THE EFFECT OF STRUCTURAL ADJUSTMENT PROGRAMMES ON THE DELIVERY OF VETERINARY SERVICES IN AFRICA

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Summary: This report is a prospective analysis of the effect of structural adjustment programmes on the delivery of veterinary services in Africa. The analysis is based on a review of replies to a questionnaire sent to the Chief Veterinary Officers of African countries by the Office International des Epizooties, but also makes use of other data so as to avoid the bias that would have resulted had only public sector views been taken into account.

After a brief review of the political and economic basis of adjustment programmes affecting the Veterinary Services, and their practical application in the form of reforms, the second part of the report presents the views expressed in the questionnaire replies. The policies being applied are considered to have had a globally positive effect despite presenting some constraints, which do not however call into question the process under way.

The third part reports on a change in attitude towards the reforms, which is encouraging on the part of the public sector. It also includes a discussion of the assessment made by the Chief Veterinary Officers and proposes some strategic directions for the years ahead. For the public service, the accent is placed on the need to work towards a better definition and implementation of priority activities, based on a clear identification of services seen as ‘public assets’ at both the national and local level, explaining how they are to be delivered and systematically including an economic analysis in the criteria for selecting activities. In the private sector, the priority is to strengthen support for private practice, particularly by helping private veterinarians to diversify their activities, and also to strengthen support for paraveterinary staff, providing training and ensuring greater integration into health networks.

The last part deals with what the Veterinary Services expect from the OIE. Dissemination of information, organisation of training sessions and a privileged dialogue with international organisations and policy makers in the field of animal health are the three subjects mentioned.

1. INTRODUCTION

In a majority of African countries, the livestock sector still occupies a decisive place and therefore represents one of the keys to economic growth. For many of these countries it represents one of the most important sources of employment and income. In 1998, animal production in 48 countries in sub-Saharan Africa accounted for an estimated 25% of gross agricultural product, totalling over 11 billion USD (20).

In the 1970s the quality of animal health services, which at that time were wholly under the responsibility of the State, began to deteriorate with serious economic consequences. The example usually cited is that of rinderpest: the cost of this disease reappearing in sub-Saharan Africa in the early 1980s was estimated to have been 500 million USD (8).

To try to combat the deterioration in public services, but also in response to increasingly acute financial constraints, governments were obliged to consider new policies, with the support of external funding. Thus, a part of the duties traditionally carried out by the State gradually came to be transferred to the private sector. The majority of reforms have been carried out within the framework of structural adjustment programmes.

* The views expressed in this report are those of the authors and do not constitute an official position of the World Bank.
Now that over ten years have passed since the first reforms, it is interesting to conduct a mid-term assessment of the process currently under way and to estimate the extent to which the desired changes have been implemented. The structural and cultural transformations undertaken have encountered problems which now need to be resolved in order to complete the changes.

A number of initiatives have already been taken in this area. 'Livestock In Development', a study on improving the delivery of animal health services in developing countries, was carried out on behalf of the 'Department for International Development' (12). An FAO electronic conference in 1997 provided an opportunity for an open debate on privatisation. The French Ministry of Foreign Affairs (Cooperation) has financed several studies on the development of the veterinary profession in the private sector in French-speaking areas of Africa (3, 13, 15).

The present survey by the Office International des Epizooties (OIE) is also aimed at assessing the current situation. A questionnaire, sent to all the Chief Veterinary Officers, provided them with an opportunity to express their views on the adjustment programme under way or already completed in their respective countries, and so play an active role in this attempt at an assessment covering the whole of Africa. Secondly, the questionnaire sought to ascertain the role which the Veterinary Services would like the OIE to play in the context of the changes currently under way.

Despite a poor response rate (Table 1), the replies received allow a broad assessment to be made as to the effect of structural adjustment programmes on the delivery of veterinary services in Africa. It should however be pointed out that, as the questionnaire was sent only to the heads of the State Veterinary Services, the private sector point of view has not been taken into account, a fact which may have introduced a bias into the analysis.

