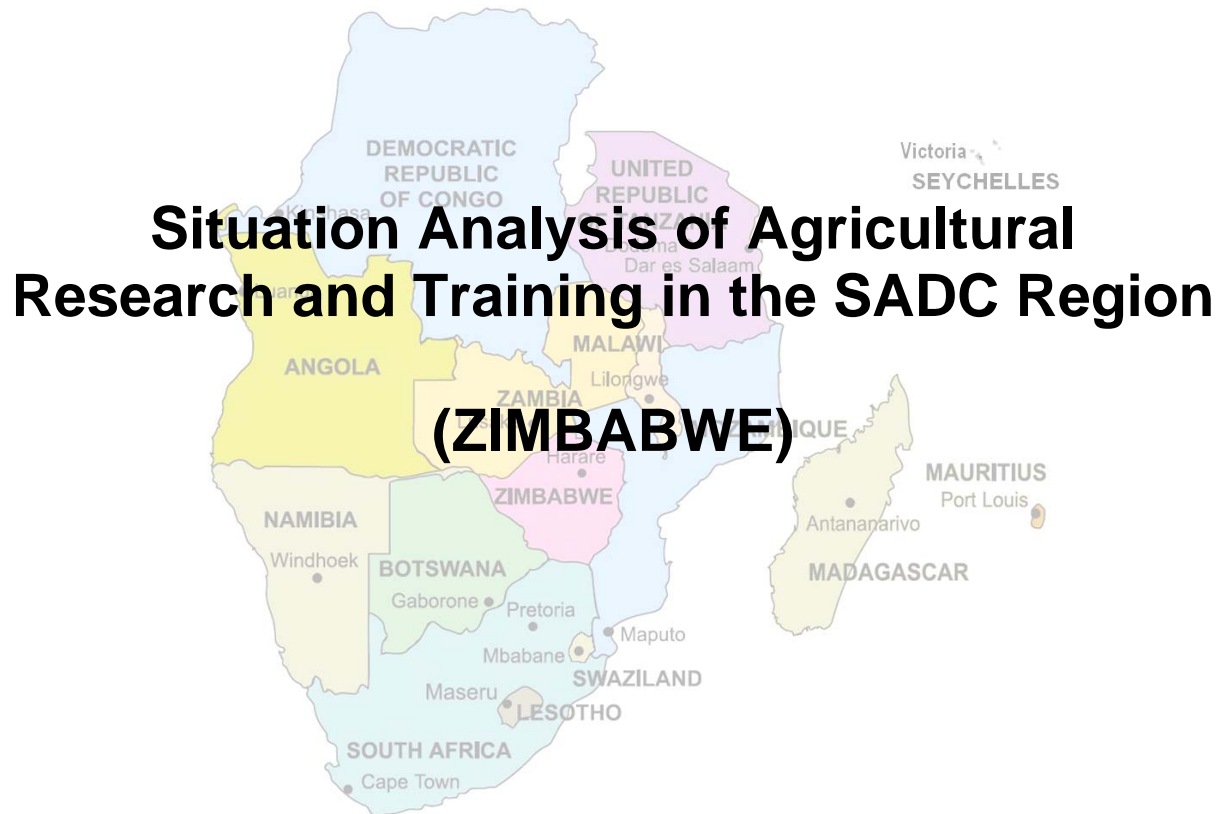




# IMPLEMENTATION AND COORDINATION OF AGRICULTURAL RESEARCH AND TRAINING (ICART) IN THE SADC REGION



***FANR Directorate  
SADC Secretariat  
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*“The authors accept sole responsibility for this report drawn up on behalf of the Regional Authorising Officer of SADC Secretariat. The report does not necessarily reflect the views of the SADC Secretariat, nor of the European Commission”*

**SITUATION ANALYSIS OF AGRICULTURAL RESEARCH AND  
TRAINING AND SUPPORT STRATEGIES FOR THE NATIONAL  
AGRICULTURAL RESEARCH SYSTEM IN ZIMBABWE**



**PHASE 3 REPORT**

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## ABBREVIATIONS

AGRITEX	Department of Agricultural, Technical and Extension Services
ANAFE	African Network for Agriculture and Natural Resources Education
ARC	Agricultural Research Council of Zimbabwe
ARDA	Agricultural Rural Development Authority
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
BRI	Biotechnology Research Institute
CASS	Centre of Applied Social Studies
CGIAR	Consultative Group on International Agricultural Research
CRF	Catholic Relief Services
CSC	Cold Storage Commission
DMS	Department of Meteorological Services
DNPW	Department of National Parks and Wildlife
DNR	Department of Natural Resources
DRSS	Department of Research and Specialist Services
DTC	Development Technology Centre
FOF-Z	Farmers of the Future-Zimbabwe
FTLRP	Fast Track Land Resettlement Programme
GDP	Gross Domestic Product
GMB	Grain Marketing Board
GMO	Genetic Modified Organism
ICART	Implementation and Coordination of Agricultural Research and Training
ICRAF	International Centre for Research in Agroforestry
IDS	Institute of Development Studies
IES	Institute of Environmental Studies
LSCF	Large Scale Commercial Farmers
NAFT	National Agroforestry Training and Education
NARI	National Agricultural Research Institutes
NARO	National Agricultural Research Organisations
NARS	National Agricultural Research System
NASCO	National Agroforestry Steering Committee
NGO	Non Governmental Organization
NR	Natural Region
NSIMA	New Seed Initiative for Maize in Southern Africa
PIB	Pig Industry Board
RCZ	Research Council of Zimbabwe
SADC	Southern African Development Community
SADC-FANR	Southern African Development Community's Directorate for Food, Agriculture and Natural Resources
SIRDC	Scientific and Industrial Research and Development Centre
SOFESCA	The Soil Fertility Consortium for Southern Africa
SRO	Sub-Regional Organization
TIMB	Tobacco Industry and Marketing Board
TRB	Tobacco Research Board
UZ	University of Zimbabwe
WECARD	West African Council for Research Development

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## EXECUTIVE SUMMARY

### ***Background***

The Southern African Development Community's Directory for Food, Agriculture and Natural Resources (SADC-FANR) launched a project called *Implementation and Coordination of Agricultural Research and Training* (ICART) in 2006. The main objective of the project was to strengthen the National Agricultural Research Institutes in the SADC region in order to promote increased agricultural production and thus contribute towards regional economic growth and poverty alleviation.

The ICART project activities were divided into four phases. The first phase was a desk study to gather information on existing agricultural institutes in the SADC region. The information sought included contact persons at the institutions, research publications and the existing agricultural networks. This was immediately followed by the second phase of the study. This phase involved sensitising the stakeholders in the region about the intentions and objectives of the ICART project and it also intended to gather further information in detail, on the aspects initiated in the first phase. However, due to limited time that was allocated to the second phase to complete the exercise, the objectives of this phase were not fully accomplished. This led into the third phase, which involved the engagement of local consultants in each of the SADC countries to carry out a detailed situation analysis of agricultural research and training plus the support strategies in place for the national agricultural research systems in each of the 14 SADC countries. This report therefore presents the results obtained in Zimbabwe during the third phase

### ***Methodology***

Seven kinds of questionnaires were designed and distributed electronically to 7 groups of stakeholders who were as follows:

- Registered agricultural research and training institutes
- Farmers unions
- NGOs
- Established research and/or training networks
- Extension services
- Private companies involved in agricultural business
- Agricultural Research Council of Zimbabwe

Each of the 7 questionnaires was specifically designed for each of the seven stakeholders. In total, 94 questionnaires were distributed among the stakeholders.

### ***Results and Discussions***

#### ***General Agricultural Policy Framework***

The 1995-2020 Zimbabwean Agricultural Policy Framework's objectives were to:

- Increase agricultural production at a faster rate than previously experienced
- Improve earnings of the farming population in real terms
- Increase foreign currency earnings from agricultural earnings
- Produce additional supplies of raw materials for the manufacturing industry
- Contribute to regional food supplies
- Improve distribution of incomes for smallholders and farm workers
- Ensure much greater food security at household level

Half the way through the lifespan of the 1995-2020 agricultural policy framework, almost all of the original objectives were not met because of:

- Little coordination among various institutions such as the research, training, extension and other stakeholders institutions
- Unsustainable use and poor management of natural resources
- Limited use of proven technologies to increase agricultural production
- Unfavourable marketing and pricing policies that discourage private sector investment in agriculture
- Hype-inflation of above 230 million percent
- The current land redistribution that has created insecurity of land tenure, discouraged long-term investments and promoted unsustainable management of common resources
- Poor agricultural inputs and outputs markets
- Poor access to markets by smallholder farmers
- Climate change
- High HIV and AIDS infection rate

There is therefore an urgent need for the government and stakeholders to work together and produce a policy framework that tackles the constraints listed above.

#### *Agricultural Research and Development Policy*

The overall objective of the Agricultural Research and Development Policy was to provide smallholder farmers with appropriate technologies and services in order to enhance agriculture production in a sustainable manner. However, there were a lot of challenges that were encountered which made it impossible to achieve the objective of the policy. The major constraints were:

- Poor articulation of Agricultural Research and Development Policy
- The agrarian land redistribution programme that altered the structure of the farming systems in the country.
- Limited government funding for agricultural research
- High research staff turnover as a result of the unfavourable economic environment prevailing in the country
- Poor participation by the private sector in the planning, financing, execution and evaluation of research and development programmes
- Lack of strategic plans that allow for the setting of priorities and linkages between various stakeholders involved in agriculture

These constraints could be overcome by:

- Making policy makers understand and appreciate the role of research and development so that they could allocate adequate resources to support research and development
- Convincing the government to commit at least 5% of the GDP towards research and development The contribution from government should be complimented by funds generated through other alternative and innovative funding mechanisms such as levies, taxes and private sector contributions

- Improving conditions of service for the experienced staff to reduce and reverse the staff losses
- Interfacing and facilitating collaborative linkages especially between research, extension and other relevant stakeholders

#### *Agricultural Education and Training Policy*

The Education and Training Policy was formulated to create an agricultural education system that meets the diverse needs of all the actors in the agricultural production to consumption value chain. The main specific objectives of the policy were to:

- Produce graduates who would meet the needs of the agricultural market
- Produce graduates with both theoretical and practical knowledge who were capable of generating employment opportunities in the agricultural sector
- Produce graduates who were capable of administering agricultural programmes
- Provide practical training for smallholder farmers
- Provide both formal and informal training programmes

There were several challenges to this policy that included:

- Poor coordination of agricultural human resource development plans among the Ministry of Higher and Tertiary Education, private sector, NGOs and other key players
- Lack of structures to provide guidance and systems for monitoring institutions responsible for implementation of human resources development plans
- Weak client focused agricultural human resources development planning system that did not carry out research to capture the skills requirements of the private sector, public sector and NGOs
- Weak induction, orientation and in-service training of all personnel joining the agricultural sector
- Static curricula and syllabi for training institutions
- Deteriorating financing of agricultural education and training

It was clear that the Agricultural Education and Training Policy needed to be revamped. Doing the following could do improve the policy:

- Carry out human resources requirements
- Advise government on strategies to reverse high staff turnover
- Establish a strong client-focused agricultural human resources development planning systems
- Create a directory of experts and a system that facilitates the participation of experienced agriculturalists in in-service training
- Create systems for regular review of curricula and syllabi in order to meet the skills requirements of the agricultural sector
- Mobilize key stakeholders to contribute towards the financing of agricultural education and training

- Establish systems of forecasting and matching the future demands of agriculturalists taking into account existing capacities and infrastructure for education and training.

#### *Research Needs for Private Sector Organizations*

Questionnaires were sent to 11 private sector companies and organizations seeking information on their research needs and the presence of in-service training. Over 50% of the companies interviewed were involved in research work. The focus of the research activities was determined by information coming from the companies' field assistants who were in regular contact with the clients and therefore understood their problems well. Only those problems that were considered by management to bring benefits to the companies in terms of profit received research attention. Half of the companies studied collaborated with other organizations in carrying out the research and the most common partners in research were local commodity boards and research institutions.

All the investigated companies had in-service training programmes. In-house topic specialists mostly did training but occasionally trainers were invited from the local universities.

