

**An evaluation of the alternatives and possibilities for countries in sub-Saharan
Africa to meet the sanitary standards for entry into the international trade in
animals and animal products**

Gideon. K. Brückner

**Department of Agriculture, Directorate of Veterinary Services, Western Cape,
South Africa**

TABLE OF CONTENTS

| | |
|--|----|
| Introduction | 5 |
| Materials and methods used | 6 |
| Chapter 1 | |
| The recommendations and guidelines set by the OIE Terrestrial Animal Health Code and the SPS Agreement for the export of animals and animal products | 7 |
| 1.1 Introduction | 7 |
| 1.2 The Terrestrial Animal Health Code of the OIE as it relates to the international trade in animals and animal products | 8 |
| 1.3 Approach of the <i>Code</i> in respect of specific diseases related to trade | 10 |
| 1.4 The SPS Agreement as it relates to the international trade in animals and animal products | 12 |
| Chapter 2 | |
| The facilitation of trade in animals and animal products imbedded in the terrestrial Animal Health Code of the OIE and the SPS Agreement of the WTO | 16 |
| 2.1 Introduction | 16 |
| 2.2 The Terrestrial Animal Health Code as an instrument to help developing countries to work towards compliance and entering the export market | 17 |
| 2.3 The SPS Agreement as an instrument to help developing countries to work towards compliance and entering the export market | 21 |
| 2.4 Enabling issues of importance for developing countries in the SPS Agreement | 24 |
| Chapter 3 | |
| The constraints facing sub-Saharan African countries and the ability to enter the export market for animals and animal products | 27 |

Chapter 4

| | | |
|-----|--|----|
| | Recommendations and alternative solutions for sub-Saharan African Countries to enter the export market for animals and animal products | 32 |
| 4.1 | Introduction | 32 |
| 4.2 | The need for and benefits of participating in international standard setting | 34 |
| 4.3 | Specific recommendations on participation in international standard setting | 37 |
| 4.4 | Service delivery needs to enhance trust in export certification | 39 |
| 4.5 | Specific recommendations to enhance service delivery in SSA countries | 41 |
| 4.6 | The establishment and maintenance of disease free zones | 44 |
| 4.7 | Agro-processing as a means to render sanitary guarantees for export | 47 |
| 4.8 | Organic produced animals and animal products | 48 |
| 4.9 | Commodity-based trade as an alternative for entry into the export market | 49 |
| 5. | Conclusions | 50 |
| 6. | Funding | 51 |
| 7. | References | 52 |

Acknowledgements

The author acknowledges with thanks the input from the Director and staff of AU-IBAR, members of PACE and CAPE - now the 'Institutional and Policy Support Team' (IPST). A special word of thanks to Dr Tim Leyland for his support and encouragement. A word of thanks and acknowledgement to the staff of the OIE, FAO and WTO that were interviewed for their willingness to share their views and expertise.

The Ministry and Head of the Department of Agriculture of the Western Cape are thanked for their support and permission to conduct this consultancy.

Funding for the consultancy was kindly provided by DFID and the AU / IBAR through the 'Institutional and Policy Support Team' (IPST) of AU / IBAR in collaboration with OIE.

Disclaimer

The views expressed in this report are those of the consultant author and do not necessarily reflect those of AU / IBAR or OIE.

© 2004 African Union/Interafrican Bureau for Animal Resources,

PO Box 30786, Nairobi, 00100, Kenya.

Email: oaui-bar@africaonline.co.ke

Website: www.cape-ibar.org

Tel: (+254-20)226447/338544/226447

Fax: (+254-20)212289/226565/220546

All rights reserved. The AU/IBAR encourages fair use of this material provided proper citation is made.

An evaluation of the alternatives and possibilities for countries in sub-Saharan Africa to meet the sanitary standards for entry into the international trade in animals and animal products

G.K. Brückner¹

Introduction

Developing countries are increasingly under pressure to improve their delivery of veterinary services as a prerequisite for entering the competitive arena of international trade in animals and animal products. The demands on sub-Saharan African countries (SSA) by predominantly developed countries for compliance to international sanitary standards have also put increasing demands on the financial, human and technological resources of developing countries either to work towards compliance or to maintain compliance with standards. The minimum requirements in terms of the World Trade Organization (WTO) Agreement on Sanitary and Phytosanitary Standards (SPS Agreement), the guidelines and recommendations of international standard setting organizations such as the OIE, have a direct linkage with the eventual acceptance or refusal of animals or products of animal origin by importing countries. However, compliance to international sanitary standards is not a final guarantee for acceptance of exports, which is unfortunately especially true for SSA countries. Countries in SSA in many instances face unique challenges and obstacles over and above the mere compliance to sanitary standards before successful entry into the export market. Although not within the scope of this paper, it will be necessary to focus briefly on some of the obstacles and challenges directly and indirectly related to the feasibility, possibility and need to seek markets for the export of animals and animal products. The entry into the export trade requires substantially more than just for the exporting country to meet the sanitary requirements or appropriate level of protection of the importing country. It is just as important for the Government of the exporting country to support and facilitate the

¹ Department of Agriculture, Directorate of Veterinary Services, Private Bag X1, Elsenburg 7607, Western Cape, South Africa.

export opportunities that might result from the veterinary services of such a country being able to meet the required sanitary standards of the importing country.

The paper will therefore investigate briefly in Chapter 1 the minimum standards and guidelines that are currently recommended in terms of the OIE and the SPS Agreement. In Chapter 2 the enabling environment created by international guidelines to facilitate trade by developing countries in terms of the *OIE Terrestrial Animal Health Code* and the SPS Agreement will be described, while in Chapter 3 the constraints facing SSA countries and the ability to meet these requirements will be discussed. Chapter 4 will finally evaluate the alternatives for SSA countries to enter the export market for trade in animals and animal products within the environment outlined in the preceding chapters.

Material and methods used

The study was undertaken on request of the Interafrican Bureau for Animal Resources of the African Union (AU-IBAR). The information reflected in this paper represents an intensive review of available literature either in printed format or available through various websites on the Internet. Individual countries were not visited to verify the information but verification was done by cross-referencing of factual information in the available literature. The information was further complemented by personal interviews with officials of the OIE and several officials at the FAO headquarters in Rome in October 2003 during a visit financed by AU-IBAR, and information and experiences that were shared at a special meeting of the operation of enquiry points in developing countries organized by the SPS Committee of the WTO in Geneva on 31 October 2003. The author further relied on observations done through the years during visits to several countries within southern and eastern Africa and workshops conducted in these regions on request of the OIE.

Chapter 1

The recommendations and guidelines set by the OIE Terrestrial Animal Health Code and the SPS Agreement of the WTO for the export of animals and animal products

1.1 Introduction

The World Trade Organization (WTO) came into force in 1995 following the signing of the Final Act of the Uruguay Round of Multilateral Trade Negotiations in Marrakech on 15 April 1994. Contained in the Final Act along with the General Agreement on Tariffs and Trade (GATT 1994) and other agreements, was the Agreement on Sanitary and Phytosanitary Measures (SPS Agreement) established for the application of food safety and animal and plant health regulations which may directly or indirectly affect international trade (48). The underlying intent in the formulation of the SPS Agreement was to facilitate unhindered international trade in animals, plants and their products without endangering human, animal or plant life. An important concept embedded within the Agreement is to ensure that governments do not use sanitary measures related to the import of animals and animal products as unjustified trade barriers to protect their own domestic livestock industries from competitive imports. To enable a scientifically justifiable baseline for consistency in decision-making, member countries are encouraged to base their decisions on international standards where they exist or otherwise to justify their decision on scientific principles if an international standard does not exist or if the sanitary standard set by the importing country is higher than an international standard (33, 49, 51). The SPS Agreement acknowledges the *Terrestrial Animal Health Code* of the OIE as an international reference for sanitary standards for the trade in animals and animal products (48). The primary focus of the *Code* is on *animal health matters* related to international trade, i.e. to set guidelines and recommendations to minimize the risk the spread or introduction of animals through the trade in animals and animal products. The focus of the Codex Alimentarius as an international standard body recognized within the SPS Agreement is on the protection of *human health* through trade in animal products , i.e. to set guidelines and recommendations for the

handling, production and processing of animal products to minimise human health risks. This difference is important and relevant to the context of this study especially when it relates to the evaluation of different alternatives for entry into the export trade discussed in Chapter 4. Therefore, the *Code* and Codex each has a specific but complementary focus in respect of the protection of human and animal health and safety as indicated in the SPS Agreement.

The aspects of both the *Code* and the SPS Agreement will be described as they relate to international trade rather than trying to give a concise summary of both; the enabling environment created by both will be further described in Chapter 2.

1.2 The Terrestrial Animal Health Code of the OIE as it relates to the international trade in animals and animal products

The purpose of the *Code* as it relates to the trade in animals and animal products has been well described by Vallat (41), Wilson (45), Thiermann (33, 34) and others. The underlying sentiment of the *Code* is to guide decision-making for international trade by:

- Allowing importing countries to request adherence and compliance to certain requirements in respect of sanitary standards by the exporting country. The main purpose being to protect their own industries , i.e. by setting an 'appropriate level of protection' (ALOP) to safeguard the health of the animal population in their country and thereby not endangering their own export status.
- Allowing the exporting country to use the guidelines and recommendations of the *Code* to set standards for national sanitary measures to enable acceptance for their animals and animal products in the export market.

The importance of the above as it relates to SSA countries lies on the one hand in the perceived danger of importing countries 'expecting too much' from exporting countries , i.e. requiring standards for compliance that are not attainable by many SSA countries and on the other the need for exporting SSA countries to be supported

in the process to realise and maintain the minimum standards to enter and sustain entry into the export market. According to Wilson and Abiola (47) it is crucial to understand the link between standards, technical regulations, and trade in the design of broader development programmes that can create new opportunities for pro-poor growth in SSA countries. Standards and technical regulations define what can (or cannot) be traded and outline the procedures under which trade is or is not permissible.

The implementation of the *Code* as it relates to international trade is based on three important principles from which the other requirements flow naturally:

- *A scientific basis* for all recommendations as it relates not only to the animal diseases listed in the *Code* but also for methods of surveillance, diagnostics, risk analysis, risk mitigation procedures and methods of disease control.
- *A reliable* and well-functioning and independent *veterinary service*.
- *Transparency*, integrity and maintenance of ethical standards in disease reporting.