### Table 1: List of countries responding to the OIE questionnaire

<table>
<thead>
<tr>
<th>Country</th>
<th>Structural adjustment Start</th>
<th>Structural adjustment End</th>
<th>Public Service staff in 1986 (a)</th>
<th>Public Service staff in 1995 (a)</th>
<th>Public Service staff in 1998 (b)</th>
<th>Private Vets. in 1990 (c)</th>
<th>Private Vets. in 1995 (c)</th>
<th>Private Vets. in 1998 (b)</th>
<th>R1 (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>1995</td>
<td>1997</td>
<td>1191</td>
<td>1678</td>
<td>1300</td>
<td>1</td>
<td>1640</td>
<td>2000</td>
<td>-</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>1990</td>
<td>-</td>
<td>351</td>
<td>469</td>
<td>-</td>
<td>5</td>
<td>53</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Comoros</td>
<td>1994</td>
<td>-</td>
<td>24</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Côte d'Ivoire</td>
<td>1980</td>
<td>-</td>
<td>763</td>
<td>986</td>
<td>-</td>
<td>6</td>
<td>13</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Ghana</td>
<td>1987</td>
<td>-</td>
<td>1132</td>
<td>781</td>
<td>813</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>2.4</td>
</tr>
<tr>
<td>Guinea</td>
<td>1986</td>
<td>-</td>
<td>-</td>
<td>598</td>
<td>484</td>
<td>-</td>
<td>17</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Morocco</td>
<td>1983</td>
<td>1993</td>
<td>1896</td>
<td>2287</td>
<td>1567</td>
<td>79</td>
<td>214</td>
<td>287</td>
<td>-</td>
</tr>
<tr>
<td>Senegal</td>
<td>1979</td>
<td>1997</td>
<td>624</td>
<td>-</td>
<td>391</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Swaziland</td>
<td>1996</td>
<td>-</td>
<td>270</td>
<td>1013</td>
<td>-</td>
<td>2</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chad</td>
<td>1995</td>
<td>-</td>
<td>503</td>
<td>493</td>
<td>522</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>1.9</td>
</tr>
<tr>
<td>Tunisia</td>
<td>1987</td>
<td>-</td>
<td>191</td>
<td>412</td>
<td>875</td>
<td>34</td>
<td>90</td>
<td>124</td>
<td>-</td>
</tr>
<tr>
<td>Zambia</td>
<td>1996</td>
<td>1998</td>
<td>796</td>
<td>782</td>
<td>695</td>
<td>19</td>
<td>41</td>
<td>20</td>
<td>0.17</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>1991</td>
<td>-</td>
<td>534</td>
<td>932</td>
<td>-</td>
<td>51</td>
<td>60</td>
<td>-</td>
<td>0.7</td>
</tr>
</tbody>
</table>

* Three other replies to the questionnaire were received too late to be taken into account in the analysis (Angola, Central African Republic, Democratic Republic of the Congo).

(a) veterinarians + animal health assistants - Source: OIE data (12)
(b) Source: questionnaire replies
(c) Source: OIE data (13)
(d) R1 = staffing budget/operating budget minus salaries - Source: questionnaire replies

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1 Food and Agriculture Organization of the United Nations
The first part of the report consists of a brief summary of the process currently under way. This is followed, in the second part, by an overall assessment based on the replies received from the State Veterinary Services. In the third part the degree of justification for some of the statements made is discussed, followed by proposals for strategies to continue the process in the coming years. The last part of the report reviews what is expected of the OIE by the State Veterinary Services.

2. SUMMARY OF THE PROCESS UNDER WAY

The main aim of the State Veterinary Services is to increase animal production so as to improve food security and the well-being of livestock producers.

To achieve this aim, the Veterinary Services have undertaken a wide range of activities, which can be summed up as follows:

- control of animal diseases, and in particular epizootics (quarantine, vaccination, epidemiological surveillance);
- control of animal disease vectors;
- provision of veterinary care;
- artificial insemination;
- laboratory services;
- importation and distribution of veterinary products and vaccines;
- quality control and public health;
- research and awareness campaigns;
- veterinary health regulations, and
- development, follow-up and evaluation of animal production policies.

The erosion of public services and increasing financial constraints have called into question the capacity of the State to conduct certain of these activities. Based on Pareto's 'optimum' theory, the principal aim of structural reforms has therefore been to restore the balance between the role of the State and that of the private sector insofar as many of the services are 'private assets' of which the consumer is the sole beneficiary (Table 2). The State nevertheless remains an important player due to the existence of market imperfections: 'public assets', externalities, information asymmetries and economies of scale... (16, 17). Yet the tasks that remain within the public domain do not necessarily have to be carried out by civil servants and can be entrusted to the private sector, under the control and with the financial assistance of the public sector.