#### *Registered Institutions Delivering Agricultural Research*

National Agricultural Research Organizations (NAROs) were under three ministries that were:

- The Ministry of Agriculture
- The Ministry of Environment and Tourism
- The Ministry of Transport and Energy

In addition to the NAROs under these ministries, other registered institutions delivering agricultural research were:

- The Universities
- A few private organizations
- Parastatals

Under the Ministry of Agriculture, there were four departments involved in research activities and these are:

- Department of Livestock and Veterinary Services
- Department of Research and Specialist Services
- Department of Agricultural, Technical and Extension Services

The Department of Livestock and Veterinary Services carried out a limited amount of research. Most of its functions were of extension and advisory nature. The Department of Research and Specialist Services had a full mandate to carry out research in all agricultural fields except in the areas of pigs, sugar and tobacco which were done by government parastatals. The department hosted 12 research stations which were scattered around the country. However, the research activities on these stations was on the decline due to limited and shrinking government funding and high staff turnover. The Department of Agricultural, Technical and Extension Services had two divisions namely the Department of Training and Extension and the Department of Research, Testing and Development. The latter department focused mainly on research in agricultural engineering involving soil and water, irrigation, crops and farm machinery.

Under the Ministry of Environment and Tourism, there were two departments that were involved in research namely the Department of National Parks and Wildlife (DNPW) and the Department of Natural Resources (DNR).

Under the Ministry of Transport and Energy, the Department of Meteorological Services had a research mandate focusing on drought monitoring, agro-meteorology, hydrometeorology and seismology issues.

There were several government parastatal organizations engaged in research activities that were interviewed in this study. These were:

- Tobacco Research Board (TRB)
- Scientific and Industrial Research and Development Centre (SIRDC)
- Forestry Commission
- Pig Industry Board (PIB)

TRB was a well-established research organization that was recognised internationally. Its research work was in:

- The development of new cultivars of tobacco
- Efficient production methods and tobacco plant nutrition
- Integrated tobacco disease and pest management
- The development of appropriate technologies for small scale tobacco producers.

SIRDC research agenda was market driven and thus its research mandates were continuously being modified to suit public demands. However, in general, SIRDC research thrust was to promote industrialization in all sectors of the economy by developing technologies for the industry and creating employment.

PIB was under the Ministry of Agriculture and its mandate was to research on the production and management problems faced by pig producers.

The Forest Commission was a parastatal under the Ministry of Environment and Tourism. It dealt with research issues in biodiversity and conservation.

#### *Non Governmental Organizations*

A specifically designed questionnaire was sent to 12 NGOs that were identified to be involved in agricultural issues. Only 4 of the NGOs responded and these were:

- Catholic Relief Services
- Safire
- Action Aid International
- Christian Care.

All the NGOs were involved in research, development, extension and relief activities. The research activities were similar to a large extent and the NGOs collaborated with each other and with other agricultural organizations. Unlike other research organizations that suffered from high staff turnover and limited funding, the NGOs had relatively easy access to research and development funds and their staffing situation was stable. The research work mostly involved conservation agriculture, production and processing of foods, herbal plants and use of micro-irrigation technologies.

#### *Universities*

There are 9 government and 3 private universities in Zimbabwe. Out of the 9 public universities, 6 had either agricultural faculties or departments which were engaged in research work. The 6 were:

- The University of Zimbabwe
- National University of Science and Technology

- Midlands University
- Bindura University
- University of Chinhoyi
- Lupane University
- Africa Women's University

Due to the hyper inflationary environment in the country and unprecedented high staff turnover, there has been hardly any research work carried out at the universities. In addition most of the traditional international donors who use to fund research and training had stopped funding research and training activities. The continuous high level of staff turnover made it difficult to compile names of research scientists in the country.

#### *Research and Training Networks*

The only Research and Training Networks identified in the country were:

- The Soil Fertility Consortium for Southern Africa
- New Seed Initiative for Maize in Southern Africa
- International Centre for Research in Agroforestry
- National Agroforestry Steering Committee
- African Network for Agriculture and Natural Resources Education
- Farmers of the Future in Zimbabwe
- National Agroforestry Training and Education

They were all funded by international donor agencies. They were linked to other networks and partners within and outside Zimbabwe. The networks were very active and also appeared to be managed well. The existence of the functional and active networks in Zimbabwe was an indication that the creation of a National Agricultural Research System (NARS) was possible. Currently, the country does not have a NARS.

#### *Creation of a National Agricultural Research System in Zimbabwe*

A workshop to which various stakeholders were invited was carried in Harare Zimbabwe to deliberate on the creation of a NARS. The workshop participants were unanimous about the idea of setting up a NARS in Zimbabwe. The participants recommended that the structure of an ideal Zimbabwean NARS should consist of the following:

- A Board of Directors representing all the stakeholders forming the NARS
- Board members should be individuals who are renowned in their fields of expertise and should be apolitical
- Below the Board was a Secretariat which should have a Chief Executive Officer who has an agricultural and management background
- The Secretariat should in turn be supported by an accountant, a finance officer, an administrator, a marketing manager and a human resources manager.
- The Secretariat should also have a Publications Committee to promote research publications in the country.

The workshop went further to propose a new organizational structure at the SADC-FANR offices in Gaborone to coordinate the regional NARSs so that it could coordinate the regional NARSs efficiently and effectively.

# 1 INTRODUCTION AND BACKGROUND

## 1.1 Introduction to the Study

Sub-Saharan Africa is divided into three Sub-Regional Organizations (SROs), namely the West African Council for Research and Development (WECARD/CORAF), the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the Southern African Development Community's Directorate for Food, Agriculture and Natural Resources (SADC-FANR). The mandate of the three SROs is to strengthen the National Agricultural Research Institutes and hence, facilitate the growth of the economies of the member states in their sub-regions through increased and efficient agricultural production - in line with the objectives of the Millennium Development Goals in Sub-Saharan Africa.

In 2006, the SADC-FANR Directorate launched the *Implementation and Coordination of Agricultural Research and Training (ICART)* project. The objective of the ICART project is to strengthen the capacity of the Directorate to coordinate agricultural research and training activities within the sub-region. The overall objective of the project is to contribute to regional economic growth and poverty alleviation through innovative research and training activities, and devising improved technologies and policies that will enable resource-poor smallholder farmers to increase agricultural production and their incomes and thus improve their livelihoods.

In order to efficiently and effectively coordinate the research and training activities within and among the member states, ICART intends to promote the setting up of National Agricultural Research (and Training and Development) Systems (NARS) and the accompanying networks (or alliances) in those member states where they do not exist, and strengthen the NARSs and the networks where they are already in existence.

As part of the activities of the ICART project, a four phase Situation Analysis of Agricultural Research and Training in the SADC sub-region was implemented to identify, appraise and assess the weaknesses, strengths and opportunities existing in the national and regional research, training and development activities. Phase 1 of the Situation Analysis exercise consisted of a desk study of the information catalogued at the SADC Secretariat and that available through the internet. Students who were hired from the University of Botswana carried out this initial phase. The students were expected to generate the following results:

1. A list of agricultural institutions, their location and websites
2. A provisional list of contact persons and focal points in the member states who should be involved in the situation analysis
3. A list of agricultural research publications available at the SADC Secretariat and from the SADC library
4. A detailed list of existing agricultural networks/alliances, from information existing at the SADC Secretariat.

The results obtained from Phase 1 were not complete and this initiated the formulation and implementation of Phase 2, which focused on a detailed appraisal of

the status of agricultural research and training in the SADC Member States in order to fill the gaps earthed in Phase 1.

Phase 2 of the study was conducted by four hired consultants who visited all the 14 SADC member states over a period of 20 days at the beginning of 2007 in order to create awareness about the ICART programme and the rationale behind it and to collect more detailed information. The information collected in this Phase was used to compliment the results of Phase 1. The detailed information sought was on the following:

1. On-going research and in-service training activities
2. List of institutions and their departments that are conducting research and in-service training activities
3. List and contact details of research managers and their scientists
4. List of research activities in terms of projects and programmes
5. List of in-service training activities
6. List of alliances that individual researchers are linked to and the usefulness of the alliances to the work of the research scientists
7. Coordination mechanisms in place to share the research activities among the research stakeholders
8. Mechanisms for planning and managing research agendas.

The Phase 2 study was unable to provide a complete picture of the agricultural research and training programmes and activities in the SADC region. This was probably because of the limited period of time the consultants had in each country and the unpreparedness for the information wanted by some of institutes and individuals visited. This struggle to obtain a crystal clear picture of the research and training situation has lead to the implementation of Phase 3 of the study. This Phase involves the engaging of national consultants to fill in the missing detailed information as revealed in phases 1 and 2. This report therefore focuses on Zimbabwe, one of the 15 member states in the SADC region.

## **1.2 Background Information on Agriculture in Zimbabwe**

Zimbabwe is a landlocked country located in southern Africa. It has a total land area of 39.6 million hectares of which 33.3 million hectares (85%) is agricultural land and the remaining area consists of national parks, state forests and urban land. The agricultural sector is a well-diversified entity that grows 23 types of food and cash crops and has a vibrant livestock industry.

The agricultural land is divided into five agro-ecological zones known as Natural Regions (NRs) which relate to climatic conditions, soils and to the appropriate farming systems adopted (see Figure 1). The quality of the land in terms of agricultural productivity declines from NR I through to NR V. Natural Region I lies in the east of the country and is characterized by an average annual precipitation of more than 900mm, low temperatures, high altitude and steep slopes. The region is suitable for intensive livestock and crop production and occupies only 2% of the total agricultural land. Natural Region II is found in the middle north of the country and is characterized by a fairly reliable rainfall ranging from 750 to 900 mm per annum and

generally good soils. This region comprises 15% of total land designated for agriculture and, intensive grain production and livestock production are the main agricultural activities. NR III is found mostly in the mid-altitude areas of the country and is characterized by annual rainfall ranging from 650 to 800 mm, mid-season dry spells and high temperatures. It occupies about 18% of the total agricultural land. Agricultural activities in this region include semi-extensive livestock production, small scale ranching and the growing of drought resistant crops. NR IV is the largest region occupying 38% of the agricultural land area. It is located in the low-lying areas in the north and south of the country and has an annual rainfall ranging from 450 to 650 mm. It suffers from severe dry spells and frequent seasonal droughts. The characteristic farming systems in the area comprise semi-extensive livestock production and the growing of some drought resistant crops. NR V is the agro-ecologically poorest region in Zimbabwe. It is located in the low-lying areas in both the north and south of the country, occupying 27% of the agricultural land. It experiences a highly erratic rainfall pattern with an average precipitation of less than 450 mm per year. The commercial farmers of this region practise extensive beef production and ranching while the smallholder farmers are mostly into livestock and crop production with maize and small grains as the dominant crops.

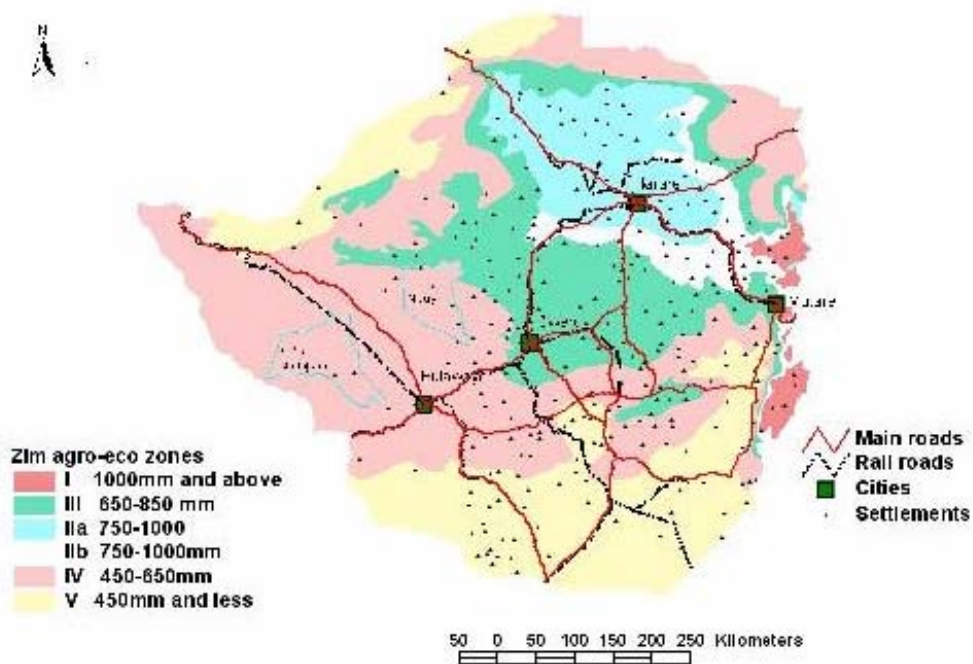


Figure 1 Agroecological Zones of Zimbabwe

### **1.3 Importance of Agriculture in Zimbabwe**

Agriculture is the mainstay of the Zimbabwean economy and the country traditionally relies on the agricultural sector for food security. The agricultural sector boasts of a well-diversified entity with 23 types of food and cash crops grown in addition to a livestock industry that includes cattle, goats, sheep, poultry, fresh water fish as well as wildlife. The sector contributes about 18% of the GDP and accounts for 60% the raw materials that are required by the manufacturing and processing sectors. It is also a source of livelihoods for 70% of the population, which is currently estimated to be 12 million and employs about one-third of the formal labour force.