Chapter 1.3.3 and 1.3.4 of the *Code* give detailed information on the minimum requirements for an effective veterinary service as well as guidelines for importing countries on the evaluation of the veterinary service of an exporting country. It is especially important for developing countries, such as in SSA, to realise that once trust in the delivery of veterinary service in a country is established with trade partners, the negotiation for trade in animals and animal products becomes much easier and is more open for compromise or acceptance of methods of control even if the methods are not identical or similar to that of the importing country. Most countries would be willing to be more accommodating in accepting sanitary guarantees if supported by a demonstrable effective veterinary service delivery. The critical issues for the quality delivery of veterinary services and establishing trust *need not necessarily imply expensive and cost-intensive technological support structures*. The most important issues as summarised by Vallat (41) are:

- *Professional judgement* – having trust in the scientific expertise and competency of the service for professional decision-making.
- *Independence* – implies an unhindered service delivery and decision-making free from political, commercial and financial interference or hindrance.
- *Impartiality* – implies that scientific decision-making should not be hindered by political preferences and agendas.
- *Integrity* – creating trust for the acceptance of decisions by individual officials and the veterinary service as a whole.
- *Objectivity* – is integral to sound scientific judgement which should not be clouded by discriminatory threats and hindrances.
- *Legal base for decision-making* – the impartiality and integrity of delivery of services, decision-making and certification should be mandated by sound and supportive national and, where applicable, sub-national legislation that reflects both the sentiments of the *Code* and the SPS Agreement. The legal mandate should specifically provide for the quality and procedures for service delivery, the setting of sanitary standards based on scientific principles, diagnostic standards, and procedures for disease surveillance and control and, especially in the case of SSA countries, movement control, import control and export certification.

1.3 Approach of the Code in respect of specific diseases related to trade

The Code is not intended to be a manual or textbook on animal diseases but describes the diseases as they relate to risk in terms of trade and risk mitigation procedures to facilitate trade. Although the list of diseases is conveniently divided into List A diseases (more trade sensitive with a potential for rapid spread and serious socio-economic or public health effects) and List B diseases (less trade

sensitive), the approach for describing each disease remains the same. For each disease the Code describes in more or lesser detail:

- The incubation period of the disease being a critical factor to determine quarantine and other risk mitigation procedures for import of animals or animal products
- The criteria for recognising the presence of disease and/or infection
- Recognising a country, zone or establishment within a country free from disease/infection and criteria for maintaining or regaining the disease-free status. The criteria vary according to the disease applicable, e.g. in the case of foot and mouth disease, criteria for freedom with and without vaccination are described as well as the requirements for progressing from the lesser to the higher status.
- Movement and risk mitigation procedures for the ? of animals between countries/zones/establishments of different status.
- Importing and risk mitigation procedures for a variety of animals products from and between countries of different status.

The above outline approach for List A and B diseases in the *Code* represents essentially an individual disease approach. An importer or exporter would therefore be able to assess, for instance, what the requirements would be to mitigate the risk for foot-and-mouth disease if , for instance, bovine meat is the subject of trade. Each chapter of the most trade sensitive diseases such as FMD, BSE, CBPP and Rinderpest presents on its own a guideline for risk assessment by recommending risk mitigating factors applicable to that specific disease. However, the *Code* is not user friendly if an intended importer or exporter needs to know the total risk mitigating factors for a specific commodity related to more than one disease This is especially important for and relevant to SSA countries where 12 of the 15 List A diseases in the Code are endemic. The risk mitigating factors also differ between the individual diseases which might complicate the decision-making process further especially for most SSA countries that do not have the expertise to identify and combine the risk mitigating factors related to a group of individually different diseases. With the primary focus of the *Code* being

the protection of animal health, the zoonotic importance of diseases such as rabies, avian influenza, BSE, tuberculosis and brucellosis for example is not described. The zoonotic importance of animal diseases is however increasingly becoming an important variable to be considered in the trade of animals and animal products as consumers increasingly insist on food safety and sanitary guarantees for food of animal origin. The approach already applied in the chapter on BSE where specific products are identified that do not pose a trade risk could be expanded further to apply the principle to more than one disease related to a specific commodity and, where relevant, also list the products safe for human consumption, e.g such as the listing of dairy products not posing an animal or human health risk for bovine spongiform encephalopathy (BSE). This might need a separate chapter within the *Code* as the outlay of the existing chapters makes such an approach difficult if not impossible.

Several other chapters in the *Code* further strengthen its primary purpose as a guideline on trade related issues, such as guidelines on import risk analysis, procedures for import and export, diagnostic tests for trade purposes, standards for epidemiological surveillance for rinderpest, contagious bovine pleuropneumonia, bovine spongiform encephalopathy, principles of zoning and regionalisation and model international health certificates for a variety of species and products.

The various chapters and sections within the *Code* are interrelated and complementary to each other and it should therefore be read and studied in its full context when used as a reference document to guide decision-making in trade related issues.

1.4 The SPS Agreement as it relates to the international trade in animals and animal products

The key features of the SPS Agreement are risk assessment and risk management in determining appropriate measures which may provide an acceptable level of risk to the importer and which can be justified on technical and trade terms (14, 15), 27, 57). The major objectives are to:

- protect and improve the current human health, animal health, and phytosanitary situation of all Member countries;
- protect Members from arbitrary or unjustifiable discriminations due to different sanitary and phytosanitary standards.

The Agreement thus permits Member countries to take legitimate measures to protect the life and health of animals and humans in accordance with an acceptable level of risk which should be based on scientific principles and does not pose an unnecessary impediment to trade. The Agreement supports the intentions of the Code as it relates to unhindered trade by underlying the following key principles:

Harmonisation – this principle gives recognition to the guidelines and recommendations of the *Code* by encouraging Members to set their sanitary standards on international standards, guidelines and recommendations, and also to actively participate in the activities of standard setting bodies such as the OIE. This is especially true for SSA countries that have a relatively high membership count on both the OIE and WTO but participate poorly when it comes to the initiation, setting or debating of standards. In a study by Wilson and Abiola (2003) of the World Bank on *Standards and Global Trade: a voice for Africa* (48), they refer to SSA countries becoming 'standards-takers' due to their apparent lack of participation in international standard setting activities. The result is that non-participatory countries are forced to accept and try to meet international standards by reacting to ever-changing standards that do not accommodate unique constraints pre-existing in local environments.

Equivalence - this principle protects member countries against unjustifiable trade restrictions even if the product is produced under less stringent SPS standards but still meets the appropriate level of protection of the importing country (Henson). The correct application of the equivalence principle can play an important facilitating role in trade negotiations for SSA countries and will be elaborated further on in Chapter 2.

Risk assessment and setting the appropriate level of risk – Member countries are obliged to supply scientific evidence when applying sanitary standards that differ from an international standard (49, 50). Risk assessment techniques that are used to

determine the appropriate level of protection or the level of sanitary standard being implemented, should also be based on techniques developed by the relevant international organizations such as the OIE. This key principle of the Agreement is probably one of the most debated ones as it could wrongly be used as a discriminatory measure especially in applying the precautionary principle provided for in Article 5.7 of the Agreement (27, 33, 34, 44, 49, 50, 51). According to this article a Member country may provisionally adopt a sanitary measure when available scientific information is insufficient or where an international standard has not yet been developed. In some instances this might be unavoidable such as when BSE was diagnosed for the first time in the UK but it could also be used to the detriment of SSA countries that might not possess the expertise to raise counter-arguments against a perceived discriminatory measure or when a risk assessment did not take the prevailing economic factors or the potential damage in terms of loss of production or trade into consideration.

Recognition of disease-free areas – this article makes explicit provision for the adaptation and recognition of regional conditions especially as it relates to disease-free areas or zones. The principle embedded in this article also complements the efforts of the OIE to favour the establishment of disease-free areas or zones to facilitate trade. This is an important trade-facilitating concept that will be further discussed in Chapters 2 and 3 as it relates to the ability of SSA countries to establish and maintain disease-free zones and to what extent it facilitates entry into the export market.

Transparency – this article endorses a similar key principle of the *Code* in as much that Member countries are obliged to inform the OIE on the outbreaks of diseases or changes in the animal disease situation as they are equally obliged to notify to the WTO on their sanitary measures or intent to apply trade restrictions based on a risk assessment.

According to Henson (14, 15), developing countries typically implement qualitatively and quantitatively lower SPS standards than developed countries. The SPS Agreement should therefore in principle help to facilitate trade from developing to developed countries by improving transparency, promoting harmonisation and

preventing the implementation of SPS measures that cannot be justified scientifically. The Agreement itself tries to facilitate this by acknowledging the special problems that developing countries can face in complying with the SPS measures and allowing for special and differential treatment and facilitating trade in several ways which will be discussed in more detail in Chapter 2.

Chapter 2

The facilitation of trade in animals and animal products imbedded in the Terrestrial Animal Health Code of the OIE and the SPS Agreement of the WTO

2.1 Introduction

In exploiting various alternatives to enter the export market for animals and animal products, it is important for SSA countries not to get bogged down by the perceived prescriptive nature of both the *Code* and the SPS Agreement as outlined in the previous chapter or by studying the contents of both documents to guide decision-making. Both documents have as the primary objective to facilitate and not inhibit trade. There is a strong need to support and strengthen effective programmes and initiatives designed to improve the ability to comply with international standards and to support the harmonisation of technical regulations internationally and regionally. To this end, both the *Code* and the SPS Agreement fulfil an important and facilitating function.

Since coming into force in 1995 the SPS Agreement has been the subject of intense international debate to be either condemned or credited for facilitating or inhibiting trade (14, 15, 21, 26, 27, 33, 34, 49, 55, 56, 57). A possible explanation for this is that soon after the implementation of the SPS Agreement, it became evident to both developed and developing countries that the Agreement in itself is a convenient instrument to identify and apply, within given measurable parameters, important rights but also obligations of countries relevant to the international trade in animals and animal products. The application of the rights and obligations imbedded in the Agreement as alleged non-tariff barriers for the trade in animals and animal products was further intensified by animal related events, such as BSE, foot-and-mouth disease and avian influenza occurring in various parts of the globe, which were perceived as posing a threat to animal and human health. It is important in the context of this paper that SSA countries are aware of the facilitating aspects in the Agreement because, if applied correctly and to the full extent that is envisaged in the Agreement, they could overcome obstacles to enter trade. The intensified use of the rights and obligations inherent to the SPS Agreement for the trade in animals and

animal products by predominantly developed countries and the perceived failure of many developing countries to comply with the minimum international standards has resulted in diverse opinions on the impact of the application of sanitary and phytosanitary measures on developing countries. These opinions vary from an insistence that developing countries have no choice but to comply in full with international standards or a pledge for a compromise to accommodate the needs of developing countries to even question the necessity and feasibility for compliance to international standards by developing countries. The latter stems from the school of thought that if compliance does not result in improved socio-economic benefits for producers who must foot the bill to comply with the higher standards of production it might not be worth the effort. (14, 15, 19, 21, 27, 56, 57).