During the past ten years, four main areas of reform have been pursued within the framework of the Veterinary Services in Africa:

- improvement in cost recovery, by charging for services rendered;
- restructuring of the public sector, in particular to restore the balance between budget allocations for salaries and the operating budget;
- liberalisation of trade in veterinary products, so as to improve supplies to livestock producers; and
- privatisation of veterinary activities, to meet the growing demand from livestock producers for services (6).

Bearing in mind the main functions of the Veterinary Services listed above, the questionnaire makes it possible to take stock of the current state of progress of reforms and their impact on the various activities.

3. THE VIEWS OF THE PUBLIC VETERINARY SERVICES ON THE REFORMS UNDER WAY: GENERALLY FAVOURABLE ASSESSMENT TEMPERED BY SOME CONSTRAINTS

The assessment presented here faithfully reflects replies received from the State Veterinary Services: for each of the points covered, the names of the countries concerned are given in parentheses.

This assessment covers the restructuring of public administrations and privatisation, the role of the public services and the private sector for each of the main veterinary functions, and presents a list of the principal negative effects attributed to the reforms, as pinpointed by the public services.
### Table 2: Classification of animal health services by public or private sector of activity (17)

<table>
<thead>
<tr>
<th>Service</th>
<th>Private sector</th>
<th>Public sector</th>
<th>Economic characteristics of service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary care</td>
<td>Yes</td>
<td>No</td>
<td>Mainly 'private asset'</td>
</tr>
<tr>
<td>Production of vaccines and other veterinary products</td>
<td>Yes</td>
<td>No</td>
<td>Mainly 'private asset'</td>
</tr>
<tr>
<td>Distribution of veterinary products</td>
<td>Yes</td>
<td>No</td>
<td>Mainly 'private asset'</td>
</tr>
<tr>
<td>Vaccinations and vector control</td>
<td>Yes</td>
<td>Possibly</td>
<td>Mainly 'private asset' but there may be externalities</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Yes</td>
<td>Possibly</td>
<td>Mainly 'private asset' but there may be externalities</td>
</tr>
<tr>
<td>Veterinary research</td>
<td>Yes</td>
<td>Yes</td>
<td>'private asset' or 'public asset'</td>
</tr>
<tr>
<td>Awareness campaigns</td>
<td>Yes</td>
<td>Yes</td>
<td>'private asset' or 'public asset'</td>
</tr>
<tr>
<td>Disease surveillance</td>
<td>No</td>
<td>Yes</td>
<td>'public asset'</td>
</tr>
<tr>
<td>Quarantine</td>
<td>No</td>
<td>Yes</td>
<td>Externalities</td>
</tr>
<tr>
<td>Quality control of veterinary products</td>
<td>No</td>
<td>Yes</td>
<td>Information asymmetries</td>
</tr>
<tr>
<td>Food hygiene and inspection</td>
<td>No</td>
<td>Yes</td>
<td>Information asymmetries</td>
</tr>
</tbody>
</table>

### 3.1 The institutional context

#### Readjustment of public administrations

The majority of countries that replied report a decline or at least a stabilisation in the number of civil servants and a lightening of the salary burden on the overall budget (Algeria, Burkina Faso, Chad, Guinea, Morocco, Senegal, Swaziland, Tunisia, Zambia). Only Zimbabwe has considerably increased staff numbers, notably in response to an increasing demand for export controls. This increase has not however affected the budgetary balance, and the ratio $R_1$ (staffing budget/operating budget minus salaries), which is one of the indicators of the effectiveness of the Veterinary Services, remains highly satisfactory ($R_1=0.7$) (see Table 1).

The readjustment, associated with the transfer of a part of the activities to the private sector, is therefore accompanied by a realignment of the functions assigned to the public services. Among the remaining functions, the questionnaire returns mention the development of animal health policies, implementation of these policies, the organisation and implementation of vaccination campaigns, epidemiological surveillance, and quality control of veterinary drugs and animal products. The priority which the State now accords its public responsibilities is considered by many countries to be one of the positive aspects of structural readjustment (Algeria, Burkina Faso, Côte d’Ivoire, Guinea, Morocco, Tunisia, Zimbabwe). This willingness on the part of the public services to redefine their duties is also expressed in the form of training requests made to the OIE (see below).