The key agricultural exports include tobacco, sugar, horticultural produce, coffee, tea, cotton lint, maize and beef. The sector is the largest source of export earnings contributing between 40-45% of total exports. However, since the year 2000, the performance of the agricultural sector has been unsatisfactory due to a number of challenges such as unfavourable domestic policy environment and shortages of critical agricultural inputs such as fertilizers and fuel. These shortages have emanated from the generally unfavourable macro-economic environment that is characterised by high inflation rates, shortages of foreign currency and the recurrence of droughts.

Zimbabwe has now resorted to importing agricultural inputs as well as primary food. The result of this negative trend is a negative agricultural trade balance. Since agriculture has been playing a major role as a source of foreign exchange, the implication of a depressed performance of agricultural production vis-à-vis the increasing volume and value of agricultural imports is a weakened ability to earn adequate foreign exchange.

### **1.4 Farming Systems, Agricultural Activities and Livelihoods Systems**

Just after Zimbabwe gained independence in 1980, there were two dominant farming sub-sectors (systems) in the country. These were the large-scale commercial farm sub-sector (LSCF) consisting of 4,000 families and about 20 large agro-industrial estates occupying 16.9 million hectares of the total land put aside for agriculture, and the communal farming sub-sector which occupied 16.4 million hectares with a population of 8.4 million people (or 1.2 million smallholder families). The smallholder farming community occupied 70% of the total population in the country. These two farming systems were determined by:

- Agro-ecological conditions
- Tenure systems
- Holding size
- Production systems
- Levels of technology and management.

The communal sub-sector is mostly situated in the marginal agro-ecological zones of NRs IV and V and is characterized by customary land tenure, small farm sizes, low use of agricultural inputs and low productivity. It is almost totally depended on rain-fed agriculture and between 1983 and 2003, the communal sub-sector produced over

50% of the total maize production and about 70% of the other staple foods. The apparently large production levels were due to a large percentage of the area under this sub-sector that was put under maize and other staple foods production.

The commercial sub-sector, unlike its communal system counterpart, is primarily located on land of high agricultural potential. It is characterized by large landholdings mostly held under freehold title or lease tenure. Its major and distinguishing feature is the high use of agricultural inputs and high productivity. It consists mainly of farmers who are self-financing and engage in credit markets. Their agricultural outputs are mainly for the market unlike in the communal sub-sector where farm produce tends to be mostly for household consumption.

In 1997, the Government of Zimbabwe initiated a process of radical land reform based on an extensive compulsory land acquisition and redistribution exercise. The government targeted 5 million hectares of the commercial sub-sector land in order to settle 150 000 peasant families by the year 2000. The funding for acquiring the land could not be raised and in the year 2000, the government decided on the Fast Track Land Resettlement Program (FTLRP). The target for land to be acquired then shifted from 5 million to 12 million hectares. By 2001, two new categories of land use types emerged. The government created the A1 and A2 models, in addition to the old commercial and communal sub-sectors. In the A1 model, households were resettled in demarcated villages with each family allocated five arable hectares of land. In addition, there was a communal grazing area for each of the demarcated village. The A2 model consisted of self-contained farming units of variable sizes and more than 15 000 individuals were allocated farms under this model.

Hence the new agrarian structure that emerged after FTLRP consists of two farming sub-sectors, A1 and A2. The A1 farmers are essentially smallholder farmers with small individual arable fields and communal grazing areas, held under permit and customary tenure. This sub-sector includes the old communal land and resettlement farms, and the new A1 resettled farmers. On the other hand, the A2 sub-sector is made up of the old large-scale farms, former small-scale commercial farms, large estates and the new A2 self-contained farming units.

## **2 THE ASSIGNMENT**

Phase 3 of the consultancy, a detailed analysis of agricultural research and training and support strategies for the NARS in Zimbabwe, was a follow up of Phase 2, which involved a situation analysis of agricultural research and in-service training in 14 member states of SADC. Phase 3 is specifically focusing on strengthening the following:

- Status and institutional framework of the NARS
- Coordination of the NARS
- Management of research programmes
- Management of training programmes
- Networking for agricultural research, training and development

## 2.1 Expected Outputs

In general, the expected outputs of this assignment are the identification and understanding of the strengths and weaknesses of the NARS and the opportunities that exist for the strengthening of the NARS. This information will be used to make recommendations on how the SADC-FANR Directorate could support the NARS in Zimbabwe and other NARS in the region in order to make a significant improvement in agricultural research, training and development performance and delivery.

The work reported in this document presents the findings from the assignment and makes recommendations on how a NARS should be build up and strengthened in order to efficiently and effectively coordinate research, teaching and development activities in Zimbabwe. The report also describes the current situation in the management of research and training programmes, and networking for agricultural training, research and development and makes proposals on how these could be improved.

## 2.2 Terms of Reference

The terms of reference for this assignment were grouped into two themes and these themes were:

- Framework and Coordination of the NARS
- Networking for Agricultural Training, Research and Development

The terms of reference for each theme are therefore as follows: \*

### *Theme 1: Framework and Coordination of the NARS*

1. Assess with the relevant ministries the policies for research and training in agriculture
2. Identify relevant private sector organizations and their research needs
3. Establish the list of registered institutions/organizations delivering agricultural research
4. Establish the list of registered institutions/organizations delivering high level training and in-service professional training in agriculture
5. Assess with ministries the formal existence of NARS and the monitoring mechanisms, the contribution of research stakeholders
6. Provide charts indicating institutional structures
7. Document the working methodologies
8. Identify actual and potential demand for cooperative relationships between research and training institutions and the farmers' organizations and private sector
9. Appraise in-country research alliances.

### *Theme 3: Networking for Agricultural Training, Research and Development*

1. Appraise across the SADC region research alliances
2. Appraise cooperation with foreign/international research institutions

3. Identify the needs for research networks servicing SADC priorities.

### **3 METHODOLOGY**

This study was carried out between November 2007 and February 2008. Seven kinds of questionnaires were designed, each type of questionnaire being specific for a particular group of stakeholders. The stakeholders were grouped as follows:

- Registered agricultural research and training institutes. These included universities, agricultural colleges, government research stations and private research stations.
- Farmer unions
- Non-governmental organizations (NGOs)
- Established research and/or training networks
- Extension services
- Agricultural private companies
- Agricultural Research Council of Zimbabwe (ARC).

The questionnaires were distributed electronically and were supplemented by follow up visits to assist the recipients in completing the questionnaires. A total of 94 questionnaires were distributed. Ministry of Agriculture officials were also visited to gather specific information on policy issues. During the analysis of the completed questionnaires, some of the respondents had to be re-visited in order to clarify certain issues or generate more information.

### **4 POLICIES FOR RESEARCH AND TRAINING IN AGRICULTURE**

#### **4.1 Agricultural Policy Making Process: 1890-1980**

The history of agriculture and the farming systems that existed in Zimbabwe has had a significant influence on the direction of the Zimbabwe agricultural policy. Europeans colonized the country during the later part of the 19<sup>th</sup> century and during this period (1890-1980), agricultural policy was biased towards giving large tracts of prime land to the settler white community in order to promote large-scale agriculture. Consequently, public sector investment into physical infrastructure, roads, water conservation, electricity, grain storage facilities, *etc*, was concentrated into the settler community. In addition to the physical infrastructure, supporting institutions such as parastatals and other government organizations were created between the 1930's and 1950,s to support research, extension, marketing and financing for the settler farmers. The policy making process involved a selective consultative process that was dominated by organized agribusiness interests and the settler farmers' organization. The black community was barred from engaging in large-scale farming and therefore did not directly enjoy or benefit from the infrastructure developments. However, for the white large-scale farmers, this long-term policy significantly increased agricultural production, improved marketing and raised incomes.

## 4.2 Post Independence Agricultural Policies

In 1980, Zimbabwe became an independent state. The cabinet in the new government and the ruling party secretariat had the authority of formulating the new direction for the agricultural sector. The role of the Ministry of Agriculture was to implement the policies coming from the cabinet and party secretariat rather than it being the think-tank of policy formulation. Thus the new government employed the top-down policy formulation technique, with the government secretariat assuming the custodial role especially regarding the resource-poor farmers. From this institutional arrangement, the influence of government in policy outcomes was basically a perpetuation of services that benefited the large-scale farmers. The pre-independence policy of price controls and cost-plus producer price formulation in controlled agricultural markets, continued with government assuming a custodial role for urban consumers and smallholder farmers.

Towards the mid-1980's, the government initiated the formation of unions to represent small-scale commercial farmers and communal farmers. This move was triggered by the need by government to arbitrage consumer interest and smallholder farmer interest. The resultant outcome of this was the establishment of consumer prices for a whole range of commodities with a price margin met by government through subsidies to marketing boards. The farmer unions had full support of the government and were also getting funding from donors and this significantly empowered them to an extent that they became confident in taking part in policy lobbying. The policy-making processes then took a participatory path that brought on board consultative stakeholders' workshops. Thus the conventional top-down process was replaced by participatory policy formulation. The emergence of this new policy formulation process was spearheaded by the World Bank and saw the Zimbabwe Ministry of Agriculture become the most progressive and democratic policy formulation process in Africa. This participatory approach is still on going up to the present date. On the 18<sup>th</sup> of February 2008, the Ministry of Agriculture held a workshop on the latest Zimbabwe Agricultural Policy Framework and representatives from all the key stakeholders participated in the consultative process (see Annex 1).

However besides this participatory nature in policy formulation, during the last two decades after independence, the success of the participatory policy formulation process has not been visible in terms of increased agricultural production and enhanced livelihoods of the smallholder farmers. The growth in the agricultural sector has been far below the government's expectations. Food production has not been meeting the needs of the growing population. The annual growth in the gross agricultural product has been hovering around an average figure of 2.5%, which is far below a figure of 3.2% the government had forecasted during the early years of independence. The level of government support to agriculture has been limited and it actually declined especially during the last decade (FAO, Fact Sheet on Zimbabwe Agriculture Sector). Statistics on National Accounts of Zimbabwe showed that the budgetary allocation percentage to agriculture declined from 10.7% in 1985 to 4.2% in 1995 and to 2.75% in 2000 illustrating that the government's expenditure on agriculture was not commensurate with its contribution to the economy.

Since 1995, there has been a steady but steep decline in the value of agricultural exports and agricultural imports have been growing rapidly. The country has now

resorted to food imports, including food aid, in order to meet domestic requirements of primary food. For example, since September 2007 up to the time this report was written (January 2009), the government had already spent US\$43 million (€28 million) on primary food imports. This trend has resulted in negative agricultural trade balance and agriculture's role as a source of foreign exchange has significantly weakened.

The latest Poverty Assessment Study revealed that the percentage of the population below the Poverty Datum Line has increased from 55% in 1995 to over 80% in 2008. During the same period, the percentage of the population below the food poverty line is estimated to have increased from 29% to above 80%. The National Vulnerability Assessment of 2008 estimated that up to 5 million people required food aid in the rural and urban areas and malnutrition among children of 5 years and below had increased from 13% in 1999 to 29.4% in 2008.

The depressing events in the agricultural sector mentioned above and the general decline in the economy led the government to produce a new agricultural policy framework in 1995 and numerous policy statements over the last decade have followed this.

### **4.3 Zimbabwe's Agricultural Policy Framework: 1995-2020**

Faced with a potential inability to feed the growing population, the Ministry of Agriculture developed the 1995-2020 agricultural policy framework that mapped the course of agricultural development during the following two decades (see attached Zimbabwe's Agricultural Policy Framework-1995 to 2020). The main objectives of the policy framework were to:

- Increase agricultural production at a substantial faster rate than had prevailed during the first 15 years post-independence.
- Improve earnings of the farming population in real terms.
- Increase foreign currency earnings from agricultural exports.
- Produce additional supplies of raw materials for the manufacturing industry.
- Significantly contribute to the regional food supplies.
- Improve distribution of incomes for smallholders and farm workers and their families.
- Ensure much greater food security at household level.