The *Code* is equally often wrongly interpreted by some developing countries as being prescriptive and discriminatory against non-compliance leaving a perception off being 'all-or-none' and uncompromising and insensitive to the needs of developing countries. There are however, critical issues in the *Code* that enables and facilitates the process for developing countries in working towards compliance in their efforts to enter the export market.

2.2 The Terrestrial Animal Health Code as an instrument to help developing countries to work towards compliance with international standards and entering the export market

The importance of standards as outlined in the *Code* must be appreciated for being based on scientific principles and designed to facilitate information exchange, ensure product quality and the provision of important objectives of goods that are otherwise neglected in the private market, such as public health and safety (22, 23, 33). Well-defined standards can facilitate trade by reducing transaction and other costs (including costs of information about the quality of goods or services and associated risks), and improve linkages among trade partners (47).

Some of the critical enabling issues in the *Code* are:

- **Evaluation of Veterinary Services** – during the past three years the International Committee of the OIE has given specific attention to the entire chapter 1.3 of the Code dealing with important issues, such as risk analysis, evaluation of veterinary services, guidelines for evaluation of veterinary services, zoning and regionalisation and animal disease surveillance (22, 23). These are critical issues for any country but especially for developing countries in the process of working towards compliance. These issues are also variables that should be taken into consideration when conducting import risk analysis but they are also equally important in endorsing the underlying sentiments of harmonisation, transparency and equivalence of the SPS Agreement. The *Code* is very explicit on compliance by a Member Country with the fundamental principles of Veterinary Service delivery to such an extent that '[t]he veterinary Services shall conform to these fundamental principles, regardless of the political, economic or social situation of a country' (23). Although this statement might be perceived as very uncompromising, it is also equally important to note that the guidelines for the evaluation of veterinary services allows for a phased-in approach for developing countries to work towards compliance by addressing the critical issues for veterinary service delivery first, and thereby also establishing a platform for negotiation with importing countries. There are few if any developing countries that would be in a position to comply with all the criteria at once. All the criteria might not be of immediate critical importance for compliance; and an importing country should therefore negotiate with the exporting country on those issues that are critical for export certification and those issues that could be attended to at a later stage. This should especially be the case where exports from low income to middle income countries or even middle income to middle income are negotiated. This could also be considered for trade on a regional basis or a free trade area where there would be advantages in harmonising standards, albeit at a lower level than that recommended under WTO rules but at least to start the process of working toward compliance (16, 21). What is also important is that the *Guidelines for the Evaluation of Veterinary Services* should be used as a reference document for identifying specific areas of technical assistance to a potential exporting country to enable progress towards eventual compliance.

This also implies that countries should not only rely on external help but must also be willing to undertake periodic self-evaluations to assess the standards of veterinary service delivery (41).

- **Guidelines for equivalence** – this is an important additional appendix to the *Code* approved at the 71st General Session of the OIE in May 2003 (23). This appendix is in support of article 4 of the SPS Agreement and the Doha Ministerial Declaration (52) in which the SPS Committee was specifically requested to further the implementation of article 4 of the Agreement as a matter of urgency. The appendix facilitates a more flexible approach for the interpretation and application of the *Guidelines for the Evaluation of Veterinary Services*. The *Code* recognises equivalence by recommending alternative sanitary measures for many diseases. The *Guidelines for Equivalence* now strengthens and confirms this approach that was already implied previously in chapters on many diseases described in the *Code*. This is of special importance for SSA countries as it also encourages Member Countries to base their sanitary measures on OIE standards, guidelines and recommendations, and to apply the principle of equivalence that by definition refers to sanitary standards in the exporting country achieving the required level of appropriate protection of the importing country, while the sanitary measure of the exporting country need not be a duplication of the exact sanitary measure applied in the importing country. An importing country might, for example, require as their appropriate level of protection to prevent the introduction of Newcastle disease, that ostrich products will only be accepted for import if a national vaccination programme for Newcastle disease exists in the exporting country. The exporting country might be able to demonstrate that by applying strict sero-surveillance and bio-security on compartmentalised establishments to confirm absence of infection in the absence of vaccination, that they can still meet the appropriate level of protection of the importing country, i.e. no risk for the introduction of Newcastle disease. This is an important application for SSA countries as it could reflect positively on the cost implications for entry into the export market.

- **Risk mitigation for trade-sensitive diseases** – risk management and risk assessment are key features of the SPS Agreement (14, 15, 19, 26, 21, 40, 57). The risk mitigation procedures that are described for specific diseases in the *Code* also support this concept through the recommendation of alternative sanitary measures that could be used to facilitate the export of an animal or animal product from a country that has, for instance, not yet achieved the ideal of disease freedom or zoned freedom from disease. The sanitary measures described for foot-and-mouth disease (FMD) in Chapter 2.1.1 of the *Code* is an excellent example of this approach. A Member Country could, for example, either be free from FMD or zoned free with or without vaccination or could be infected but on the way towards freedom from infection. The acceptance of trade in a variety of products is allowed between countries of different FMD status provided the risk mitigation procedures as described in the *Code*, are applied and can be given as sanitary guarantees to the importing country. The enabling environment created by this approach permit for instance the export of deboned meat from an infected country to a free country or zone provided that specific risk mitigation procedures were applied and can be certified by the exporting country. While the *Code* therefore strongly encourages Member Countries to harmonise their sanitary measures, it also gives recognition to countries that are in the process of moving towards compliance by making provision for alternative sanitary measures and thereby facilitating trade.

Another example of the *Code* facilitating rather than inhibiting trade is the requirements in chapter 2.3.13 related to BSE where the *Code* stipulates the products not posing a risk for transmission of BSE irrespective of the BSE disease status of a country. In accordance with Article 2.3.13.8 countries should authorise without restriction the import and transit through their territory of commodities such as milk and milk products, semen and embryos, protein-free tallow, hides and skins, dicalcium phosphate and gelatine and collagen from hides and skins. SSA countries should take note of this especially where a potential exists for the export of these products and in an environment where the sanitary guarantees in terms of other diseases could be met (23).

It is important that both developed and developing countries take full advantage of this in applying criteria for equivalence, when considering harmonisation of sanitary measures and preferably before considering a risk assessment to determine the level of protection offered by sanitary measures applied in the exporting country.

2.3 The SPS Agreement as an instrument to help developing countries work towards compliance with international standards and entering the export market

The SPS Agreement has been the subject of several excellent and well documented studies to evaluate the impact of SPS measures on developing countries; to offer reasons for the apparent inability of developing countries to fully make use of the provisions of the SPS Agreement; to determine the concerns and constraints of developing countries relating to the SPS Agreement; and to propose potential solutions to the identified problems (14, 15, 19, 21, 26, 40, 57). However, in several of these studies, the focus has been on seeking reasons for what went wrong and offering generic or general solutions that are already provided for in the Agreement in terms of special and differential treatment. What is really needed is to narrow the focus on specific problems experienced in developing countries that need to be resolved in a step-wise manner while gradually working towards compliance with international standards. No developing country can be bulldozed into achieving sustainable compliance overnight. This was obviously one of the driving factors in the signing of the Doha declaration to make provision for flexibility to developing countries by extending the time-frame for compliance with SPS measures from the previously defined 'reasonable period' to a time frame of not less than 6 months before an importing country could insist on tangible evidence of attempts by the exporting country to achieve compliance (52). However, the length of time, whether it be it less or longer than 6 months, is not the real issue in respect of developing countries, but more importantly, is a clear indication of what is needed in the delay period to strengthen capacities in developing countries in order to satisfy the SPS requirements of trade partners. Specifying time periods rather than setting key performance

areas that need to be addressed to allow the export of an identified product or animal puts developing countries under pressure and could force them into quick or ad hoc solutions that are essentially temporary in nature and not sustainable to ensure credibility in the export market or moving progressively towards compliance.

The SPS Agreement was thus designed to help address the concerns of the developing world, which were already evident in the pre-Uruguay negotiations (48). The Agreement seeks to promote transparency in the standards development process and promote principles of national treatment, non-discrimination, and use of sound science as the basis for standards. The Agreement aims to:

- encourage the adoption of measures of scientific principles in the application of standards
- prevent discrimination between members when identical or similar conditions prevail, and reduced restrictions to international trade
- promote SPS measures based on international guidelines and common risk assessment techniques
- encourage standards based on broad-based participation and consensus.

The Agreement also provides a mechanism for addressing issues related to developing country capacity to meet compliance costs. There was common agreement to facilitate the provision of technical assistance to developing countries through bilateral or international agreements. The technical assistance includes assistance in processing technologies, research and infrastructure, advice, credits, donations and grants for seeking technical expertise, training and equipment and the establishment of national regulatory bodies (47). According to Wilson (47) the full implementation of the SPS provisions would be particularly important for SSA countries. One of the reasons is a noticeable divide between local standards that are in place in many African countries and those of major trade partners. This results in two major challenges facing SSA countries:

- a need to invest in national standards development, monitoring and compliance consistent with international norms, and
- the need to develop effective approaches for improving the participation of SSA countries in the international standards development environment and monitoring framework so as to minimize unfair use of standards that will restrict exports from SSA countries.

Following the Doha Ministerial Conference in Qatar in November 2001, the heads of the WTO, FAO, WHO, OIE and the World Bank committed their organizations to work together to strengthen the capacity of developing countries in meeting SPS standards. The establishment of the Standards and Trade Development Facility (STDF) in September 2002, resulted from this joint commitment (G/SPS/GEN/423).