#### The privatisation process in the veterinary profession

Alongside the readjustment of public administrations, the necessary preconditions for the development of the private sector are gradually being met. Cost recovery is one of the essential preliminary steps in the change in attitudes imposed by privatisation. The policy of cost recovery is clearly stated in the majority of the replies received, even though certain vaccinations and laboratory diagnosis are still largely subsidised.

The setting up of legislation adapted to the privatisation of veterinary medicine and pharmacy is continuing. Most countries mention the adoption of legislative and regulatory texts relating to the veterinary professional body, veterinary ethics, sanitary policy, veterinary pharmacy, veterinary health mandate and the recovery of costs for services rendered.
Lastly, most countries report an increasing number of private veterinarians (Table 1) and consider that the development of private veterinary medicine has had a positive effect on the ability of livestock producers to access veterinary care and products (Burkina Faso, Comoros, Guinea, Morocco, Senegal, Tunisia, Zambia).

3.2. Review of the different functions of the Veterinary Services

Epidemiological surveillance system

The questionnaire replies highlight a widespread development of epidemiological surveillance systems (Algeria, Burkina Faso, Chad, Ghana, Guinea, Morocco, Senegal, Swaziland, Tunisia, Zambia). This is seen as one of the key Public Service activities. Private sector participation in this activity is mentioned (Algeria, Burkina Faso, Guinea, Zimbabwe) but does not yet seem to be generalised.

Laboratory services

There has been a tentative development of private units (Senegal, Tunisia) but diagnosis generally remains in the hands of the public sector (Algeria, Burkina Faso, Chad, Côte d’Ivoire, Ghana, Morocco, Senegal, Swaziland, Zambia, Zimbabwe) and is subsidised.

Manufacture and distribution of veterinary vaccines

Numerous countries maintain a vaccine production unit (Algeria, Chad, Ghana, Senegal, Zambia, Zimbabwe). Also, the importation and distribution of vaccines used within the framework of compulsory disease prevention often remains in the public domain, whatever the country. In some countries, however, there is a tendency for the State to relinquish vaccine production (Burkina Faso, Côte d’Ivoire, Guinea, Morocco, Swaziland, Tunisia).

Manufacture, importation and distribution of veterinary drugs

The importation and distribution of veterinary drugs have generally been liberalised (Algeria, Burkina Faso, Chad, Côte d’Ivoire, Ghana, Guinea, Morocco, Senegal, Swaziland, Zimbabwe). A positive consequence, identified by several countries, is the improvement in supply to producers (Comoros, Côte d’Ivoire, Ghana, Senegal). Others, however, state that the country is not uniformly covered (Burkina Faso, Chad).

Compulsory animal health programmes

There is an increasing use being made of mandated private veterinarians (Algeria, Burkina Faso, Chad, Côte d’Ivoire, Morocco, Senegal, Tunisia). Apart from rinderpest, which continues to be a cause for concern in eastern Africa, the infectious diseases for which compulsory campaigns are most frequently carried out are contagious bovine pleuropneumonia (Burkina Faso, Côte d’Ivoire, Guinea, Senegal, Zambia), peste des petits ruminants (Côte d’Ivoire, Senegal), foot and mouth disease (Algeria, Morocco, Swaziland, Zimbabwe), anthrax (Zambia, Zimbabwe), and Newcastle disease (Senegal, Zimbabwe). These campaigns are still often carried out free of charge.

Control of disease vectors

Several countries are developing tsetse control programmes (Burkina Faso, Côte d’Ivoire, Ghana, Guinea, Zambia, Zimbabwe). These control programmes are still widely subsidised and very few countries report the introduction of a cost recovery policy (Côte d’Ivoire, Zimbabwe). Most countries, however, mention a greater participation of village communities, often related to the use of traps and screens in the control of tsetse populations.

Several countries operate tick control campaigns (Ghana, Morocco, Swaziland, Tunisia, Zambia, Zimbabwe). Cost recovery is only rarely applied (Zimbabwe).