Half the way through the lifespan of this 1995 to 2020-policy framework, the performance of the Zimbabwe agricultural sector is still unsatisfactory because of several problems some of which are discussed below.

## **4.4 General Problems and Constraints in the Agricultural Sector**

### **4.4.1 *Lack of institutional coordination***

There is very little coordination between institutions. Research, training and extension institutes, in most cases, work independently of each other and there is hardly any collaboration between any given institutes with other relevant stakeholders. In addition, access to formal financial services has been severely constrained.

#### *4.4.2 Unsustainable use and poor management of natural resources*

The current agrarian reform exercise has been distributing acquired large-scale commercial farms to landless peasants and other players. Adequate training of the new owners in proper natural resources management has not followed up the land allocation. As a result, there has been rampant felling down of trees and other agricultural practises that are environmentally unfriendly. In addition to this, increased population pressure has resulted in unsustainable use and management of natural resources leading to increased soil erosion, deforestation, and siltation of water bodies and loss of biodiversity in plant and wildlife species. There has been also overexploitation and poor management of water resources. Zimbabwe has a great potential for water resources but there is limited experience in diverting perennial rivers, and harvesting and storing the water from flash floods.

#### *4.4.3 Technological constraints*

The use of technologies such as improved seeds and methods of cutting down pre and post harvest losses is lower in Zimbabwe when compared to other African countries. The relatively high cost and risks associated in adopting new technologies discourage many smallholder farmers in the country from adopting the technologies. In addition, the non-availability of the technologies on the formal markets in the country does not help the situation. The prevailing logistical conditions and lack of linkages and communication between research and extension is also an issue that has complicated the dissemination of new known technologies widely.

#### *4.4.4 Unsupportive policy environment*

The marketing monopoly and controlled pricing policy have been a de-incentive in the production and marketing of grains since they are a threat to the profitability of the agricultural sector. In addition, the current pricing and marketing policies for agricultural inputs do not provide enough incentives to attract the private sector investment.

#### *4.4.5 Non-conducive macro-economic environment*

Currently Zimbabwe is undergoing severe economic problems with inflation above 230 million %, eighty percent of the employable population out of work and 5 million people requiring food aid. This prevailing macroeconomic instability and political uncertainty are proving to be serious impediments to sustainable agricultural and economic growth in the country. Obviously the current situation has resulted in the poor performance of agriculture and the economy at large.

#### *4.4.6 Inadequate land tenure security and lack of land policy*

The redistribution of land that is currently going on under the agrarian land reform programme does not offer title deeds to the recipients of the farms. This has caused

insecurity of land tenure. The lack of appropriate land policy has discouraged the farm recipients from long-term investments. The new farmers therefore cannot borrow money from the commercial banks in order to purchase inputs and improve the infrastructure on their farms since they are unable to use land as collateral for loans. In addition, the poorly defined land rights have resulted in unsustainable management of common resources and degradation of land and this has led to a decline in land value and productivity.

#### *4.4.7 Poor agricultural input and output markets*

Practically, all smallholder farmers in Zimbabwe have problems in getting their agricultural inputs before the agricultural season commences and this leads to reduce agricultural production. There are a multitude of challenges to inputs availability that include:

- Pricing policy that make input production operations non-viable.
- Foreign currency shortages limit importation of raw materials.
- Old production processes and antiquated machinery that increase fixed production costs.
- Side marketing of subsidised inputs intended for smallholder farmers.
- Black marketing of inputs at unaffordable prices.
- Poor road infrastructure and fuel problems.
- Centralised distribution system in major towns and limited access to agro-dealers closer to smallholder farms.
- Limited diversification into alternative inputs such as organic fertilizers.

Poor access to markets is another problem smallholder farmers have to deal with. The marketing problems diminish agricultural production and lock the rural farmers into an almost inescapable poverty trap. The challenges in marketing include:

- Poor road infrastructure.
- Shortages of fuel for the transporters.
- Poor producer price incentives.
- Lack of markets information.
- Low controlled prices for some agricultural products.

#### *4.4.8 Climate constraints*

The majority of farms in Zimbabwe depend on rainfall as a source of water. Only 7% of the smallholder areas are under irrigation. Thus the smallholder farmers are under the mercy of the climate and due to climate change, agricultural production has been exposed to numerous and periodic droughts. The frequent droughts have significantly contributed to the food insecurity in the country and surprisingly, drought mitigation strategies, appropriate technologies on drought resistant varieties and planting materials, and adequate low-cost and affordable irrigation facilities to mitigate the impacts of recurrent droughts are lacking.

#### *4.4.9 High HIV and AIDS infection*

There is no doubt that the HIV/AIDS pandemic has seriously increased poverty and hunger and reduced the capacity for accelerating economic growth in Zimbabwe and the SADC region. At the macroeconomic level, the disease has significantly reduced the numbers of skilled agricultural professionals and labour through both death and morbidity. At household level, HIV/AIDS has negatively affected agricultural productivity through death; the time spent caring for the afflicted and limited amounts of money and resources diverted to health care and funerals.

## **4.5 Discussion**

### *4.5.1 Strengthening Institutional Coordination*

Just after independence in 1980, there was a quantum leap in the production of maize and other crops by the smallholder farmers before the decline in production started. One of the reasons for this was the presence of well-developed institutions with direct relevance to agriculture. These institutions were well coordinated and also played a significant role in policy lobbying. But since the mid-1990's, the institutions have been weakening due to unfavourable political environment. However, their physical infrastructure has been maintained and is still intact. There is therefore real potential in reviving agricultural production to its former glory, provided the right policy environment is created. There is therefore an urgent need to:

- Formulate appropriate policies to promote enhanced agricultural production
- Revitalize and strengthen the institutions.
- Strengthen the linkages between the various stakeholders.
- Create and support management frameworks for the linkages.
- Involve the private sector and donor agencies in supporting institutional coordination.

### *4.5.2 Sustainable Use and Good Management of Natural Resources*

The recently accomplished agrarian land reform exercise in Zimbabwe distributed commercial farms to landless rural people and other players. The resettled farmers were not given any training and/or information on proper and sustainable management of natural resources. The result of this short-sightedness was a rampant felling down of trees and clearing of natural vegetation, poor agronomy practises, siltation of waterways, overgrazing and soil erosion. There is therefore an urgent need to improve the compatibility of agriculture and the environment through an efficient and sustainable utilization of natural resources. There is also a need to enforce the effective management and conservation of natural resources.

### *4.5.3 Use of Proven Technologies*

The future strategies to enhance the use of technologies by smallholder farmers include:

- In-service training for extension agents on the use of new agricultural technologies and dissemination to farmers.
- Promoting and strengthening researcher-extension-farmer linkages.

- Demand-driven research, linked to the needs of the farmers, extension workers and researchers.
- Linkages with regional and international research institutes and extension organizations to keep abreast with regional and world technology developments.

#### 4.5.4 Land Tenure Security

##### 4.5.4.1 Securing Tenure in Communal Areas

Security of tenure in the communal areas should be improved through the re-establishment of traditional villages consisting of a well-defined group of villages with agreed-upon village boundaries. In each of these villages, land falls into two categories:

- *Traditional Freehold Land:* This is the arable and residential land allocated to each family of the village. The family will have the right to bequeath, subdivide amongst family members and receive compensation for improvements made.
- *Village Communal Land:* This includes grazing land(s), forests and sacred areas. This is administered through the village court system.

The traditional village court system will also administer and settle disputes on any changes on the traditional freehold land. Once the traditional village land administration structures have been put up, the communal and freehold lands ceases to be state land and becomes the property of the village community. However, it will be subject to the state laws of land and physical planning.

##### 4.5.4.2 Securing Tenure in Resettlement Areas and A1 and A2 Farms

Tenure security on land acquired by government for redistribution should be secured by adoption one of the following options:

- Leases with option to purchase
- Long leases of up to 99 years

##### 4.5.4.3 Securing Tenure on Private Land

Land leased with option for a title deed and land held under title deed is currently found in the small-scale and large-scale farming areas. This type of tenure system should remain but measures should be put in place that the land should be utilized fully and efficiently. A land tax based on the potential of the land should be instituted to encourage full utilization of the land.

##### 4.5.4.4 State Land

Land held by the state should continue to exist but there is a need for major reforms that include the administration of state land and transparent leasing out the land to individuals. The reforms should include farmer selection criteria, procedures to follow and local land boards at district and provincial levels to provide advisory services on all land matters.

#### *4.5.5 Poor Agricultural Input and Output Markets*

Most of the inputs for agricultural activities are now being sourced from outside the country. This requires foreign exchange, which the government is struggling to raise. The following strategies should be adopted in the policy formulation to increase the availability of the inputs:

*Make Foreign Currency Available to Input Firms by:*

- Allowing input firms to participate in export crop contracting.
- Setting aside foreign currency for input production support.
- Allowing input firms export quotas to cover import needs.

*Ensure Input Firm Profitability in Order to Encourage Investment by:*

- Agreeing on a pricing formula that ensures allowable margins that at least equals returns from alternative risk-free investment.
- Letting firms adjust prices when needed but informing and providing justification of adjustment to government pricing authorities after implementation.
- Setting a pricing formula for rural input dealers including subsidised fuel allocation to ensure profitable rural trading and affordable inputs.

*Improve Input Accessibility by:*

- Prioritising private input retailers in input supplies.
- Resuscitating cooperative unions that were involved in input distribution.
- Developing agro-dealers in the smallholder farming communities.

Regarding the improvement of marketing of farm produce by smallholder farmers, the agricultural policy should include the following strategies:

- Developing and rehabilitating market infrastructure.
- Establishing products marketing information systems.
- Remove price controls or facilitate the formulation of viable producer prices.
- Facilitate the setting up of strong commodity organizations.
- Draw up strong legislation to counter side marketing.
- Promote value addition at farm level

#### *4.5.6 Agricultural Research and Development Policy*

The primary objective of the agricultural research policy was to provide farmers with the appropriate agricultural technologies and services in order to improve productivity in a sustainable manner. The specific objectives that were spelled out in the policy framework were as follows:

- To develop technologies that will generate sustainable agricultural production systems without harming the environment.
- To increase economic returns from cash crops through, cultivar selection, appropriate soil management and irrigation technologies, suitable crop protection and post harvest management technologies, such that wealth is created for farmers and ultimately for the nation as a whole.
- To develop animal production systems in terms of species of breeds, feeding strategies and overall good management so as to optimise their production in a profitable and sustainable manner.
- To provide technical and regulatory functions to the entire agricultural industry.

Universities, agricultural colleges, national research institutes, parastatals, private industry and regional and international research centres were expected carry out the applied research and generate the appropriate technologies for the smallholder farmers. In addition, the Ministry of Agriculture created the Agricultural Research Council (ARC) whose function was to advise the Minister on all matters related to agricultural research and technology development.

#### *4.5.6.1 Challenges*

Agricultural research for development in Zimbabwe has been facing a lot of obstacles to an extent that there have been limited and effective research programmes being pursued in the country. The major constraints to research include the following:

- There is limited understanding and appreciation of the role and importance of research and development, especially by policy makers and the private sector. Consequently, there is poor articulation (or even absence) of Agricultural Research and Development Policy.
- There is a need to develop or formulate a Research and Development policy that is responsive to the varied dynamic sectors of the agricultural sector, especially after the agrarian reform that has altered the structure of the farming systems in the country.
- Public sector research faces severe budgetary constraints that are affecting research activities and programmes. There is poor follow up and lack of completion of projects within the full commodity chain due to budgetary limitations. There should therefore be a policy that is supportive of creating a framework for exploration of alternative and innovative funding mechanisms. In addition, because of the hype-inflationary environment, there is a need for a 3-tiered policy framework (i.e. short-term, medium term and long term) in the funding of research and development programmes.
- Experienced staff is the most important asset of agricultural research and it is necessary to attract and retain resourceful and competent staff in order to be efficient and effective. The current high staff turnover is resulting in the recruiting of young and inexperienced scientists, sometimes with inappropriate qualifications. This trend results in compromising the quality of the research work, besides the loss of institutional memory, valuable expertise and experience.

- Monitoring and evaluation of research and development projects and programmes is hardly carried out due to lack of capacity and financial support.
- There is poor participation by private sector in the planning, financing, execution and evaluation of research and development programmes.
- Public sector research organizations have to develop strategic plans that allow the setting of priorities and linkages between various stakeholders involved need to be strengthened.