The purpose of the STDF, which is managed by the WTO, is to facilitate the collaboration between the partner organizations in enhancing the capacity of developing countries. This is to be achieved through the cooperation between the relevant institutions in SPS-related activities, including through the development of joint institutional projects, and provision of STDF-funded projects in developing countries. The STDF will support information exchange, development of databases, tool kits and learning materials on trade-related SPS issues to better coordinate capacity building projects. Furthermore, the STDF will provide funding for pilot projects in capacity building in individual countries or through regional initiatives in direct support of the Doha declaration. Animal health was identified as one of the four categories of the STDF for which assistance should be given to developing countries to facilitate entry into international trade. A STDF database has been created to record the projects of assistance to developing countries. For 2001, six projects were listed, 14 in 2002 and seven for the first six months of 2003. These projects include assistance such as capacity building, equipment for national food safety laboratories, trade assistance, upgrading of laboratories, livestock development and technology transfer. However, of the 27 projects listed from 2001 until the first six months of 2003, only six were for specific African countries of which only two are in SSA. The USA, FAO and the EU have registered STDF projects for SSA countries as a group to render assistance with strengthening SPS capacity and strengthening

programmes and strategies for technology transfer in the delivery of veterinary and livestock services (www.stdf.wto.org, 6 June 2004). Other organizations and countries, such as DFID (Department for Foreign Investment and Development, UK) and France have also demonstrated their commitment to support the decisions of the DOHA declaration, e.g. DFID is very active with development projects within SSA and has contributed £5 million in support of the Africa Agricultural Technological Foundation (AATF) while France has donated 100, 000 € to the WTO Technological Assistance Fund to help developing countries to move towards compliance with international standards (5, 6, 7, www.wto.org, 6 June 2004).

2.4 Enabling issues of importance for developing countries in the SPS Agreement

The enabling issues to facilitate trade for developing countries are not only limited to article 9 (technical assistance) and article 10 (special and differential treatment) of the Agreement. The latter articles on S&D treatment are very explicit in respect of the wanted outcomes and will not be further described. However, Article 3 (harmonisation), article 4 (equivalence) and article 6 (regional conditions, pest and disease-free areas) although not specifically referring to developing countries, are also critical for developing countries that have chosen to commit themselves to embark on the pathway towards compliance with international standards.

- **Article 3 (harmonisation)** – the emphasis is on aligning the sanitary measures of a country with international standards and the obligation of scientific justification for sanitary measures resulting in a higher level of sanitary protection as intended by an international standard. The SPS Committee of the WTO with representation by all the Member Countries of the WTO, has an important role to play in this regard. Countries that are members of the OIE and FAO, can through their official delegate to these standard setting organisations, directly question an international standard at meetings of these organisations; but this could also be done at the SPS Committee of the WTO where a request can be made to the representatives of the OIE or Codex to review a particular

standard if it is perceived to inhibit trade or be in contradiction with the requirements of the SPS Agreement. The SPS Committee therefore has an obligation to monitor the harmonisation of international standards and also to closely collaborate with international standard setting organisations such as the OIE on the development and review of international standards, guidelines and recommendations. This article of the Agreement is by implication enabling developing countries to question those standards imposed on them that are higher than international standards (49, 50); to make use of the SPS Committee to challenge standards that they perceive as being trade restrictive and to question the need of a risk assessment if the standard in a developing country is based on an international standard. In spite of this opportunity available to developing countries to ensure that they are not unduly discriminated against through international standards, very few have made use of the opportunity. Since 2000 only one request was lodged by an SSA country at the SPS Committee for a review of a standard of the OIE (South Africa requested the OIE at the SPS Committee in 2002 to review the chapter on African horse sickness with the view to facilitate trade) (53).

- **Article 4 (equivalence)** – the main reasons for the controversy attached to this article of the Agreement is the explicit and implicit advantages for developing countries in the furthering of the principles of equivalence by developed countries – especially where the appropriate level of protection of the importing country is consistently met by domestically produced goods (51, 54). Not only was the importance of equivalence highlighted at the Doha Ministerial Conference but it was also taken on board by the OIE by adding it as an appendix to the *Code* as outlined above (23, 52). Commitment towards furthering the implementation of article 4 of the Agreement by both developed and developing countries is a powerful enabling instrument for developing countries that could expedite the process towards compliance (51, 54).

- **Article 6 (recognition of regional conditions, disease-free areas or areas of low disease prevalence)** - the unbiased application of article 6 appears to remain contentious. While the OIE has made very good progress in the setting of criteria for recognizing disease-free countries, zones or compartments, some developed countries tend to be reluctant to accept the *official recognition* by the OIE of disease-free zones for foot-and-mouth disease, rinderpest and contagious bovine pleuropneumonia within Member Countries of the OIE, as being an international standard. This issue has been contested at the SPS Committee but without success (53). Developed countries still insist on conducting a risk assessment to confirm compliance of the free zone with their own appropriate level of sanitary protection. Article 6 has nevertheless very powerful enabling potential for developing countries – especially for harmonising sanitary measures on a regional basis and for the promotion of intra-regional trade. However, caution should also be applied not to rely totally on zoned disease-free status as a guarantee to enter the export market. As will be indicated in chapter 3, this is only the first, albeit important step, for entry into the export market.

CHAPTER 3

The constraints facing sub-Saharan African countries and the ability to enter the export market for animals and animal products

The constraints facing SSA countries have been well documented covering the ability of the veterinary services (4, 5, 6, 7, 8, 9, 10, 11, 13, 16, 17, 27, 28, 29, 30, 31, 35, 37, 39), entry into the export market (12, 21, 26, 29, 35)), socio-economic impacts of freedom from disease (4, 6, 21), the impact of poverty reduction implications on animal health (1, 4, 6, 8, 9, 10, 11, 17, 19), and marketing constraints (1, 18, 19, 26, 27, 28, 37, 47). Some of the observations are cited to illustrate the seriousness of the current situation and the bleak prospects for the next two decades emphasising the need for a revitalisation of the livestock production and entry into export market for SSA countries:

- Agriculture is the economic heart of most countries and the most likely source of significant growth. In Africa it provides two thirds of employment, half of exports and over one third of Gross National Income while 70% of Africans depend on Agriculture for a living.
- Growth in agriculture benefits the poor most. Recent research shows that 1% increase in agricultural yields reduces the percentage of people living on less than \$1 dollar per day by between 0.6 and 1.2%.
- In SSA countries agricultural production declined by 5% between 1980 and 2001 whilst the absolute number of people going hungry increased by 50% – and is projected to increase in the future .
- In many SSA countries national policies have not provided the right incentives while agricultural and trade policies were also damaging to the interests of poor people in their own or other developing countries.

- Liberalisation of markets has not delivered the expected results because markets don't function smoothly or, in some cases, even exist.
- Access to assets (such as land and water) is unequal and often reflects intractable patterns of inequality.
- Poor people's decisions are geared to avoiding risk and vulnerability rather than optimising investment return.
- The continent's trade with the rest of the world is declining and foreign direct investment has fallen. Wilson cites an estimate decline in SSA share of the world exports between 1962 to 1964 and 1991 to 1993, equivalent to an over \$11 billion reduction in annual exports.
- SSA population will reach 780 million by 2010 while the per capita income growth over the period 1997-99 to 2015 is projected at 1.8% per year. However, perceptions of a continuing population explosion are false. FAO estimates that it is more than 30 years since the world passed its population growth rate of 2.04% a year. It is estimated that the growth rate will fall further to 1.1% in 2010 to 2015 and to 0.8% in 2025 to 2030 resulting in corresponding slowdown in the growth for the demand for food.
- While in the rest of the developing world the number of people living in extreme poverty (subsisting on <\$1/day) has declined from one in four to almost one third in 1990, SSA is the extreme exception with the numbers rising steeply during the 1990's and still continue to do so. An FAO prospect study estimates that in SSA the numbers will rise from 240 million in 1990 to 345 million in 2015 – thus two out of five people in SSA will be living in poverty. The fate for SSA is therefore a cause for serious concern. Growth in the agricultural sector has, however, a crucial role to play in reducing poverty as a growth in the non-farm rural sector can only follow a growth in the agricultural sector.

- In developing countries the demand for meat products will rise steeply from 1.2 million tons per year in 1997-99 to 5,9 million tonnes in 2030. This is in sharp contrast to the observation that the rate of growth in world demand for agricultural products has slowed because of a decline in population growth and fairly high levels of food consumption reached in many countries.

The constraints specifically related to agricultural trade in SSA are well documented in several publications (1, 2, 4, 7, 16, 17, 19, 24, 25, 26, 27, 28, 29, 32, 38, 39, 46, 56). In evaluating alternative solutions, it is necessary to take note of the most important constraints especially those related to the trade in animals and animal products in order to appreciate the fact that mere freedom from disease is no guarantee for entry into export trade.

- Livestock production represents one of the most important sources of employment in many SSA countries. In 1988 livestock's production share of the gross agricultural product of 48 SSA countries was estimated to be 25% or more than \$11 billion.
- Developed countries are moving away from product compliance or border inspections towards process based procedures as used increasingly in the EU. For SSA countries to meet these criteria, costly modifications to upgrade processes will have to be undertaken and will also necessitate institutional changes throughout the regulatory chain.
- The movement from product compliance to one of process compliance may cause significant problems for developing countries. Moreover, the costs and difficulties of standardising procedures in smallholder production systems are likely to exclude many small producers from the export market, or force more 'industrialised' system to emerge.
- If SSA countries are to succeed in being competitive, and take advantage of reduced tariffs and improved disease status to increase trade, they must have a competitive market chain. All parts of the supply chain, therefore, need to

operate efficiently. This includes suppliers of inputs to production (feed, grass, seed, fencing wire, animal health inputs, credit, extension, financial advice), the production units, marketing, slaughter of animals, processing and shipping. Governments therefore wishing to encourage export growth may need to consider a package of economic incentives to assist all parts of the sector, as well as removing disease constraints and meeting international health requirements.

- The rising importance of food processors and retailers in the food chain should not be underestimated. Supermarkets have brought in the use of marketing methods of brands, quality grades, and different levels of processing (17, 42, 50). This has forced a greater integration between producers, packers and distributors, and increased direct sales by farmer to the packer. Supermarkets for instance now control 50%-60% of the food retail sector in Latin America – a phenomenal increase from 10%-20% in only 10 years. In Vietnam it is expected to rise to 40% in 2006 whilst in South Africa supermarkets have a 50%-60% market share (42). Trans-national companies are increasingly dominating not only the global retail market but also food processing establishments, thereby setting by implication their own standards for trade in especially processed food of animal origin, which countries who either want to compete or supply foods of animal origin to these companies, are obliged to comply with.
- If the purpose of disease eradication programmes is to promote export then it is important to examine the effects of export-led growth to the poor. In theory, benefits to poor livestock owners could come from direct participation in the export market or from general increase in national prosperity (21). A programme for disease freedom intended to boost exports may therefore benefit the poorer members of the livestock sector, but only if the sector is already highly export- orientated, or if policies are specifically designed to include them.
- In a study conducted by Aklilu (1) on the livestock marketing status in Kenya, Ethiopia and Sudan, the following aspects over and above the presence of

disease, were identified as key contributors hindering successful entry into the export market: inadequate financing, lack of supporting legislation, excessive bureaucratic procedures from point of production to point of sale, unrealistic high taxation, transport costs, technical constraints, shortage of cold chain facilities and cargo space, gap in the information on external markets and access to foreign exchange earnings.

