof. Rudovic Kaswala); **Addis Ababa** University, Prof. Merga Bekana); University of **Zambia** (Prof. Andrew Nambota); University of **Harare**, (Prof. Thokozani Hove); University of **Pretoria** (Prof. Koos Coetzer); University of Science and Technology, Dr Seif Barakat and University of **Khartoum, Sudan** (Prof. Khirtma Elmalik).

And through linkages with government veterinary departments and national veterinary associations: Department of Animal Health and Livestock, Malawi, Ministry of Food and Agriculture, Ghana; Ministry of Agriculture, Animal Industries & Fisheries, Kenya Veterinary Board, Kenya Agricultural Research Institute, Kenya Institute of Tropical Medicine, Jomo Kenyatta University, Ministry of Water & Livestock Development, Tanzania. Sudan Veterinary Council.

Action plans developed by the consortium need to be fully realized and this requires a well-funded systematic approach to build on this foundation.

*17. What are the current barriers preventing or slowing the adoption of the output(s)? Cover here institutional issues, those relating to policy, marketing, infrastructure, social exclusion etc.*

Lack of funding to make real progress is the key barrier. There are likely to be technological barriers but the situation is changing and improving almost daily. It is important that the potential of the technology is realised

early and in the educational context this means that high quality content needs to be developed. Without content there will be no learning. At the moment DfID has funded the discovery of knowledge and information. It is teachers who transform knowledge and information into learning and it is important that they use well-trying and proven methodologies to do this. To optimize return on investment development of learning resources needs to be done in a way which is sustainable (development of in-country capacity in e-learning skills), which reduces duplication of effort (using appropriate methods of learning object creation and management) and which provides as much flexibility of access to learning opportunities as possible.

*18. What changes are needed to remove/reduce these barriers to adoption? This section could be used to identify perceived capacity related issues*

Transforming existing research outputs will require domain expertise, experience in developing effective distance learning materials, educational design expertise to ensure that the CPD materials are interactive, stimulate user engagement, and are at the right level and experience of learning and teaching in an online environment. Much of this expertise and experience is present in the AUVEC consortium which has that unique blend of in-depth local knowledge of the needs of animal healthcare professionals and the limitations of the African educational environment and cutting-edge, e-learning expertise and experience of delivering high-quality face-to-face and online educational experiences. The intention will be to transfer knowledge and experience of developing CPD materials from existing research outputs to those teachers working in AUVEC universities who already have domain expertise but lack the pedagogical knowledge and capacity to do this alone.

*19. What lessons have you learnt about the best ways to get the outputs used by the largest number of poor people?*

The intention will be to deliver the CPD in formats most appropriate to the working lives of the animal healthcare workers. Where online dissemination is appropriate this will be the first choice but the CPD materials will be developed such that they may be distributed on paper, via CD or even via mobile technologies. The CPD materials will not be static documents but will be dynamic educational resources. They will be developed as discrete units of learning designed to engage the learner for short periods of study. These units will be designed such that they may be amalgamated to create longer study modules which could form parts of Masters level courses offered by local universities. This unitized approach also makes it much easier to update educational content, share content between teachers and to adapt/modify (edit) the materials to meet local needs. The flexibility of offering informal just-in-time, bite-sized quantities of learning alongside more formalized, award-bearing courses in which learning is facilitated by tutors and rigorously assessed will enable as wide a range of animal healthcare workers to benefit as possible. Thus, women who are unable to participate in formal education due to family circumstances, HIV etc, veterinary assistants working in rural communities and those seeking formal qualifications through residential study at universities and colleges will be catered for. The fact that the materials can be delivered online also greatly increases flexibility as anyone with Internet access will benefit.

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## Impacts on Poverty

### *E. Impacts on poverty to date*



20. *Where have impact studies on poverty in relation to this output or cluster of outputs taken place? This should include any formal poverty impact studies (and it is appreciated that these will not be commonplace) and any less formal studies including any poverty mapping-type or monitoring work which allow for some analysis on impact on poverty to be made. Details of any cost-benefit analyses may also be detailed at this point. Please list studies here.*

It is too early to report impacts on the poor as a result of this output.

21. *Based on the evidence in the studies listed above, for each country detail how the poor have benefited from the application and/or adoption of the output(s)*

- *What positive impacts on livelihoods have been recorded and over what time period have these impacts been observed? These impacts should be recorded against the capital assets (human, social, natural, physical and, financial) of the livelihoods framework;*
- *For whom i.e. which type of person (gender, poverty group (see glossary for definitions) has there been a positive impact;*
- *Indicate the number of people who have realised a positive impact on their livelihood;*
- *Using whatever appropriate indicator was used detail what was the average percentage increase recorded*

It is too early to document the impact of the AUVEC initiative on poverty reduction.

## Environmental Impact

### **H. Environmental impact**

24. *What are the direct and indirect environmental benefits related to the output(s) and their outcome(s)?*

Establishment of AUVEC as a strong institution, capable of supporting its members to develop and deliver appropriate learning opportunities to animal health professionals would have few direct environmental impacts. By providing attractive, local alternatives to more distant learning opportunities, including those abroad, air travel could be avoided, with associated environmental benefits in terms of carbon emissions avoided.

25. *Are there any adverse environmental impacts related to the output(s) and their outcome(s)?*

It is possible that by providing better animal health services, number of livestock would increase which could have a detrimental impact on the environment, such as through over grazing. However, it is predicted that for the foreseeable future, demand for livestock products in developing countries will grow strongly. Availability of increased supplies of livestock should therefore be met by increasing demand, absorbing additional livestock numbers and thus minimizing adverse impacts.

26. *Do the outputs increase the capacity of poor people to cope with the effects of climate change, reduce the risks of natural disasters and increase their resilience?*

Climate change is likely to cause many parts of Africa to become drier, threatening reliable crop production in some parts. The people who live in these increasingly marginal areas will become more dependent on livestock production for their livelihoods. Provision of improved animal health services will therefore contribute to reducing their vulnerability and increase their resilience in the face of change. Livestock are also mobile, in contrast to crops, and can therefore be moved in response to natural or manmade disasters – for example during droughts, which appear to becoming more frequent in parts of Africa, flocks and herds of grazing and browsing livestock can be trekked to better water areas where graze and browse resources are more abundant.

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