#### 4.5.6.2 Proposed Policy Issues

- Staff conditions of service need urgent attention to reduce and reverse staff losses.
- Policy makers should be made to understand and appreciate the role of research and development so that they can allocate adequate resources to support research and development.
- Government should commit at least 5% of the GDP towards research and development in line with the regional trends.
- The contribution from government should be complimented by funds generated through other alternative and innovative funding mechanisms, e.g., levies, taxes, donor funds and private sector contributions.
- Interfacing and collaborative linkages especially between research and extension and related institutions should be established and supported.

#### 4.5.7 Agricultural Education and Training Policy

The primary objective of the education and training policy was to create an agricultural education system that meets the diverse needs of all the actors in the agricultural production to consumption value chain. These actors included producers, transporters, traders, input providers, educators, administrators, economists, researchers, *etc.* The policy also emphasized that the education system should cater for specialised aspects of agriculture, through an agricultural general diploma and higher national diploma at colleges and institutes.

The specific objectives of the policy were to:

- Improve human resources in the agricultural sector.
- Produce graduates who will meet the needs of the agricultural market
- Produce graduates who are productive in all aspects of agriculture and capable of farming in their own right, including participating in the resettlement programmes.
- Produce graduates with both theoretical and practical knowledge such that they are capable of generating employment opportunities in the agricultural sector.
- Produce graduates who are versatile, analytical and capable of meeting the varied requirements of the agricultural sector.
- Produce graduates capable of administering agricultural programmes.
- Produce graduates with specialised skills where necessary.
- Provide practical training for smallholder farmers.

- Provide both formal and informal training programmes.

#### *4.5.7.1 Challenges*

The current policy framework shortfalls in agricultural education and training include the following:

- Lack of a forum for coordination of agricultural human resources development plans among the key players, namely the Ministry of Education, Sports and Culture, Ministry of Higher and Tertiary Education, private sector and NGOs.
- Lack of a forum to provide guidance and systems of monitoring institutions responsible for the implementation of human resources development plans.
- Disgruntled human resources base resulting in high turnover and loss of qualified and skilled personnel.
- Lack of policy that makes it compulsory for all agriculturalists, existing and aspiring farmers to have access to life long learning facilities and skills for practical, business and profitable farming.
- Weak client focused agricultural human resources development planning system that does not carry out research to capture skills requirements of the public sector, private sector and NGOs.
- Weak induction, orientation and in-service training of all personnel joining the agricultural sector, particularly in the public sector.
- Static curricula and syllabi for agricultural colleges and faculties of agriculture.
- Deteriorating financing of agricultural education and training and farmer training systems and standards.

#### *4.5.7.2 Proposed Policy Issues*

- There is need to carry out research on human resources requirements and advise the government on strategies of creating incentives to reverse the high turnover and brain drain of qualified and skilled agricultural personnel.
- There is a need to establish life long learning skills systems to prepare and provide development paths for agriculturalists so that they become effective practitioners.
- There is a need to establish a strong client-focused agricultural human resources development planning systems that capture the skills requirements of the public sector, private sector and NGOs.
- It is urgent to put together a directorate of experts and a system that facilitates the participation of experienced agriculturalists in in-service training of all personnel joining the public sector.
- There is a need to put in place a system for regular review of curricula and syllabi for agricultural colleges and faculties of agriculture in order to meet the knowledge and skills requirements of the agricultural sector.
- It is imperative to mobilize the key stakeholders, especially the private sector and NGOs, to contribute towards the financing of agricultural education and training and farmer training programmes.
- There is a need to establish a system of forecasting and matching the future demands of agriculturalists with the existing capacities of training

infrastructure and human resources and future requirements for human resources and infrastructure improvements.

#### *4.5.8 Agricultural Extension Services Policy*

The 1995-2020 agricultural policy frameworks highlighted the importance of extension services in linking research, science and technology to the needs of the farmers and agro-industry. The policy framework also took into account that smallholder farmers were shifting towards more high-value commodities such as horticulture, tobacco and dairying that required specialised management practices. Therefore, the extension services were expected to serve the farmers and the rest of the agricultural industry in the following ways:

- Assisting all those in agriculture to adopt practises and changes that are economically viable and, technically and environmental sound.
- Assisting those involved in farming to be creative and confident in problem solving.
- Disseminating proven technologies to farmers and other organisations and facilitating feed back of the usefulness of the technologies to researchers and other relevant sources of information.
- Promoting a sustainable environment through a process in which all farmers participate.

##### *4.5.8.1 Challenges*

The effectiveness of the agricultural extension service is limited by a number of constraints that are listed below.

- The Department of Extension Services has an establishment of 6000 “front line officers” but currently (November, 2008) there are only 3200 personnel in post (53%). The staff loss situation is similar to other departments and institutions under the Ministry of Agriculture.
- The budget for extension has increased modestly over the years, but declined in real terms. In addition, inadequate transport facilities have seriously reduced mobility and this has adversely affected the extension work.
- There are no effective research-extension-farmer linkages.
- Poor road infrastructure in the small-scale farming areas impedes transporting of inputs, agricultural produce and the mobility of the extension staff and this affects the quality and effectiveness of the services offered.

##### *4.5.8.2 Proposed Policy Issues*

- Improve working conditions to retain and attract staff.
- Stakeholders should contribute towards funding the extension services.
- There must be a policy of cost recovery for the services rendered.
- Poor coordination of extension services in the field needs to be improved.

## **5. RESEARCH NEEDS FOR THE PRIVATE SECTOR ORGANIZATIONS**

Recently, the agricultural private sector, just like other sectors in Zimbabwe, has been going through a period of great uncertainty due to the non-conducive macroeconomic environment. All most all companies are operating at more than 50% below capacity and some have laid-off substantial numbers of their employees and others have completely stopped operating. There are shortages of foreign currency to import raw materials for the industry. The price control policy being implemented by government in order to protect consumers in the hyper-inflationary environment has to a large extent made the private sector operations unprofitable. As a result some companies have temporarily closed shop and others have shut down for good.

Twenty-four questionnaires were sent to agricultural private companies and only 11 companies responded. The results presented here are therefore based on the 11 respondents and are complimented by secondary data obtained from literature on similar work that had been carried out in the country several years ago (Mariga and Ushewokunze-Obatolu, 1998).

### **5.1 Research**

The list of private sector companies (and their contact details) that is involved in agriculture is shown in Appendix 2. Some of the companies are involved in research and the focus of their research activities is determined by the information coming from the field assistants who are in direct communication with the clients. As the field assistants market the companies' products, they also play the role of extension agents for their companies thus they are exposed to the farmers' and other clients' problems. These problems are then considered by management and the companies' technical wing will then develop the research activities to deal with the problems. Each company has to prioritise the problems reported and estimate the costs involved in sorting out the problems. Only those problems that may bring benefits to the company in terms of profits are considered for research. The companies usually conduct research to meet customer needs so as to increase sales of products. However, the research needs of companies have dramatically increased in the recent years due to the numerous constraints faced by the private sector resulting from the unfavourable macroeconomic environment. In order to stay afloat, the private sector companies are now exploring alternative raw materials and innovative production methods.

Out of the 11 companies that responded to the questionnaire, 7 companies indicated that they were involved in research activities. The research work carried out was sales oriented and was designed to keep the companies in business. Below are examples of some of the research topics:

- Market research
- Cost effective livestock feeding and dipping
- Product registration
- Mycotoxin management
- Use of low protein feeds for broilers
- Use of cotton seed meal for poultry and pigs
- Feeding trials for different livestock species
- Pest resistance in staple crops

- DNA multiplication in sweet potato
- Virus elimination and tissue culture.

Five of the 11 companies studied indicated that they collaborated with other organizations in their research work. These partner organizations were mostly local commodity boards. Only one company, COLCOM, was collaborating with one regional and one international organization. The companies appeared not to collaborate with each other. All the companies studied were planning to collaborate with government research institutes in the near future. Only 3 companies out of the 11 produced publications from their research work but stressed that the publications were confidential. The companies funded their research work and they indicated that in the future they would be willing to fund research institutions to carry out the research work on their behalf. Currently, the companies were not participating in research projects initiated by research institutes.

## **5.2 In-Service Training**

All the private sector organizations in this study were involved in in-service training programmes and they met the cost of the training. The trainers were mostly in-house topic specialists, technical personnel, managers, supervisors or senior administrators. However, some companies outsourced trainers especially from the University of Zimbabwe. The training was mostly done on the companies' premises. Occasionally, some of the companies sent their staff to attend short training courses wherever they are being offered within the country. Only one company, Agrifoods, had sent its staff to attend training courses outside the country.

Each company designed its training course(s). The topics offered in the training depended on the commodity the company was involved in and the areas in which the company felt its employees were weak in. However, irrespective of the type of business the companies were involved in, most offered training in customer care and business ethics, especially to newly recruited staff. The in-service training was shown to increase productivity of the staff, performance of the companies and quality of the goods and services provided to the consumers. In addition, the private sector indicated that the training boosted the morale of the employees and reduced accidents at work.

Besides training their own staff, 55% of the companies offered assistance in the form of lecturers and examiners to registered training institutions. The institutions that sort the assistance were the agricultural colleges and the faculties of agriculture at the national universities. The private sector lecturers also participated in the design of the courses they taught and were also consulted by the training institutes during curriculum review or development. Table 5.2 lists the names of some of the lectures and the topics they taught. It must be stressed that there are some private sector lecturers who were not captured in this study since some of the companies and training institutes had not submit their completed questionnaires by the time this report was written.

**Table 1: Private Sector Lecturers Offering Services to Training Institutions**

<b>Name of Company</b>	<b>Lecturers</b>	<b>Topics/Courses Taught</b>	<b>Recipient Institutions</b>
Dairibord Zimbabwe Ltd	Production Manager, Quality Control Manager and Milk Supply Field Officer	Milk Processing and Marketing	Blackfordby College
Zimbabwe Fertilizer Co.	Mr. A. Vengere Mr. J. Chipombo Mr. B. Nhunzvi Mr. T. Pilime	Crop Protection Agronomy Pesticide Use	Gwebi College Chibero College ZOU Kushinga College
Rarefield Investment	Mr. L. Mutetwa Mr. K. Bhepe	Poultry Stockfeeds Agronomy	na
Nestle Zimbabwe	Mr M. Mutambanengwe	Mycotoxins	na
AGLABS	Dr.I. Robertson Mr. Ruhode	GM Crops Tissue Culture Agronomy	UZ
Crest Breeders	Dr. Pachena Mr. C. Foto Mr. A. Gumbodete Mr. L. Maundura Mr. B. Nyamugamha	Poultry Health Broiler & Layers Production Poultry Breeding Feed Milling Marketing	UZ MSU Africa University Chibero College

## **6. REGISTERED INSTITUTIONS DELIVERING AGRICULTURAL RESEARCH**

There are 3 ministries in Zimbabwe that hosts National Agricultural Research Organizations (NAROs). These are the Ministry of Agriculture, the Ministry of Environment and Tourism and the Ministry of Transport and Energy. In addition, there are 10 universities, a few private organizations and several parastatals that are also involved in agricultural research.

### **6.1 Ministry of Agriculture Departments**

The Ministry of Agriculture has in Zimbabwe has 10 departments which deal with different aspects of agriculture. Directors head these departments, which are listed below.

- Livestock Production and Development
- Veterinary Field Services and Tsetse Control
- Veterinary Technical Services
- Agricultural Economics and Marketing
- Agricultural Engineering and Technical Services
- Agricultural Research and Extension Services
- Agricultural Education
- Finance and Administration

- Human Resources
- Internal Audit.

In addition to these departments, there are also 7 parastatals that report to the Ministry and these are:

- Agricultural Bank of Zimbabwe (AGRIBANK)
- Tobacco Industry and Marketing Board (TIMB)
- Pig Industry Board (PIB)
- Agricultural Rural Development Authority (ARDA)
- Grain Marketing Board (GMB)
- Tobacco Research Board (TRB)
- Cold Storage Commission (CSC).

Not all the departments and parastatals listed above are involved in research. The discussion below therefore focuses only on those that are participating in agricultural research.

### *6.1.1 Division of Livestock and Veterinary Services*

In 2003, the Department of Livestock Production and Development was merged with the Department of Veterinary Services and the Department of Veterinary Technical Services to create the Division of Livestock and Veterinary Services. A Principal Director heads the Division and each department has a Director at its helm.

#### *Objectives and Mandate*

The objectives of the Division are to provide sustainable livestock and veterinary services in response to clients' and cooperating partners needs. The Division does this by implementing regulatory and technical activities focusing on the prevention, control and eradication of specified animal diseases and pests and the promotion of livestock production including animal welfare and veterinary public health. The Division implements its mandate through the three departments and the research activities include the following.