Quality control and sanitary inspection

This activity is generally the responsibility of the public sector (Algeria, Burkina Faso, Chad, Côte d’Ivoire, Ghana, Guinea, Morocco, Senegal, Tunisia, Zambia, Zimbabwe) but several attempts are currently being made to develop the veterinary health mandate (Burkina Faso, Senegal).
Provision of veterinary health care other than compulsory programmes

For the most part, veterinary care is carried out by the private sector (Algeria, Burkina Faso, Côte d’Ivoire, Guinea, Morocco, Senegal, Tunisia, Zambia). The public sector retains responsibility in areas not yet covered by the private sector (Algeria, Chad, Côte d’Ivoire, Ghana, Zambia).

Advisory work and related activities

Awareness campaigns and training generally remain in the public sector (Chad, Ghana, Morocco, Senegal [ANCAR²], Swaziland, Tunisia). The participation of private veterinarians in this activity is, however, reported by some countries (Burkina Faso, Côte d’Ivoire, Senegal).

The restructuring of advisory services and the new participatory policies are adjudged to be globally positive. The training of livestock producers, advisory work on production techniques and veterinary care in addition to community participation are considered to be in marked progression in many countries.

3.3. Problems encountered

An assessment of the replies received shows that the State Veterinary Services acknowledge overall that the reforms are well-founded and they recognise the first positive effects. The Veterinary Services nevertheless report a number of problems.

Budgetary constraints and restructuring of public services

Reductions in staffing and budgetary allocations for the public Veterinary Services are still considered to be a major constraint for the quality of the services provided (Burkina Faso, Chad, Comoros, Ghana, Senegal, Swaziland, Tunisia). None of the countries, however, backed up their statement with a summary of the changes in the national budget.

The restructuring and unification of advisory services is sometimes viewed in a negative light by veterinarians. In such cases animal production is described as the poor relation of unification, and a loss of quality is even reported by some countries (Côte d’Ivoire, Ghana).

Privatisation hindered by a lack of financial resources

The lack of financial resources for young veterinarians setting up in practice is mentioned as a constraint for the development and strengthening of the private sector. The question is raised of unemployment among young veterinarians who can no longer be recruited into the civil service.

Loss of information linked to giving up certain functions

Transferring a part of the veterinary activities to the private sector or to a joint advisory service is considered to lead to a loss of information due to a lack of communication between the various players involved.

Effectiveness of the private sector and its control

It is difficult for the private sector to cover the entire national territory, and this is seen as one of the current problems in the transfer to the private sector. The problem exists both for inputs and for veterinary procedures in many rural areas.

The quality of the services delivered by the private sector is also, on occasion, called into question. Production auxiliaries are often presented as the culprits. They are accused of practising ‘anarchistic medication’ detrimental to the health status of the animal population. A general lack of control of the private sector is often reported.

In conclusion, it is important to point out that the assessment presented herein, which is globally positive but tempered by a certain number of problems, is based solely on replies to the questionnaire sent out by the OIE. These replies were essentially qualitative and contributed little in terms of quantitative data or evidence in support of the statements made. It is therefore important to include some quantitative data in the discussion, so as to allow a clearer grasp of the strategies to adopt in the future.

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² National agricultural and rural advisory agency
4. POSSIBLE STRATEGIES FOR THE YEARS TO COME

4.1. The case of the public sector

The complaint of the public sector veterinarian: myth and reality

The attitude of the public Veterinary Services towards the reforms under way is changing and becoming more positive. The systematic disparaging of the privatisation process, which was still the rule several years ago (15), is no longer apparent in the questionnaire replies. The Public Service considers itself to be one of the players in the revolution under way and is seeking to clearly redefine its tasks. Yet, despite this attitude, which is on the whole encouraging for the future of the process, the traditional complaint of lack of human and financial resources continues and shows that the process of change being undertaken in the public Veterinary Services is not yet complete.

It should, however, be noted that many support projects in the field of livestock production, financed by the European Commission, the World Bank or other sources, have given the Veterinary Services access to considerable logistic resources and training opportunities (13). Furthermore, an analysis of the data from a representative sample of nine countries shows that, overall, the number of cattle per Public Service agent fell between 1985 and 1995 (Table 3) whereas some of the tasks are now carried out by the private sector. Lastly, the privatisation process is likely to increase in the coming years, further limiting the need for substitution by the public services.