There other commonly known constraints such as the political unrest in several countries, HIV/AIDS and the prevailing drought in many areas of the continent to name but a few. However, it is not within the scope of this paper to elaborate on these issues accept that they all contribute significantly either directly or indirectly as inhibitory factors to agriculture production in many SSA countries.

In summarising the above reality statements, it is obvious that freedom from disease is only one of many requirements to be met before a country can reap the potential benefits of increased sales and improved prices offered through new and high value export markets. However, freedom from disease combined with strong surveillance and animal health standards could provide the opportunity to attract outside investment with complementary skills to make better use of sector production.

CHAPTER 4

Recommendations and alternative solutions for sub-Saharan African countries to enter the export market for animals and animal products

4.1 Introduction

The successful entry into the export market for animals and animal products for SSA countries is generally agreed to be possible through all, or a combination of the following:

- Acceptance of the sanitary guarantees for the specific commodity by the importing country
- Demonstrating disease freedom for trade sensitive diseases or diseases stipulated by the import protocol
- Demonstration of effective disease-free zones and maintenance and protection of such zones and disease-free status
- Government support and political will to facilitate trade through supporting and enabling legislation, infrastructure, enabling marketing support, financial support and protecting the disease-free status
- Successful negotiation for the establishment of import protocols with trading partners
- Establishing trust in the transparency and integrity of export certification and quality of veterinary service delivery
- Establishing a need or satisfying a need for the commodities intended to be exported
- Successful negotiation of equivalent sanitary measures to meet the appropriate level of protection of the importing country
- Active participation and negotiation for the setting and acceptance of international standards for trade.
- The technical ability and available expertise to conduct risk assessments – not only to scientifically substantiate sanitary guarantees but also to create a baseline for trade negotiations.

According to Upton (40) the main justification for improving standards in most developing countries lies in the benefits accruing to the domestic economy and society, even where it is not simply to overcome a non-tariff barrier on exports to developed countries. Some of these benefits are:

- improved health and productivity of livestock
- reduced losses from disease epidemics
- improved quality of livestock products
- public health improvement and
- spill-over benefits for other elements of the food chain

McLeod (21) summarise the indirect effects of disease freedom and increased livestock export as follows:

- Impact on livelihoods of the poor
- Impact on the wider economy
- Greater security from reduced disease risk
- Contribution to social functions
- Prestige of successful control programs
- Improved relations with regional neighbours
- Environmental effects (positive or negative)
- Higher prices to consumers or change in quality and availability of products
- Risk of failure

The critical question however is: *Will this work and will the benefits really materialise considering the current and projected socio-economic position within SSA?* Available literature on the prospects for sustainable and prosperous agriculture in SSA countries and specifically those related to trade in agricultural products, all offer in some or other way, 'solutions or draw attention to the issues that need to be addressed. In this chapter the author will try and avoid the convenient way of 'hiding behind the seriousness of the situation and list the issues that need to be addressed. The approach will be to accept the information given in the previous chapters as a

fait accompli and to discuss and evaluate actions or proposals that could make a difference.

The aspects that will be addressed are:

- The need for and benefits of participating in international standard setting
- The need to needs to enhance trust in export certification by service delivery
- Alternative options for sanitary guarantees to trade partners and still meeting the requirements of the *Code* and SPS Agreement

The author is not qualified nor is it in the scope of this paper to address the changes that are urgently needed in collateral supportive issues such as socio-economic reforms, marketing, financial and infrastructure support. These issues were addressed in several other publications and are also on the agenda for reforms envisaged by NEPAD and other SSA reform initiatives (3, 4, 6, 17, 28, 29, 30, 37, 38, 39, 43, 44, 46).

4.2 The need for and benefits of participating in international standard setting

The compliance with international standards is an important desirable step in the process of entering international trade, but freedom from disease and compliance with international standards do not themselves necessary guarantee an export market while technical assistance and financial support are not a panacea to eventually guarantee international acceptance or recognition (15, 21, 40, 57). However, the SPS Agreement came into force for this very purpose , i.e. to set the rules of the game in assisting countries to successfully enter into trade negotiations. The raising of SPS standards and investment in SPS improvements in developing countries depend largely upon domestic benefits for improving public and animal health and has an opportunity cost in terms of alternative productive or social investment. It would therefore be wrong for developing countries not to try to establish a basis for negotiations for acceptance of their SPS measures; similarly, it would be wrong for developed countries not wanting to negotiate or assist in creating a platform for negotiations with developing countries for moving towards acceptance

of sanitary guarantees for trade. It would also be wrong and probably naive to expect full compliance to an international sanitary standard by a least developed (LDC) country before even considering negotiations for trade. Standards based on the very latest advances in scientific and technological knowledge may be beyond the capacity of many developing countries and may act to the detriment of developing countries if not challenged in an informed manner by developing countries during meetings of standard setting bodies.

Imposing the same full package of standards on low-income countries as those applicable to developed countries without exploiting the assisting and facilitating alternatives recommended in the SPS Agreement, excludes them from trade. SSA countries do have ample opportunity to negotiate a sequential approach whereby countries can move step-wise towards improving animal health services (as they do in disease status) and progressively gain access to market opportunities. Export-led growth may not be immediately compatible with poverty alleviation, as impacts of disease freedom and export growth are often unequally distributed, and will only benefit the poorer members of the economy if supported by explicit policies to promote their participation in the market (19, 21, 40).

The changing international environment has resulted in an increasing demand for food-safety and health assurances to facilitate international trade but also a simultaneous increased household demand for safe and wholesome food (17, 43, 44). There is no clearly defined response to the enormous challenge of meeting both demands, especially in developing countries. Most developed countries and international organizations have responded significantly to the new challenges emanating from consumer concerns over food safety. It remains debatable, however, whether these responses will have the same outcome for the 830 million food-insecure people in developing countries. Developed countries have encouraged initiatives towards regional and multilateral trade agreements, reducing government support for the farming sector and liberalising market access. They have established science-based food-safety regulations in terms of the SPS Agreement that could be challenged by SSA countries, but not without intensive research and comparative evaluation – a process out of reach of many developing countries. The mere fact that some of the standards set by developed countries remain untested or unchallenged,

has contributed to the confusion resulting from a perception of different sets of standards to differentiate between quality and food safety, quality and hygiene requirements, household food security and international trade, regional and international trade and the needs of household and international demand.

Irrespective of whether the initial drive for improved standards is only aimed at adding value to domestic economy and society or to soothe consumer fears and demands, or whether it is an intermediary step towards exports, the fact remains that exports are critical for rural economic growth. Developing countries should therefore strive to be able to negotiate and render sanitary guarantees to meet the appropriate level of protection of their potential trading partners. The critical criteria that need to be complied with for acceptance of sanitary guarantees remain essentially the same irrespective of whether the export initiatives are concentrated in a few products and a few markets or aimed initially only at low income or middle income countries. The generic elements present in almost all requests for health certification for the export of animal or animal products require guarantees or confirmation of at least the disease situation in a country, surveillance systems that are in place, guarantees for the maintenance of a favourable disease situation, risk mitigation procedures that are in place to safeguard the safety of the product or animal, diagnostic abilities and legislative mandate.

The sharp increase in the notifications to the Secretariat of the SPS Committee since 1995, illustrates clearly that developed countries in sharp contrast to developing countries, fully make use of the rights and obligations of the SPS Agreement (49). It is therefore critical for SSA countries to become full participants in the implementation of the SPS Agreement by attending meetings of international standard setting organizations (such as OIE and Codex) to participate actively in standard setting, attending meetings of the SPS Committee of the WTO to participate in evaluating the application of the Agreement and by challenging sanitary measures which they regard as not being conducive or in the spirit of the Agreement. Information given at the special session organised by the SPS Committee of the WTO on the functioning of enquiry points in October 2003 revealed that only 2% of all notifications to the WTO came from Africa of which all the notifications for SSA (17) were from one country only. However, it is also clear that the mere attendance

of these meetings will not necessarily improve the capacity to expedite the way towards compliance or to influence the final outcome of standard setting. What is necessary is to ensure informed participation, to enhance the capability of developing countries to contribute to the process by proposing solutions and criteria which are both scientifically sound and consistent with their technological and developmental conditions. The time has now passed to merely have information sessions or workshops on understanding the SPS Agreement or international standards. Specific shortcomings in the technological capacities related to a product, commodity or process, should be identified and rectified by enabling and capacitating a developing country to participate with confidence when formulating standards or challenging the application of sanitary measures applicable to the specific commodity.

4.3 Specific recommendations on participation in international standard setting

- Judging from the agendas and minutes of the past five years of meetings of the OIE Regional Commission for Africa, no time has been allocated to discuss either at the scheduled meetings of the Commission during the annual meetings of the International Committee of the OIE or at the bi-annual meetings of the Africa Commission, any issues related to proposed changes to or the introduction of new trade standards by the Specialist Commissions of the OIE, such as the Scientific or Code Commissions . It is essential that ample time should be set aside to discuss the proposals outlined in the minutes of the Specialist Commissions and to formulate a definite stance or proposal. This could already be done at meetings of regional economic commissions within SSA such as SADC, but then need to be consolidated and harmonised with views of other regional organizations before the Annual general session of the OIE.

The same holds true for written comments to the Specialist Commissions of the OIE, such as the Scientific Commission for Animal Diseases and the Terrestrial Animal Health Code Commission. According to information from the OIE Central Bureau, very few developing countries and even fewer SSA countries give written inputs to challenge standards proposed by the Specialist

Commissions (45). The written comments should ideally be circulated to all other Members of the Regional Commission for Africa before the meeting of the International committee of the OIE to facilitate a common view and opinion on proposed standards.