- Laboratory diagnosis for animal diseases and pests
- Surveys and detection of animal diseases and pests
- Monitoring and reporting occurrence of animal diseases and pests

Most of the functions of the Division are of extension and advisory nature.

#### *Structure of the Departments*

Within the Division, most of the research work falls under the Department of Veterinary Service branch of the Veterinary Laboratory Diagnostics and Research (VLDR). The structure of the branch is shown in Figure 2.

### *6.1.2: The Department of Research and Specialist Services (DRSS)*

#### *Objectives and Mandates*

The objectives of DRSS are to improve food security and promote the growth of national economy through the provision of appropriate agricultural technologies and services to resource-poor farmers. The Department has a mandate to carry out research in all agricultural aspects except pigs, sugar, and tobacco and animal health. Other departments carry out research on the latter aspects.

### ***Organization and Structure***

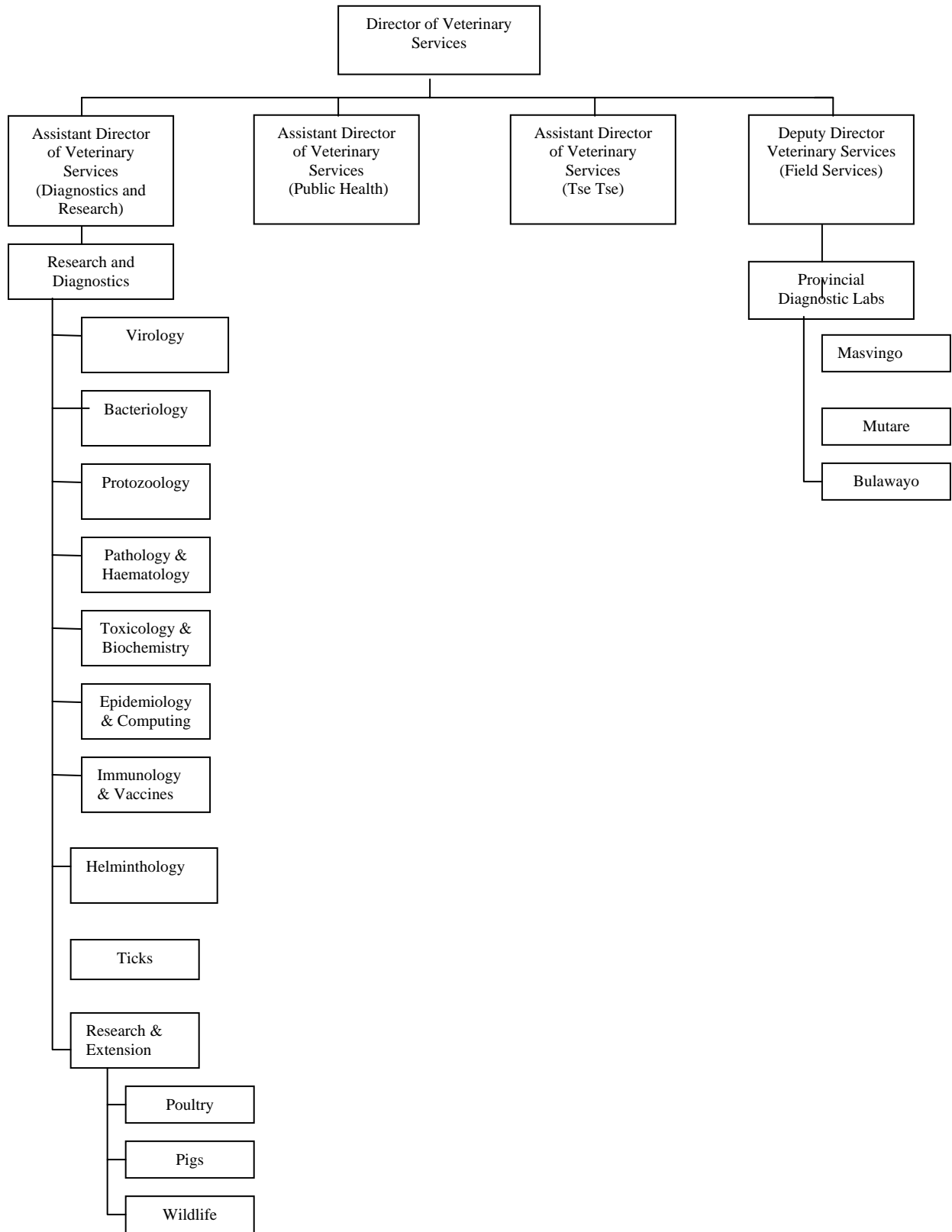
DRSS is the largest NARO in Zimbabwe. Its headquarters is located in the capital city, Harare. The administrative structure of the department is shown in Figure 3. It is headed by a Principal Director and has three main divisions namely, Crop Research, Livestock and Pastures and Research Services. The Crop Research and Livestock and Pastures divisions operate as institutes, services or units and receive technical support from the Research Services Division. A Deputy Director heads each division.

Figure 3 shows that there are a total of 12 research institutes or stations under the 3 Divisions of DRSS. The organizational structures of the research institutes or stations are similar. Each research station consists of a head of station and immediately under him/her, there is a chief research officer (see Figure 4) followed by research officers. The number of research sections at each station/institute will determine the number of research officers.

A summary of the mandates and activities of each of the stations/institutes is given below.

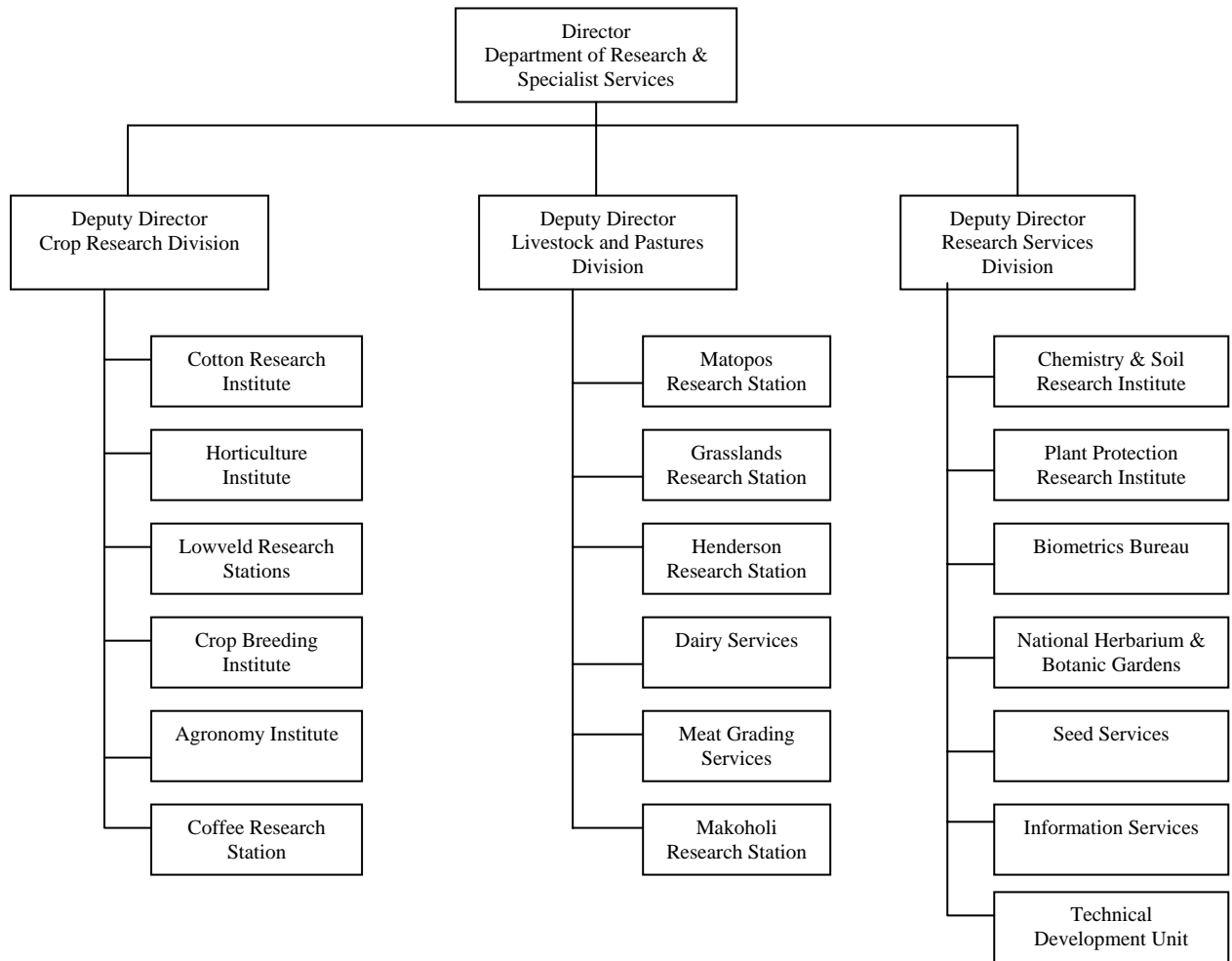
*Cotton Research Institute:* This institute has three sections namely, agronomy, entomology and pathology. The agronomy section carries out research on improved cotton crop management with the objective of increasing cotton production and productivity. The entomology section carries out research work on the development and dissemination of appropriate technologies for the control of insect and mite pests which individually or combined can cause yield losses. The pathology section focuses its research work on major cotton plant diseases.

**Figure 2: Administrative Structure of the Veterinary Laboratory Diagnostics and Research Branch of the Department of Veterinary Services**

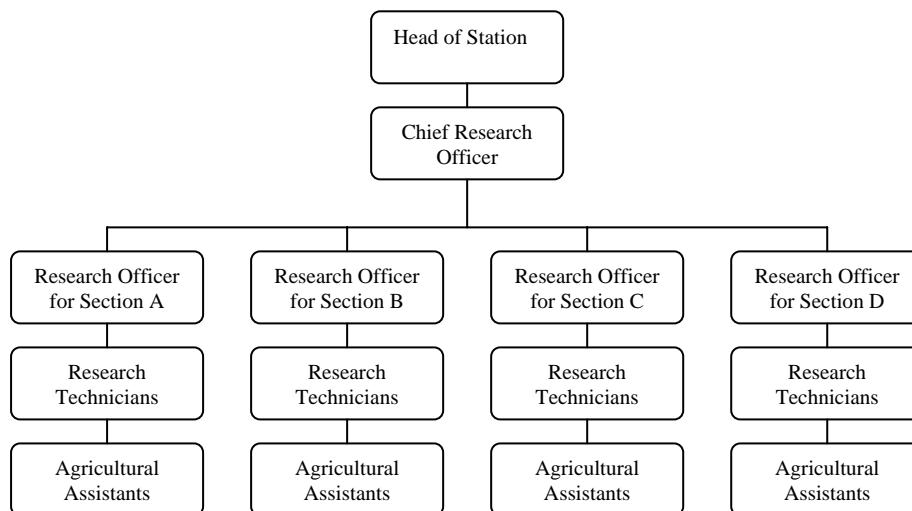


Source: Ministry of Agriculture Website

**Figure 3: Organizational Structure of the Department of Research and Specialist Services**



**Figure 4: Model of Organizational Structures of Agricultural Research Stations**



*Horticulture Research Institute:* This institute has 5 sections namely, Pomology, Olericulture, Crop Protection Research, Economics and Farm Section. The Pomology Section is responsible for the development of technologies of fruits grown under semi arid conditions and the multiplication of their seeds. The fruits include citrus, nut crops, bananas and mangoes. The Olericulture Section deals with research on vegetables that are grown under semi arid conditions and these include cabbages, rape, tomatoes, onions and indigenous vegetables. This section also disseminates information and technologies on vegetables to stakeholders. The Crop Protection Research Section is responsible for pest identification, technology development on pathology, entomology and weed management of all semi arid horticultural and field crops. The section also plays a role in the dissemination of information and technologies to all stakeholders. The Economics Section carries out socio-economic impact analyses of the introduced technologies. It is also responsible for disseminating the technologies and information through training, workshops and field days. The Farm Section mandate is to offer security and tillage services at the research institute.

*Nyanga Experiment Station:* This station is within the Horticultural Research Institute described above. It carries out research and development work that addresses the improvement of the production deciduous fruits, vegetables, flowers in areas of higher altitudes and wetter and cooler conditions.