Table 3: A study of the change in ratio R2 in nine African countries (12, 13, 14)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>25</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>30</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>Ghana</td>
<td>40</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>Kenya</td>
<td>50</td>
<td>45</td>
<td>40</td>
</tr>
<tr>
<td>Madagascar</td>
<td>60</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td>Morocco</td>
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<td>65</td>
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</tr>
<tr>
<td>Morocco</td>
<td>80</td>
<td>75</td>
<td>70</td>
</tr>
<tr>
<td>Senegal</td>
<td>90</td>
<td>85</td>
<td>80</td>
</tr>
<tr>
<td>Tunisia</td>
<td>100</td>
<td>95</td>
<td>90</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>110</td>
<td>105</td>
<td>100</td>
</tr>
</tbody>
</table>

NVLU: Number of veterinary livestock units (VLU = one bovine or camelid = two horses, pigs or donkeys = ten small ruminants = one hundred poultry)
NSU: Number of staff units (veterinarians + technicians)
R2 is taken as an efficiency indicator for the Veterinary Services. It is the ratio of NVLU to NSU.

While it cannot be denied that a certain malaise persists in the public services, these different points nevertheless lead to the recommendation that the current adjustment policy be strengthened.

Solutions to dispel the gloom

The adjustment policy must continue with an increased willingness on the part of the public services to change their attitudes. To this end, certain accompanying measures must be introduced or further strengthened.

Without creating a further increase in staffing numbers within the Civil Service, there is a need for an innovative policy regarding salary structures in order to motivate existing staff, who have already been upset by the reforms, and to prepare for a move towards more highly qualified staff. A system of productivity bonuses should be set up in each civil service department. The system of promotion should also limit the importance accorded to seniority, to take into account both the spirit of innovation and technical competence.
The reframing of duties within the Public Service means that many employees will need to be retrained. Many officials have already benefited from additional training and this trend should be maintained in the years to come. The OIE certainly has a role to play in this field (epidemiological surveillance, quality control of veterinary drugs, application of standards for international trade, health economics, etc.).

Restructuring of the Veterinary Services has also led to changes affecting teams working in the field, particularly in regard to advisory services. In order to restore livestock production to the position it deserves, additional training courses on animal production are needed in some countries for officials involved in advisory work.

**Expectations in regard to the public sector**

Training and motivation are interesting solutions aimed at improving the status of the public services, but these investments must produce concrete results. The change in attitudes referred to above must also be accompanied by actions, particularly in areas of partnership with the new players, and the redefining of priorities.

In this respect, the example of epidemiological surveillance systems and criticism over the loss of information is highly eloquent: the majority of countries mention only the networks based on veterinary posts, while very few mention a partnership with auxiliaries, livestock producers' associations or private veterinarians in these arrangements. Strengthening collaboration between the different players will certainly be one of the major challenges for the years ahead.

While the reframing of activities may be under way, the prioritisation of activities, based partly on economic criteria and taking into account certain aspects of the adjustment policy such as decentralisation, does not seem to be sufficiently applied. It is of fundamental importance to clearly define which services are considered to be 'public assets' at national and local levels and how they should be delivered, and to systematically incorporate an economic analysis in the criteria for selecting activities. Disease control is at the centre of this debate. For example, the control of a disease may very well be seen as a 'public asset' at the national level (i.e. for the country to be free from a disease capable of rapid spread) but not represent a priority at the local level (due to a small livestock population, for example). Mechanisms to avoid the control of certain diseases being weakened as a result of adjustment policies must be set up, while at the same time developing the private sector; this is indeed one of the duties of the public sector. On the other hand, the control of a given disease may very well no longer represent a 'public asset' at the national level (e.g. for an endemic disease with a low economic impact nationally) but remain a priority at the local level. The responsibility for control must then be delegated locally.

In addition to the reframing of activities, a redefinition of the target populations (livestock producers with low purchasing power, producers in extensively farmed areas) would allow better use to be made of the Public Service and its financial resources and would strengthen the transfer of certain activities to the private sector.

Lastly, coupled with a redefinition of priorities, the policy of cost recovery must be continued and intensified. As the replies to the questionnaire clearly indicate, a great deal of progress can still be made in this area.