- Meetings of the SPS Committee are poorly attended by SSA countries and without continuity. The agendas of the SPS Committee meetings are available in advance and should be scrutinised for any issues that might relate to trade implications for SSA countries. The Secretariat of the SPS Committee has gone a long way to make available in all possible format (printed, fax, electronic) the relevant notifications to Member countries (WTO, SPS Committee Secretariat, personal communication, October 2003). These should be screened and negotiated between national enquiry points to formulate a view for SSA countries. It is proposed that regional organizations such as AU-IBAR take urgent steps to create the capacity to scrutinise the notifications, collate the opinions from Member countries and forward the opinions either in writing or by personal or delegated representation at the meetings of the SPS Committee. Countries in Asia and South America have already adopted this strategy with marked success.
- The existing policy of the WTO is that countries themselves represent their case at the SPS Committee except for instance in the case of the European Community being a legal constituency where the representative of the EU deliberates the views of Member States of the EU. Other countries might also in their deliberations express their views as being representative or supported by other countries within their region, e.g. Asia, but Asian countries do not have the same status in terms of combined representation as the EU. For the SSA countries, Regional Organizations such as SADC, have applied for observer status but cannot officially represent the views of their Member States. Considering the poor representation and participation of SSA countries at the SPS Committee meetings the question might well be asked whether a change in policy of the WTO to allow a representative view on behalf of Regional Organisations within SSA should not be considered. Not only will it ensure continuity in representation but most importantly, will it help to ensure

notification of the concerns of SSA countries, which to date have been mostly absent. In spite of attempts by international organizations to try and facilitate participation by SSA countries in SPS Committee meetings, this has not materialised satisfactorily. In instances when representatives were present, there was no continuity in representation at consecutive meetings, or the assigned delegate was not *au fait* with the real issues being debated. This often happens when, for instance trade representatives already stationed in Geneva are, due to financial restrictions, assigned to attend SPS Committee meetings while most of the issues being debated are of a technical/scientific nature. The representation for SSA countries might even not be on a regional basis but could even be by an organization such as AU-IBAR representing the views of the entire SSA.

- Several 'SPS meetings and workshops' were conducted with good intentions in almost all the regions of Africa by various international and donor organizations (WTO, SPS Committee Secretariat, personal communication, October 2003). However, it may well be asked if these meetings served any purpose other than reiterating the already available contents of the SPS Agreement, Terrestrial Animal Health Code or Codex. Rather than sensitising Member countries or participants at such meetings on the implications of non-adherence to the guidelines and recommendations of the *Code* or SPS Agreement, Member countries should be trained to critically evaluate and challenge notifications and also to use the newly acquired skills to conduct a self-evaluation of their own situation in respect of complying to standards or offering sanitary guarantees. This should be a continuous process rather than ad hoc meetings and workshops, and should be driven by regional organizations within SSA such as AU-IBAR.

4.4 Service delivery needs to enhance trust in export certification

It would be difficult for SSA countries to successfully progress towards a low-risk animal disease situation with the aim to enter the export market, if alternative solutions for veterinary service delivery to enhance disease surveillance and trust in export sanitary guarantees are not considered and exploited - in spite of budgetary

constraints. Privatisation should be seen as an alternative option that refocuses government veterinary activities on achieving better services for the public, and not necessarily as a vehicle for reducing the real magnitude of government expenditures and responsibilities (4, 9, 13, 18, 24, 25, 43). It should, however, be noted that for developing countries (although in many instances forced to embark on privatisation of services), sanitary and phytosanitary measures are public goods. Improvements in public health and hygiene and the control of epidemic diseases are generally non-exclusive and non-rival and must therefore depend largely on public investment.

Public service responsibilities, such as disease surveillance and reporting (which are critical baseline requirements for establishing trust and demonstrating transparency) are no less required in marginal areas and can be carried out effectively through the use of contracts with veterinarians, animal health assistants, animal health technicians and auxiliaries for their delivery. In most instances where this alternative is chosen, the private sector delivery of selected services is subject to compliance and monitoring by national government agencies (9, 16, 24). It is also important to note that women play a particularly important role in agriculture. They produce 60% to 80% of the food in developing countries, with the highest proportions in Africa. They should therefore be targeted to participate in essential veterinary activities, such as disease surveillance and disease reporting. Exploiting various alternatives for the continuation of service delivery and demonstrating for instance a strong commitment through a strong surveillance and animal health standards could provide the opportunity to attract outside investment with complementary skills to make better use of the sector production.

The use of alternative options for service delivery or to complement existing services to ensure momentum towards compliance and eventual maintenance of achieved standards, proved to be successful in many countries. Leyland (20) reports marked improvements on the impact of livelihoods, epizootic disease control and disease reporting and surveillance where a system of community-based animal health workers (CAHW) was introduced to complement the delivery of veterinary services. In Malawi the savings from increased livestock production was \$57 000 in a year where CAHW's were active; in Kenya 70% more cattle deaths were reported in an areas without access to CAHW's; in Ghana, Sudan, Ethiopia and Somalia CAHW's

were directly and indirectly responsible for rapid disease reporting and early detection of diseases. Critical issues for acceptance of sanitary guarantees for export such as epidemiological surveillance, disease control, and animal disease reporting systems, were all reported to have improved after the introduction of CAHW's complementary to the existing systems of service delivery or in instances introduction into areas where services or access to services were previously non-existent.

The acknowledgement of the role of para-professionals in veterinary service delivery by the OIE by including them in the proposed definition by the OIE Terrestrial Code Commission of veterinary services (23):

Veterinary services - means the Veterinary Administration, all the Veterinary Authorities, and all persons registered or licensed by the veterinary statutory body.

Not only is a more compromising approach favoured by the proposed definition but an opportunity is also created to utilise other sources of expertise than only registered veterinarians to deliver a veterinary service - especially in developing countries experiencing a lack of financial and human resources.

4.5 Specific recommendations to enhance service delivery in SSA countries

Sidibe (31), Hargreaves (12) and Cheneau (3, 4), have all reported on the status of veterinary service delivery in SSA countries. Twelve of the 15 List A diseases occur in SSA and in many cases are endemic to SSA. In many but not all the SSA countries, the quality of service delivery would probably not pass an assessment if judged on the criteria for the delivery of veterinary services as recommended in the Code. There are, however, critical requirements related to trade that trade partners would insist on when negotiating the import of a specific commodity.

To put it bluntly: *An importing country wants the assurance that an exporting country knows what is going on in terms of the status of animal diseases, that what they certify can be trusted and is backed up and verifiable by checking on diagnostic/tested evidence.*

In view of the former the critical requirements (over and above structural adjustments that are needed to realise results) are a reliable surveillance system, integrity of certification, scientific justification/recognition for disease-free claims and governmental/political will to support efforts for livestock development and trade in animals and animal products.

- **Disease surveillance**

The outputs of a reliable disease surveillance system should be such that a reasonable evaluation/estimation can be made on the occurrence or non-occurrence of diseases. For this to materialise there should be enough 'ears and eyes' at grass-root level to pick up the abnormal and to be able to have access to some form of communication to report an incident. Where a government does not have sufficient funds or a supporting infrastructure, the tendency is often to consider the privatisation of a specific function or service. Although the data of a national or regional surveillance system can be complemented by other relevant sources of information, e.g. private veterinarians and pharmaceutical companies, the critical importance of reliable surveillance data remains a public good and therefore the responsibility of the State. The ability of stockmen in SSA countries to observe the abnormal should not be underestimated. Stockmen should be recognised for their ability and be trained, have access to communication facilities to report on disease incidents and where applicable be remunerated for their services. Although 'stockmen' are mentioned here in a general context, it is in most instances women or young children that are looking after livestock. Their ability should be recognised and utilised to the full. This is especially important in countries where the existing infrastructure is insufficient to guarantee a reliable disease surveillance service.

The work already done and the valuable information gained by Leyland (20) and other on the utilisation of Community Animal Health Workers (CAHW's) should be further exploited. Leyland has proven that where CAHW's are used as an additional source of surveillance, the incidence of diseases decreased and the information that became available on the occurrence of animal diseases increased accordingly. It is absolutely essential that information be sought in a pro-active manner and not only

re-active as is the case in most instances. A combination of CAHW's and trained farmer/stockmen should and must be considered as an alternative to complement existing and in many cases, non-existent sources of surveillance.

- **Integrity of certification**

No country would consider either entering into trade negotiations or continuing existing trade relations, if there is doubt on the integrity of certification. The cumulative output of a reliable veterinary service obviously contributes to trust in certification but this should be portrayed in the quality of certification. Certifying officials should either be in the full employment of the competent veterinary authority or be assigned and mandated to conduct certification functions in terms of specific legislation. The latter would, however, be under suspicion if not properly monitored and audited by the competent veterinary authority.

- **Scientific justification for disease-free claims or absence of disease**

The availability of diagnostic services is not so important as access to diagnostic facilities and expertise. The establishment and maintenance of a well-functioning diagnostic service has major cost-implications for the majority of developing countries. While most countries do have diagnostic facilities that could perform the basic diagnostic functions, the delivery of services that require more advanced expertise is available in only a few countries within SSA. However, the solution would not be to erect high cost facilities in each country without considering the sustainability of such a unit, the prospects to attract and maintain suitable knowledgeable personnel and creating an infrastructure that will ensure continuous supply and inputs to such a facility. It appears that part of the solution in SSA countries could be to consider the establishment of a few selected well equipped facilities within a regional context and simultaneously establish a network system for the collection, packing and dispatch of samples and feedback on results. One of the major problems within SSA appears to be the ability to collect, package and dispatch samples and to communicate results of investigations within an acceptable turn-over time. The network system should therefore be aimed to facilitate on a district basis the collection, packaging and dispatch of samples by utilising available resources

within the disease surveillance system such as CAHW's and trained stockmen working under the overall supervision of veterinarians as defined by the national statutory veterinary body.

- **Governmental/political will to support efforts for livestock development and trade in animals and animal products**

It is sad that in many SSA countries, governments and the Regional Economic Communities and Organizations are perceived to be slow in improving their own policy and institutional environment to facilitate trade in animals and animal products. It is accepted that this in itself could be a slow and difficult process that might well require harmonisation and coordination from a technical body such as IBAR or another. At meetings of Regional Organizations, such as SADC and also NEPAD and FAO (29, 30), countries are continuously reminded and urged to support efforts to facilitate trade in animals and animal products, but in the end it remains the responsibility of the government of the particular country to facilitate institutional reforms, create capacity and support requests for support of livestock development and trade within their own countries. This can surely be achieved with the help of donor organizations and Regional Organizations but the political will needs to be clearly demonstrated by the governments of these countries.

4.6 The establishment and maintenance of disease-free zones

McLeod (21) perceives the process for reaching disease freedom as one of two scenarios: moving from an endemic to an epidemic/sporadic to eventually a disease-free status or moving from an epidemic to a disease-free status. The first scenario is the most expensive, but unfortunately the case in the majority of SSA countries. The cost would escalate even more when aiming to prove freedom from infection versus freedom from disease. Diseases such as FMD and CBPP are endemic in many countries while the eradication of rinderpest has advanced to such a stage that it is only countries within the Horn of Africa that need to move still further up in the OIE pathway for reaching disease freedom. It is unfortunately so that many developing countries regard disease freedom as a first an essential step for entering international trade while not taking consideration that disease freedom *per se* is not

a guarantee for obtaining export status. Freedom from one disease alone is not sufficient to convince trade partners while other trade sensitive disease might still be present in a country. Disease control programmes in developing countries must take into consideration the wishes and considerations of poor livestock owners if they are to achieve full participation and impact (21).