*Low-veld Research Stations:* There are 3 research stations located in the low-lying areas in the south eastern part of Zimbabwe and these have been grouped as the Low-veld Research Stations. The stations are Chisumbanje Experiment Station, Save Valley Experiment Station and Chiredzi Experiment Station.

The Chisumbanje Experiment Station mandate is to develop and disseminate appropriate farming related technologies to farming communities located in the driest regions (NR IV and V) of the country in order to crop yields in a sustainable manner. The mandate of the Save Valley Experiment Station is to carry out research and development work on crop production systems in the dry NR IV and V and disseminate the developed technologies and information to stakeholders. Lastly, the mandate of Chiredzi Experiment Station is to carry out research on cereals, legume crops and root crops under irrigation, including the multiplication of the seeds of the aforementioned crops, and disseminate the generated information and technologies to stakeholders through training, field days and shows.

*Coffee Research Institute:* This institute is divided into 4 sections namely, agronomy, entomology, plant pathology and administration. The last three sections are the driving force behind the research programmes that include the development and dissemination of technologies for sustainable production of coffee through appropriate and relevant research.

*Matopos Research Station:* The Station carries out research activities in collaboration with other organizations such farmers unions, extension departments, universities, the private sector and NGOs. Its research mandate focuses on improving livestock production in the semi arid regions of Zimbabwe and the region. The livestock research areas of importance include the following:

- Range and pastures

- Animal nutrition
- Draft animal power
- Cattle production
- Goat and sheep production

*Henderson Research Station:* The Station has 5 research sections and these are:

- Livestock Production
- Pastures
- Dairy Production
- Poultry and Microstock Production
- Fisheries.

Similar to other livestock research stations under the Ministry of Agriculture, the mandate and objectives of the Station are to improve livestock production and productivity in both the drier and wetter parts of the country through innovative research.

*Grasslands Research Station:* The Station has 2 main research compartments, which are Pastures and Livestock sections. Its mandate is to improve ruminant livestock production through laboratory and field studies in ruminant nutrition and forage production and conservation.

*Makoholi Research Station:*

This Station is the national agricultural research centre that caters for the research needs of smallholder farmers located in the drier regions of poor soil fertility and little to medium rainfall regime. The research mandate of the Station is to promote and sustain viable livestock and crop production in the semi-arid sandveld of Zimbabwe through the development and dissemination of appropriate technologies and the sustainable utilization of natural resources. Currently, there are several research themes that are being pursued at the Station and these include the following:

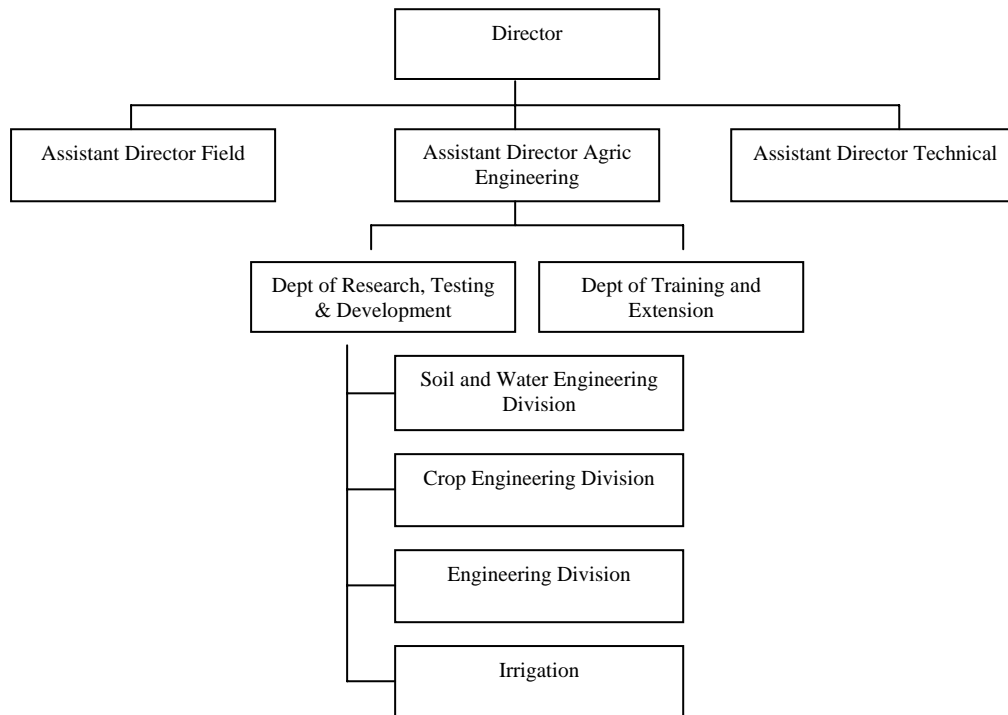
- Preservation of a pure nucleus herd of the indigenous Mashona cattle.
- Improvement of the productivity of small ruminants, mainly goats, through the promotion of doe fertility, kid survival and growth rates.
- Development and dissemination of appropriate dairy animals for use in the smallholder farming systems.
- Assessment of the effect of feeding browses and forage legumes as winter dietary supplement.
- Development of cheap but quality dairy feeds through ration formulation using farm-produced ingredients.
- Utilization of Cactus ascensions as feed for livestock.
- Beef cattle breeding programme based on indigenous Mashona breed.
- Use of Mashona Friesian crossbreds as dairy animals.

### *6.1.3 Department of Agricultural, Technical and Extension Services*

The Department of Agricultural, Technical and Extension Services (AGRITEX) has two divisions namely the Department of Training and Extension and the Department

of Research, Testing and Development (Figure 5). Research activities of AGRITEX fall under the latter Department. The research mandate focuses on engineering issues involving soil and water, irrigation, crops and farm machinery and implements.

**Figure 5: Organizational Structure of the Department of Agricultural, Technical and Extension Services**



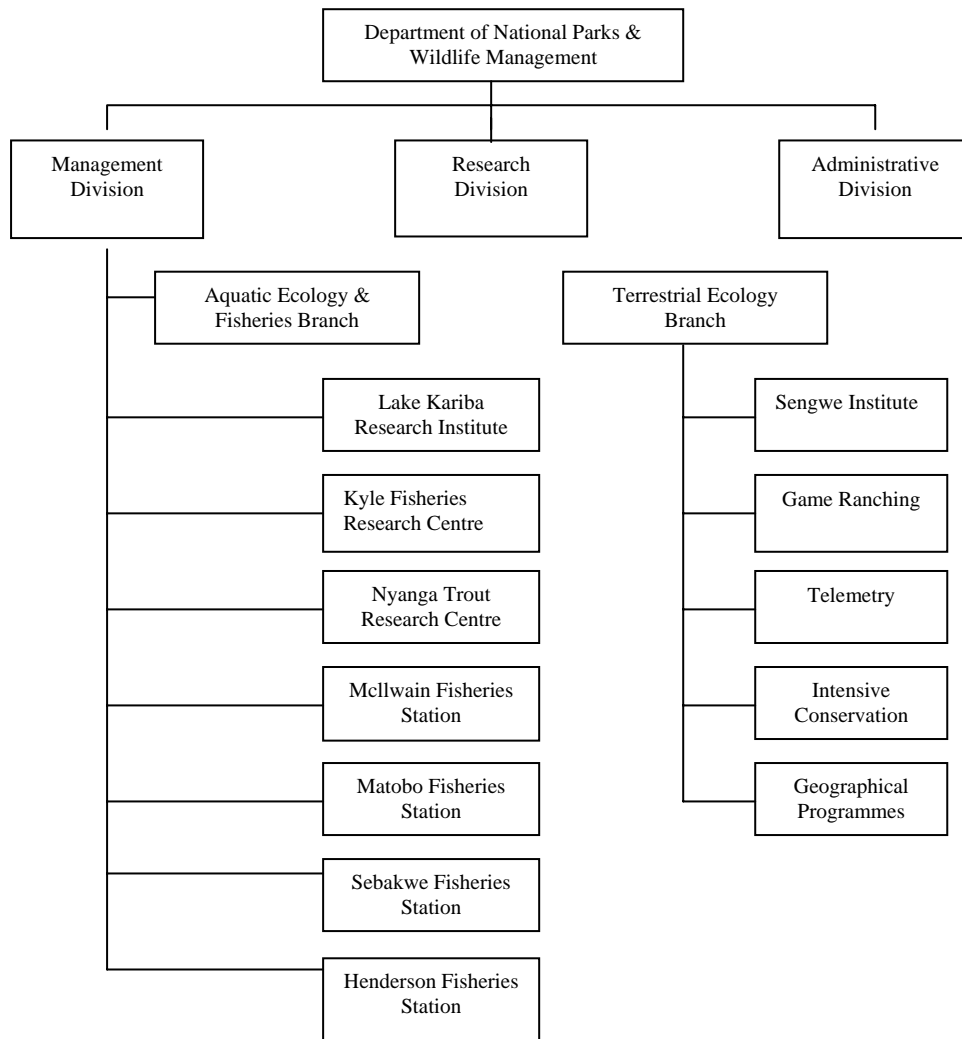
#### 6.1.4: Ministry of Environment and Tourism

There are two departments under the Ministry of Environment and Tourism that are involved in research activities and these are the Department of National Parks and Wildlife (DNPW) and the Department of Natural Resources (DNR). Under the DNPW, the Aquatic Ecology Division (see Figure 6) carries out research activities in freshwater and capture fisheries while the Terrestrial Ecology Branch is responsible for research work on wildlife. The DNR also has a research and training branch.

#### 6.1.5: Department of Meteorological Services

The Department of Meteorological Services (DMS) falls under the Ministry of Transport and Energy. The Department acts as an advisory branch of the Ministry and has a research mandate focusing on drought monitoring, agro-meteorology hydrometeorology and seismology. The organizational structure of the Department is illustrated in Figure 7.

**Figure 6: Organizational Structure of the Department of National Parks and Wildlife**



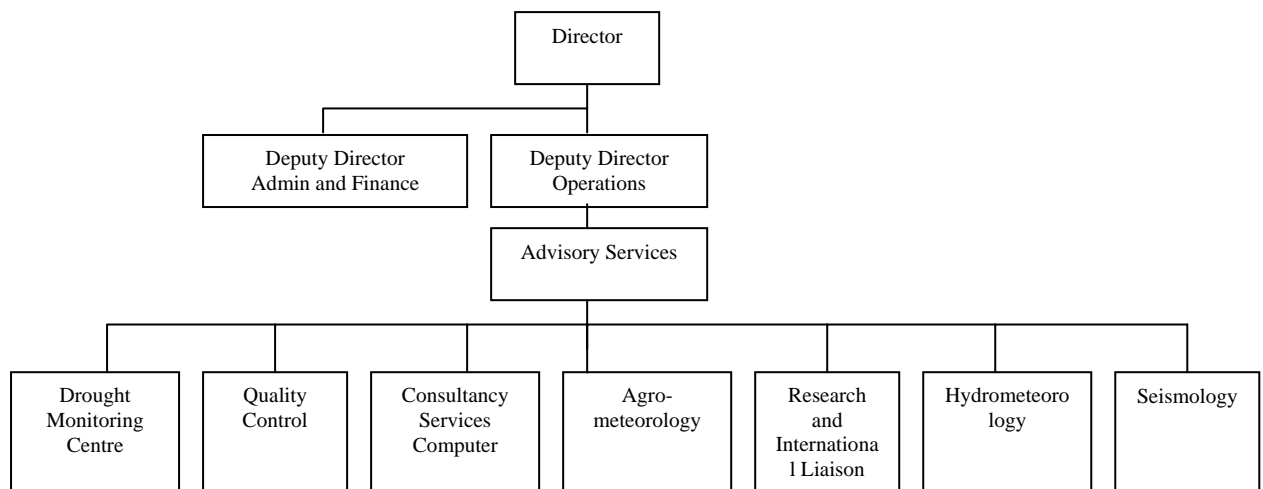
## 6.2 The Universities

### 6.2.1 Government Universities

There are 9 state universities in Zimbabwe and these are:

- The University of Zimbabwe
- National University of Science and Technology
- Midlands State University
- University of Chinhoyi
- Bindura University
- Lupane University
- Great Zimbabwe University
- Africa Womens University
- Zimbabwe Open University

**Figure 7: Organizational Structure of the Department of Meteorological Services**



The University of Zimbabwe (UZ) is the largest and the oldest higher education institute in the country. It is, just as the other government universities, a public establishment under the Ministry of Higher and Tertiary Education. Agricultural components of research and training at UZ are located mainly in the Faculty of Agriculture and Faculty of Veterinary Science. However, there are other divisions of the University that are of relevance in agricultural research and these are the Institute of Development Studies (IDS), the Institute of Environmental Studies (IES), the Centre of Applied Social Studies (CASS), the Department of Geography and Environmental Science in the Faculty of Arts, the Department of Economics in the Faculty of Social Studies, the Development Technology Centre (DTC) and the departments of Biochemistry, Biological Sciences and Food, Nutrition and Family Sciences, which are all in the Faculty of Science.