### 4.2. The case of the private sector

**A private sector that has proved its worth**

The taking over of a number of Veterinary Service activities by the private sector is well under way. The present results are encouraging and do not seem to accord with the lack of quality sometimes proclaimed by the public services. There has been a marked improvement in the supply of veterinary drugs. In this respect, the data reported in Côte d’Ivoire are highly indicative: the sales turnover of official imports of drugs, which amounted to 1 244 654 194 CFA francs in that country in 1993, increased to 9 863 160 019 CFA francs (value FOB) in 1997. Expressed in current USD, so as to take into account devaluation, turnover still shows considerable growth: 4 513 705 USD in 1993 compared to 18 776 242 USD in 1997.

The quality of work of private veterinarians is starting gain recognition, particularly in the field of vaccination campaigns. The PARC3 programme, which has involved numerous private sector players, is a success in western and central Africa. In Mali, during the 1995–1996 vaccination campaign, private veterinarians vaccinated 82% of the 2.5 million cattle allotted to them, whereas the Public Service vaccinated only 30% of the remaining 800 000 animals (1).

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3 Panafrican Rinderpest Campaign

- 152 -
Neither does the recovery of costs seem to have adversely affected the demand from producers, who were already often unofficially taxed by the public services. In Côte d’Ivoire, livestock producers participated in an amount of 24 500 000 CFA francs in 1995, with a price set at 50 CFA francs per vaccination. In 1997, with the price set at 100 CFA francs per vaccination, producers' participation amounted to 112 000 000 CFA francs. Despite the introduction of charges for services, an increase in demand for veterinary services has also been observed in Cameroon, Chad and Mali (1). Lastly, in 1995, a survey of 135 producers in Kenya found a 93% satisfaction rate for services rendered by private veterinarians. Furthermore, 73% of these producers considered the prices charged to be acceptable (19).

**Still not enough private veterinarians**

While private veterinarians have demonstrated their effectiveness, the private sector still remains insufficiently developed. There are many examples illustrating just how much has yet to be accomplished: 50% of the provinces in Morocco still had no private veterinarians in 1995 (10); private veterinarians in Madagascar were responsible for only 31% of the cattle population in 1997 (3). The continued development of the private sector will therefore be one of the responses to the problem of national coverage. While the first veterinarians systematically set up in practice in or around towns, the increase in density of veterinarians will lead to a movement towards rural areas.

In French-speaking Sub-Saharan Africa, the number of private veterinarians is estimated to be just over 360, compared to a potential of 1 500 (13). There is therefore still considerable room for improvement. More generally, the demand for private veterinarians can be estimated at 4 000 for the whole of Africa, excluding Algeria, Egypt and South Africa (based on a total cattle population of 200 million and an average of 50 000 head per practitioner). In 1995, a total of 1965 private veterinarians were recorded by the OIE in 29 African countries, the information for Nigeria not being included (9). There therefore remains great scope for improvement.

Different statements can be made regarding the setting up in practice of private veterinarians:

- the absence of a favourable financial environment is considered by the public services to be a major constraint. It should however be emphasised that many new practices, most notably in Chad, are set up without outside assistance or only with the help of the family (4). Likewise in Mali, the majority of successful new practices have been set up with personal funding (1).

- even more than assistance with starting up, private veterinarians seek long-term security of income: safeguarding income by means of contracts, building up a regular clientele and developing their health network are therefore the veritable keys to a successful start-up.

In order to achieve these aims, it is therefore necessary to:

- strengthen the veterinary health mandate, which is still under-used;
- extend the use of the sanitary mandate to activities other than vaccination campaigns (sanitary inspection, epidemiological surveillance) while ensuring cost recovery in these fields;
- avoid limiting the activity of veterinarians to the sale of drugs, which may lead to their legitimacy being called into question;
- diversify the activities of veterinarians, initially with the help of public contracts (epidemiological surveillance, training and awareness campaigns, monitoring of animal husbandry practices) or by making available additional training (reproduction, artificial insemination);
- develop contractual relations between veterinarians and auxiliaries or other paraveterinary workers in order to strengthen communication and cohesion within the health network.