The cost of establishing disease freedom can (in general and theoretical terms in accordance with the requirements of the *Code* and the SPS Agreement) be regarded as the difference between the sanitary status of the exporting country and the importing country - the bigger the difference, the higher the cost of compliance. There are however two elements of cost implications, namely the cost of achieving freedom and the cost for maintaining freedom. Trade partners would attach more value to the ability of a country to demonstrate successful maintenance of freedom from disease. Cost for the establishment of disease freedom would also imply, over and the above the direct disease related costs (sero-surveillance, eradication and compensation), the cost of establishing an infrastructure as a backup support. However, in many SSA countries, the prospect of establishing country freedom would be very cost-effective but the high risk posed by uncontrolled cross-border movements and the subsequent transmission of transboundary diseases (TAD's), would place the maintenance of the free status out of reach of a considerable number of SSA countries (24, 28, 31). The maintenance of disease freedom not only places an additional burden on the surveillance systems but also on the effective maintenance of border control, diagnostic support and internal movement control.

It is unfortunately also true within a number of SSA countries that if a particular country is not focused on or interested in establishing an export trade for animals and animal products, such a country tends to 'live' with a disease at a self-established threshold value leaving it to their neighbouring countries to institute and maintain risk management practices to prevent the introduction of disease. This obviously escalates the costs for the maintenance of disease freedom or zoned status by those countries who have achieved the status to facilitate trade.

If low and middle income countries therefore wish to expand into new and often higher value markets (e.g. export markets), they may find that this requires a high

level of investment in new infrastructure and institutional improvements. The cost of obtaining disease freedom is not only influenced or determined by the additional costs necessary to expand basic veterinary interventions such as increased disease surveillance, vaccinations, and border control but also by the product requirements of the importing country (21, 40). Developed countries are moving away from product compliance or border inspections towards process based procedures. The increased sensitivity on food safety has also resulted in an ever-increasing cost spiral to establish new, or improve existing export establishments, tests for residues of antibiotics, heavy metals and other toxins, increased requirements for health certification and legal requirements for continuous or permanent veterinary supervision. In developing countries the additional costs may constitute a potential barrier to participation of smallholder or pastoralist owners in production of animals for export such as for the nomadic and transhuman livestock populations in SSA (1, 24, 25, 27, 31, 46). In summary it can be stated that the further a country has to go towards disease freedom or compliance with a required level of protection, the more expensive the process will be. Further export-related costs will be added for infrastructure and legislation should compliance or freedom from disease contribute to a new or expanded export market. This is especially important for developing countries which need to ensure financial and economic viability.

While the establishment and maintenance of *country freedom* from disease would most likely not be possible in many SSA countries, the scaling down of the same principle to smaller and manageable entities could be within the reach of developing countries. The OIE code has already moved from criteria for country freedom to zoned freedom, and lately also to freedom from disease in identified establishments. The concept of establishing smaller disease-free zones dedicated to render sanitary guarantees for the export of a particular commodity is not a new concept. Hargreaves, Belachew Hurissa Dadi (12), and Thomson *et al* (34) have investigated the possibility in Eastern Africa while in South Africa an export zone for horses was established by identifying a small area in the most southern part of the country with a low risk of African Horse Sickness transmission. The area is maintained free from infection through strict movement control in and out of the area and vector control. Although the maintenance costs are relatively high and are partly funded by the

industry, the returns on the maintenance of the export status in terms of foreign currency earnings through export, amounts to more than US\$200 000 per annum.

The same principle could be applied with success elsewhere in Africa, though with several alternative scenarios:

- Identifying relative low-risk vector-free areas for establishing a dedicated export area (e.g. such as for RVF, AHS and bluetongue).
- Utilising the concept of seasonal incidence of vector borne diseases to negotiate a protocol for export, e.g. RVF, bluetongue.
- Establishment of an identifiable low risk area within an infected area which could be maintained as a disease-free compartment with all the required sanitary controls in place and managed as a dedicated quarantine area which could serve as a source of animals for either slaughter or certified disease-free or a combination of diseases, such as FMD, rinderpest and CBPP.
- Identification of the product/commodity that is in demand for export to a specific country/countries and application of risk mitigation procedures as required by the importing countries within one of the alternative environments as suggested above.

The above could be developed into workable solutions but obviously need further and more detailed investigation.

4.7 Agro-processing as a means to render sanitary guarantees for export

While it might not even be possible for some countries to utilise one of the above alternatives, the risk mitigation inherent in agro-processing could offer an alternative to developing countries. Processed foods are in most instances subjected to risk mitigation procedures as recommended by *Codex* to render the product safe for human consumption. Most of the processes are capable to rid the commodity free from infectious agents – either for man or animal. While *Codex* is

essentially concerned with protecting human safety and health, the appendix in the *Code* prescribing procedures for the inactivation of pathogens (appendix 3.6) could be extended to cope with pathogen reduction/inactivation requirements for specific products of animal origin with the emphasis on inactivation of animal related pathogens capable of transmitting animal diseases.

The cost involved with the establishment and maintenance of agro-processing plants within SSA countries would have to come from private enterprises in collaboration with supportive government initiatives. The profitable maintenance of an agro-processing establishment would also be dependent on market demand and the ability to satisfy the demand as well as counteracting the competitive market of cheaper imported products (1, 39, 48). There is thus a need to develop a sequential approach whereby countries can move step-wise in accessing export markets while trying to improving animal health services and progressively gain access to market opportunities. Export-led growth may, however, not be immediately compatible with poverty alleviation as impacts of disease freedom and export growth are often unequally distributed, and will only benefit the poorer members of the economy if supported by explicit policies to promote their participation in the market (21).

Irrespective of whether the initial drive for improved standards is only aimed at adding value to domestic economy and society or to soothe consumer fears and demands or whether it is an intermediary step towards exports, the fact remains that exports are critical for rural economic growth.

4.8 Organic-produced animals and animal products

There are many areas within the African continent where animals still roam freely on natural pastures with the minimum veterinary intervention in terms of acaricide or pharmaceutical treatments. The production of these animals implies no extra cost and could be exploited as a potential *organic food market*. An example of such a perceived organic area would be the Karoo region within South Africa which is a semi-arid to desert type area where sheep are only collected for shearing, marketing, etc., but with the minimal veterinary intervention. Many other

such areas within the African Continent exist where animals are kept on natural pastures with minimal veterinary intervention. By combining this alternative with one of the above could add value to the eventual marketed product. The true sense of organic products as perceived internationally might, however, not always be attainable within certain regions of SSA, e.g. there are certain areas where animals would not be able to survive under free-roaming conditions without prophylactic vaccination or treatment for certain diseases. This could, however, still be achievable if organic production could be combined with a principle of compartmentalisation or 'export zones' as propagated by Thomson et al (35).

4.9 Commodity-based trade as an alternative for entry into the export market

Proposals for consideration of this concept have been submitted by Thomson *et al* (35) as a possible alternative for SSA countries to enter the export market. The detail of the proposals will not be discussed here as it has already been addressed in a consultancy paper for AU-IBAR. This issue obviously needs to be discussed and debated as it not only involves the OIE but also other international organisations related to trade , i.e. Codex and WTO.

By moving the focus of the sanitary guarantees for export away from the country to that of the product is the opposite of the current approach for animal health certification, i.e. a product/commodity is accepted for trade if the country or zone meets the animal health standards, whilst the commodity approach requires that the product/commodity be subjected to certain processes to inactivate pathogens that pose an animal disease risk. The approach is the same as the above outlined for agro-processing with the same provisos. However, risk analysis for animal health guarantees do consider the delivery of veterinary services as an important risk variable that needs to be considered for import risk analysis. Accepting the commodity approach should not imply a non-delivery of such services. What would, however, be needed is a reconsideration of the relative weights allocated to aspects of veterinary service delivery, e.g. if it is accepted that the disease/diseases relative to a product is/are present in a country, disease freedom should have less importance, but supporting activities such as disease surveillance and disease reporting should be relatively more important.

5. Conclusions

This consultancy had to identify sanitary constraints related to the international trade in animals and animal products from sub-Saharan countries and possibly alternative strategies that could be exploited to facilitate or expedite entry into the export market. It is obvious that few SSA countries would be able to fully satisfy the general international requirement, i.e. to comply in full with the minimum standards, guidelines and recommendations of the OIE Terrestrial Animal Health Code. Yet, both the *Code* and the SPS Agreement offer facilitating opportunities that need to be utilised to the full by SSA countries to facilitate trade.

It is also apparent from the literature that the alternatives for SSA countries other than full compliance are few, but offer opportunities that could be successful. The most important of these are:

- identification of areas/establishments that could be zoned for export purposes in accordance with low risk factors and the demand for a specific commodity/product;
- utilising epidemiological factors of diseases to negotiate for safe periods of trade, e.g. seasonal incidence of diseases such as Rift Valley Fever and bluetongue;
- promotion of agro-processing to mitigate risk by inactivation of animal pathogens relative to animal diseases;
- organic food production from many natural organic food producing environments within SSA;
- commodity-based trade requiring sanitary guarantees for a set of import conditions relative to trade of a specific product second to requiring country freedom from specific diseases.

All these alternatives need to be further investigated not only in respect of the disease related aspects but also in terms of cost implications and the ability of a country to maintain and support the implementation of any of the above alternatives. It also unfortunately true that many SSA countries still need to visibly demonstrate to the international community and especially to those countries in the developed world that are willing but still cautious to enter into trade negotiations with SSA countries, that they are committed to institutional reform to support and facilitate livestock development and trade within their respective countries. Potential trade partners would obviously be more willing to enter into trade negotiations within an enabling environment where evidence of financial and export subsidy support and supportive institutional structures are in existence.

Within the international trade negotiation arena, any alternative other than that which is prescribed as an international standard in terms of the SPS Agreement would most probably be contested by many developed countries. However, these concepts would need the support and serious consideration of developed countries. The current approach of many developed countries is to agree to the possible import of a product provided it meets the minimum international standards as prescribed by OIE. The approach propagated in this consultancy is that developed countries need to view the need of SSA countries from a supply side perspective and consider how the sanitary guarantees for export could be accommodated within the constraints and often unique circumstances prevailing in many SSA countries. In support of this approach SSA countries should clearly demonstrate their commitment and political will to exploit and utilise the opportunities imbedded in international guidelines and recommendations for trade to strive towards rendering the negotiated sanitary standards required for the international trade in animals and animal products.