A necessary process in strengthening the private sector is the continued revision of the legal framework. Despite the outline of a more appropriate system in many countries, a recent study by the French Ministry of Foreign Affairs (Cooperation) in French-speaking Sub-saharan Africa concluded that no framework truly adapted to the privatisation of animal health existed in any of the countries studied (13). The need for a better definition of the role of the various players and the relations between them (private veterinarians, paraveterinary workers, wholesalers and public services) remains a priority.

**Paraveterinary workers/ancillary veterinarians: a key element in animal health systems in Africa**
Animal production auxiliaries represent the first link in the private sector system of delivery of veterinary services. Rarely mentioned in the questionnaire returns, and then only in critical terms, they are nevertheless necessary intermediaries, especially in the extensive animal farming systems commonly found in Africa, and could be the solution to the problem of providing nation-wide coverage. A considerable training effort has already been made in most of the countries. For example, over 5 000 'village operators' have been trained in Burkina Faso, Guinea, Niger, and the Central African Republic (15).

However, the lack of follow-up leads to the emergence of a certain degree of anarchy, as reported by the public services. These auxiliaries, trained by the public services or non-governmental organisations, have virtually no contact with private veterinarians, leading to mutual mistrust rather than collaboration.

So as to avoid the erosion of this network, which is indispensable in certain production systems, there is an urgent need to standardise their training, strengthen the follow-up and regular retraining of auxiliaries and to work towards a greater integration of these players in the animal health system: contracts with private veterinarians, training courses and follow-up for auxiliaries carried out by private veterinarians, and integration into epidemiological surveillance networks. The OIE, in collaboration with private and public veterinarians, could play a role in the evaluation and coordination of paraveterinary activities. It should nevertheless be borne in mind that, even if the lack of information on the role and impact of paraveterinary programmes is often mentioned (11), these players are above all private players. Care should be taken not to set up assessment groups that would eventually become additional control systems capable of hindering the development of a private sector activity.

5. THE ROLE OF THE OFFICE INTERNATIONAL DES EPIZOOTIES IN THIS PROCESS

The OIE has a definite role to play in the future development of the process currently under way. Several possibilities have already been mentioned. Furthermore, the subject of the OIE's missions was specifically raised at the end of the questionnaire, enabling an assessment to be made of the expectations of the public Veterinary Services.

The dissemination of information is always seen as the primary function by the majority of countries who took part in the survey (Algeria, Burkina Faso, Chad, Côte d'Ivoire, Ghana, Guinea, Morocco, Senegal, Swaziland, Tunisia, Zambia and Zimbabwe).

The organisation of training sessions and the development of appropriate tools for the new challenges facing the Veterinary Services are also a part of what these countries expect from the OIE. The main topics mentioned in the replies to the questionnaire, in order of importance, are as follows:

- epidemiological surveillance, with a demand for suitable computer software and inexpensive methods adapted to local conditions;
- development of specific control plans for given diseases (the economic analysis of such plans should be a basic rule disseminated by the OIE);
- development of standards for trade and training in the use of appropriate tools: quality assurance, hazard analysis and critical control points (this request is, however, only justified in the event of large-scale exports);
- veterinary public health; and
- registration and control of veterinary drugs.

Lastly, the OIE is seen as occupying a privileged position in the necessary dialogue with international organisations and policy decision-makers in the field of animal health (Burkina Faso, Chad, Côte d’Ivoire, Ghana, Guinea, Morocco, Senegal, Swaziland, Tunisia, Zambia and Zimbabwe). Its position should also allow it to work towards a harmonisation of the approaches adopted in the different countries.

6. CONCLUSION

After the mixed results recorded by the public services, the private sector is developing and good results have already been recorded. The positive result reflected in the questionnaire replies is strengthened by the absence, among the negative effects identified, of major constraints to the continued development of the process under way.
The African continent does, however, present specific constraints, in particular a low volume of trade and difficulty of access to producers. The main challenge in the years ahead will therefore be to adapt a privatised animal health system to these various constraints. To meet this challenge, the two main strategies are:

- to diversify the activities of private veterinarians, which will facilitate their setting up in practice, and then the development and growth of their clientele, and
- to strengthen the paraveterinary sector, integrating it into the animal health network constituted by private veterinarians.

The role of the public services will then be to facilitate this integration through activities, which could be determined in liaison with the OIE, over which they will retain control without actually being involved in their implementation.

REFERENCES