6. Funding

Funding for the consultancy was kindly provided by DFID and the CAPE Unit of AU/IBAR in collaboration with OIE.

7. References

The references cited below are the most important hard copy publications consulted. Some internet web sites are mentioned but there were many other where just a thought or a suggestion stimulated thought, which are not cited below.

1. Aklilu Y. (2003). An audit of the livestock marketing status in Kenya, Ethiopia and Sudan: issues and proposed measures. AU-IBAR, August 2003, Nairobi, Kenya, pp 85.
2. AU-IBAR (2003). Pan African Animal Health Yearbook, AU-IBAR, Nairobi, Kenya, 41 pp.
3. Cheneau Y. (1985). The organization of veterinary services in Africa. *Rev. sci. tech. Off. int. Epiz.*,1985, 5 (1), 107 - 154.
4. Cheneau Y. (1985). Towards new structures for the development of animal husbandry in Africa south of the Sahara. *Rev. sci. tech. Off. int. Epiz.*,1984, 3 (3), 621 - 627.
5. DFID (2002). Better livelihoods for poor people: The role of agriculture. DFID, London, August 2002, 32 pp.
6. DFID (2000). Eliminating World Poverty: making globalisation work for the poor: Paper presented to UK Parliament by the Secretary of State for International Development, December 2000, 108 pp.
7. DFID (2003). Africa Action Plan: UK progress report: Agriculture and poverty reduction: unlocking the potential. London, December 2003, 15 pp.
8. FAO (1991). Guidelines for strengthening animal health services in developing countries. <http://www.fao.org/docrep/U2200E/U2200E00.htm>.
9. FAO (1997). Principles for rational delivery of public and private veterinary services with reference to Africa. Report of technical consultation: 25 – 27 March 1997. <http://www.fao.org/docrep/W4338E00.htm>.
10. FAO (2002). Improved animal health for poverty reduction and sustainable livelihoods. FAO Animal production and health paper 153, Rome, 44 pp.
11. FAO (2002). World Agriculture towards 2015/2030. Summary report, Rome, 97 pp.
12. Hargreaves S.K. & Hurrissa B. (2003). Livestock export zone study: provisional report: Consultancy for AU-IBAR, 2003.
13. Henderson W.M. (1986). Organisation of Veterinary Services. *Rev. sci. tech. Off. int. Epiz.*,1986, 5 (3), 6537- 551.

14. Henson S., Loader R., Swinbank A., Bredahl M. & Lux N. (2000). Impact of sanitary and phytosanitary measures on developing countries. Centre for Food Economics Research, University of Reading, Reading, UK, 51 pp.
15. Henson S., Preibisch K. & Masakure O. (2001). Review of developing country needs and involvement in international standard-setting bodies. Center for Food Economics Research, University of Reading, UK, 142 pp.
16. Holden S. (1999). The economics of the delivery of veterinary services. *Rev. sci. tech. Off. int. Epiz.*, 1999, 18(2), 425 – 439
17. International Food Policy research Institute. (2002). Sustainable food security for all by 2020: Proceedings of an International Conference, September 4-6, 2001, Bonn, Germany (Washington DC: IFPRI, 2002).
18. Leonard D.K., Koma L.M.P.K., Ly C. & Woods P.S.A. (1999). The new institutional economics of privatizing veterinary services in Africa. *Rev. sci. tech. Off. int. Epiz.*, 1999, 18(2), 554-561.
19. Leslie J. & Upton M. The economic implications of greater global trade in livestock and livestock products. *Rev. sci. tech. Off. int. Epiz.*, 1999, 18(2), 440-457
20. Leyland T. (2002). Community-based animal health delivery systems: Improving the quality of veterinary service delivery. OAU/IBAR, Nairobi, Kenya, 13 pp.
21. McLeod A & Leslie J. (2002). Socio-economic impacts of freedom from livestock disease and export promotion in developing countries. Livestock policy discussion paper no. 3, FAO, Rome, 66 pp.
22. OIE. (2002). International Animal Health Code, Eleventh edition, 2002. OIE, Paris, 515 pp.
23. OIE. (2003). Terrestrial Animal Health Code, Twelve edition, 2003. OIE, Paris, 515 pp.
24. OIE (2002). Organisation of Veterinary Services and Food Safety. Proceedings of the seminar: Organisation of Veterinary Services and Food Safety, Tunisia: 27 - 28 September 2002., OIE, Paris, 182 pp.
25. OIE (2003). Veterinary Services: Organisation, quality assurance, evaluation. *Rev. sci. tech. Off. int. Epiz.*, 2003, 22(2), pp 355 – 768.
26. Otsuki T, Wilson J, Sewadeh M (2003). A race to the top?: a case study of food safety standards and African exports (in press).
27. Oyejide T.A, Ogunkola E.A. & Bankole S.A. (2001). Quantifying the trade impact of sanitary and Phytosanitary standards: What is known and issues of importance for Sub-Saharan Africa. In: Quantifying the impact of technical

barriers to trade: Can it be done?, Maskus K. & Wilson J.S. (eds.), University of Michigan Press, 1 – 32.

28. Perry B.D. *et al* (2003). The impact and poverty reduction implications of foot and mouth disease control in southern Africa with special reference to Zimbabwe, DFID, London, 138 pp.
29. Poonyth, D (2004). Growth and development through intra Africa Agricultural Trade: The importance of trade financing. Paper delivered at FAO Workshop on Growth and Development through Agricultural Trade: Sandton, South Africa, 27 February 2004
30. Ruiters, A (2004). Opening address at the at FAO Workshop on Growth and Development through Agricultural Trade: Sandton, South Africa, 27 February 2004
31. Sidibe, A.S. (2002). The Veterinary Services: Status report in Africa. In: proceedings of the OIE Seminar: Organisations of Veterinary Services and Food Safety, Tunis: 22 – 28 September 2002, OIE, 32 – 43.
32. Sollod A.E. & Stem C. (1991). Appropriate animal health information systems for nomadic and transhumant livestock populations in Africa. *Rev. sci. tech. Off. int. Epiz.*, 1991, 10(1), 89 - 101.
33. Thiermann A. (1996). The use of OIE recommendations and procedures by member countries for international trade in relation to the World Trade Organization. Technical Item, 64th general Session of the OIE, Paris, 8 pp.
34. Thiermann A (2003). The role of Animal Health and Zoonoses Standards on Disease Control and Trade. Editorial on OIE website www.oie.int, February 2003, 5 pp.
35. Thomson G.R., Tambi E.N., Hargreaves S.K. & Leyland T.J. (2004). Gaining access to international commodity markets for African Livestock commodities (in press).
36. Thomson G.R. 2003. (Personal communication)
37. Umali D.L., Feder G. & De Haan C. (1994). Animal Health Services: Finding the balance between public and private delivery. *The World Bank Research Observer*, vol. 9, no. 1, pp. 71 – 96.
38. United Nations (2003). Report of the eminent persons on commodity issues, Geneva, September 2003, 16 pp.
39. United States International Trade Commission (2003). US Trade an investment with sub-Saharan Africa: Fourth Annual Report: Investigation No. 332-415, Washington, December 2003, pp 255.

40. Upton M. (2001). Trade in livestock and livestock products: International regulation and role for economic development. Livestock policy discussion paper no. 6, FAO, Rome, 53 pp.
41. Vallat, B (2002). The obligations of OIE Member Countries in the organisation of Veterinary Services. In: proceedings of the OIE Seminar: Organisations of Veterinary Services and Food Safety, Tunis: 22 – 28 September 2002, OIE, 11 – 17.
42. Vorley B. (2003). Corporate concentration from farm to consumer. Report on a study of the UK Food Group, October 2003, London, pp 89.
43. WHO Study Group on Future Trends in Veterinary Public Health (1999). Teramo, Italy. Future trends in veterinary public health: report of WHO study group. WHO technical report series: 907.
44. WHO/WTO (2002). WTO agreements and public health: A joint study by the WHO and WTO Secretariat, 171 pp.
45. Wilson D. (2003). (Personal communication).
46. World Bank (1995). Little P. Merchants and middlemen in the cattle trade of southern Somalia. In: (Jaffee S. & Morton J. eds.). Marketing Africa's high-value foods: Comparative experiences of an emerging private sector. Kendall Hunt Publishing, Iowa, 417 – 454.
47. World Bank (2003). Standards and global trade: A voice for Africa. Wilson J.S. & Abiola V.O. (eds). Publication overview on <http://publications.worldbank.org>
48. World Trade Organization (1995). The result of the Uruguay round of multilateral trade negotiations: The legal texts: Agreement on the application of sanitary and phytosanitary measures, Geneva, 69 – 84..
49. World Trade Organization (1999). Committee on Sanitary and Phytosanitary Measures: Review on the operation and implementation of the Agreement on the Application of Sanitary and Phytosanitary measures: G/SPS/12.
50. World Trade Organization (2000). Committee on Sanitary and Phytosanitary Measures: The development challenge in trade: Sanitary and Phytosanitary standards: Submission by the World Bank. G/SPS/GEN/195.
51. World Trade Organization (2001). Committee on Sanitary and Phytosanitary Measures: Decision on the implementation of Article 4 of the Agreement on the Application of Sanitary and Phytosanitary measures: G/SPS/19.
52. World Trade Organization (2001). Doha WTO Ministerial 2001: Ministerial declaration.
53. World Trade Organization (2002). Committee on Sanitary and Phytosanitary Measures: Specific Trade Concerns. G/SPS/GEN/204/Rev.2.

54. World Trade Organization (2002). Committee on Sanitary and Phytosanitary Measures: Decision on the implementation of Article 4 of the Agreement on the application of sanitary and Phytosanitary measures: Decision by the Committee. G/SPS/19/Add.1.
55. World Trade Organization (2002). Committee on Agriculture: Negotiations on Agriculture: Overview by Chairman. TN/AG/6.
56. World Trade Organization (2003). Bachetta M. & Jansen M. Adjusting to trade liberalization: The role of policy, institutions and WTO disciplines. Studies special no. 7, Geneva.
57. Zarilla S. & Musselli I. (2004) The Sanitary and Phytosanitary Agreement, food safety policies and product attributes. In: Agriculture and the WTO: Creating a trading system for development. (M.D. Ingco & J.D. Nash, eds). The World Bank, Washington, DC, 217- 236).