Basically, the organizational structures of faculties and departments at the University of Zimbabwe and other state universities are all similar. For example, the Faculty of Agriculture at UZ consists of the Department of Agricultural Economics and Extension, the Department of Animal Science, the Department of Crop Science and the Department of Soil Science and Agricultural Engineering. The Faculty of Veterinary Science consists of the Preclinical Department, Clinical Department and Para-clinical Department, in addition to a clinic. The organizational structures of the University of Zimbabwe and that of the Faculty of Agriculture are shown in Figures 8 and 9, respectively.

Each university is run through a University Act with a Council that is responsible for policy and appointment of the executive (i.e. Vice Chancellor and Pro-Vice Chancellors and other principal officers) in consultation with the Minister of Higher and Tertiary Education. In each of the universities, the Vice Chancellor is the chief academic, administrative and disciplinary officer. The Pro-Vice Chancellors who deputies of the Vice Chancellor have powers and duties of the Vice Chancellor as delegated by him or her. The other principal officers in the universities' hierarchy are the Registrar who is responsible for the general administration of the university and is secretary to Council. The Bursar is responsible for safeguarding university funds and

authorising investments and expenditure and the Librarian is responsible for the administration and safeguarding of the libraries within the university.

Below the university's Council and the executive is the Senate, which is the academic authority of the university. After the Senate there are Faculty Boards, each headed by a Dean and lastly there are Departments headed by Chairpersons. An example of the overall structure is shown in Figure 8.

Out of the nine state universities there are 6 that have agricultural faculties or departments. These are UZ, the National University of Science and Technology, Midlands University, Bindura University, University of Chinhoyi, Lupane University and Africa Women's University. Except for UZ and the National University of Science and Technology, all these are relatively new institutes that are in various stages of development. Consequently, there are either little or no research activities taking place.

The Ministry of Higher and Tertiary Education approves all state universities charters in Zimbabwe and their research mandates are therefore to a large extent similar. For example, the University Act of 1990, which governs the University of Zimbabwe and the National University of Science and Technology, spells out the mandate of the university as "advancement of knowledge, diffusion and extension of arts, science and learning and the provision of higher education and research".

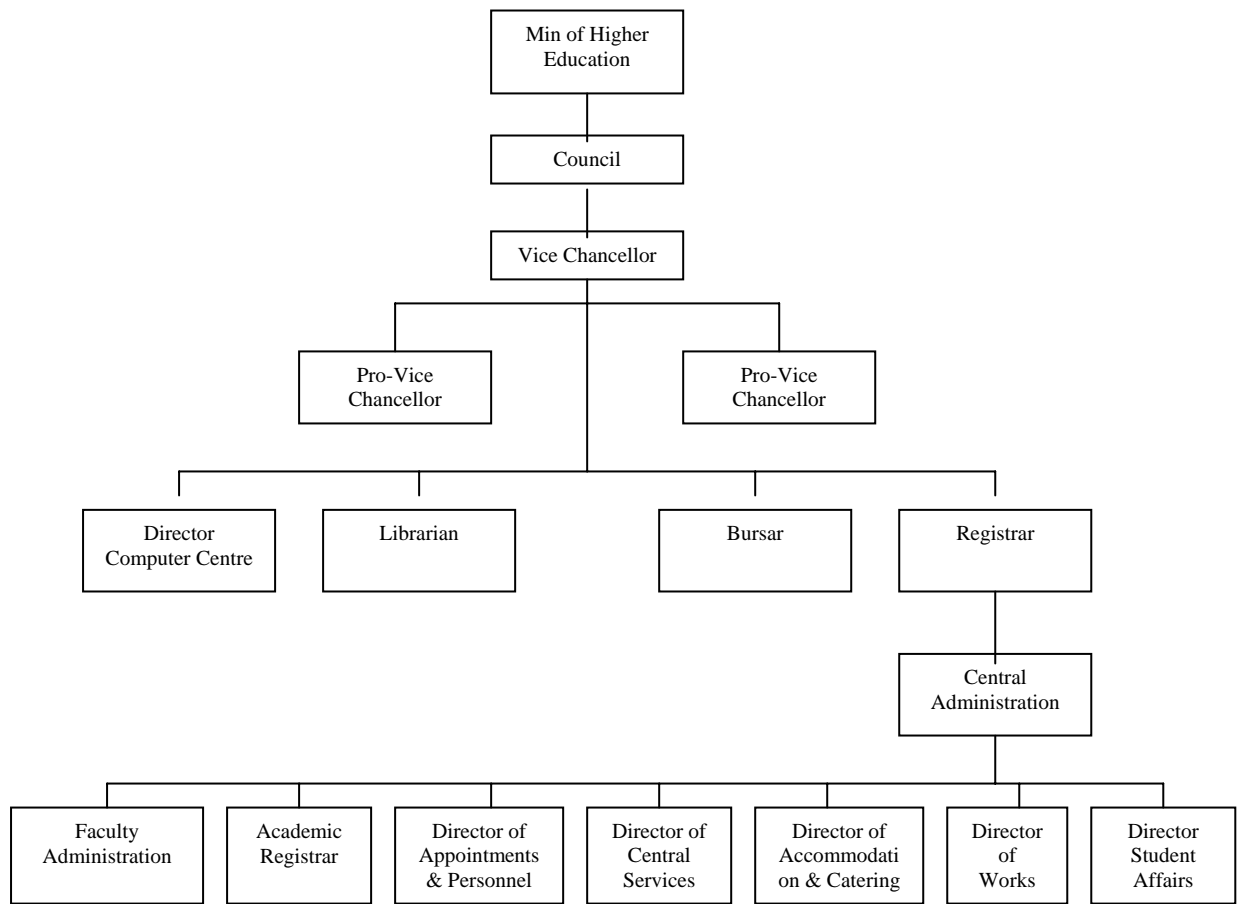
### *6.2.2 Private Universities*

There are three private universities in Zimbabwe and these are Africa University, Solusi University and Catholic Church University. They are all relatively new institutions. Africa University was established in 1992 by the United Methodist Church and is recognised as an institute of tertiary learning by the Ministry of Higher and Tertiary Education in the country. It has an international Board of Directors (or Council) whose role is to govern the University. The chief executive officer is the Vice Chancellor who is affiliated to the Methodist Church. The rest of the administrative structure of Africa University is essentially similar to that of the government universities in the country as illustrated in Figure 10.

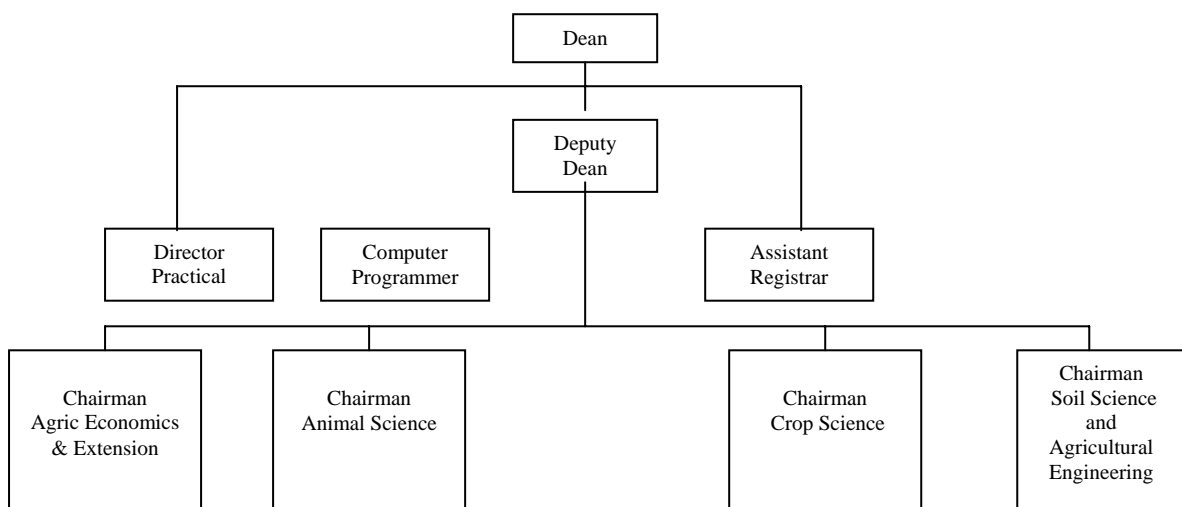
There are 3 faculties at Africa University namely, Faculty of Agriculture and Natural Resources, Faculty of Theology and Faculty of Business Studies. The teaching and research staff are drawn internationally and student intake is from all over Africa with Zimbabweans being in the majority.

Solusi University belongs to the Seventh-day Adventist Church and is the largest private university in Zimbabwe. It has an enrolment of over 4000 students coming from African countries and also from outside the continent. It is divided into 4 faculties namely, Faculty of Arts and Education, Faculty of Business, Faculty of Science and Technology and Faculty of Theology. Agriculture and agricultural related subjects are offered in the Departments of Agriculture and Agribusiness, Environmental Sciences and Family and Consumer Science and these are at undergraduate level only. Postgraduate students are not enrolled in the Faculty of Agriculture and Natural Resources.

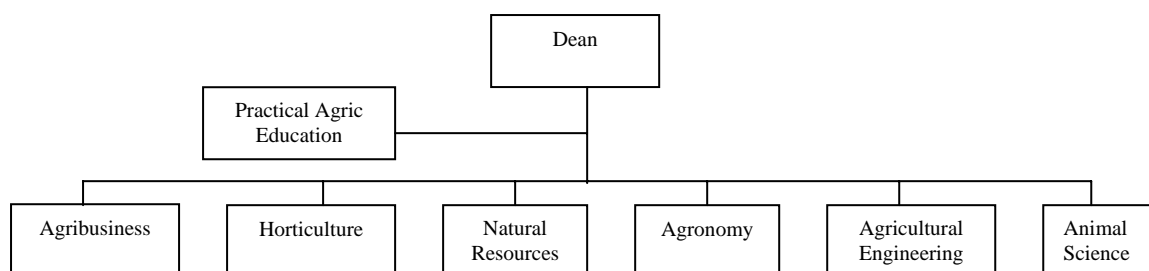
**Figure 8: Administrative Structure of the University of Zimbabwe**



**Figure 9: Administrative Structure of the Faculty of Agriculture at the University of Zimbabwe**



**Figure 10: Administrative Structure of the Faculty of Agriculture and Natural Resources at Africa University**



Source: Administration, Africa University

### 6.3 Private Companies

There are several private agro-chemical companies that carry out research work in Zimbabwe. Normally, the research work is designed to meet the needs of the customers so as to increase sales or the research may be designed to provide information for customers. The research thrust is usually decided upon from the information received from the field sales assistants who are in regular contact with the customers. The information received is considered and prioritised by management and if it is worth further investigations, it is passed on to the technical team of the company for development into a research project(s). Prioritisation is usually on the size of the problem relative to the envisaged cost benefit of carrying out the research work.

A total of 11 private sector companies were visited in this study and out of these, 6 companies were conducting research in order to improve business operations. A summary of the companies' responses to the questionnaire on research and training is shown in Appendix 2.

### 6.4 Parastatals

#### 6.4.1 Tobacco Research Board

The Tobacco Research Board (TRB) was established in 1935 in order to support the Zimbabwean tobacco farmers in producing export quality tobacco in a sustainable and profitable manner. During its 70 years of existence it has grown into an internationally recognised and well-established research organization. The board has a biotechnological section whose mandate is to develop new cultivars of the crop. In addition to the development of new cultivars, the TRB is currently involved in the following research activities:

- Agronomic work on the most efficient production methods and tobacco plant nutrition.
- Research on crop protection for tobacco including integrated disease and pest management.
- Development of appropriate technologies for small-scale producers

#### *6.4.2 Scientific and Industrial Research and Development Centre*

The Scientific and Industrial Research and Development Centre (SIRDC) is a parastatal under the Presidents Office and was created by the Research Council of Zimbabwe (RCZ). Its research agenda is market driven and it operates to promote industrialization in all sectors of the economy by developing technologies for the industry and creating employment. The organization has seven components of which three are involved in agricultural research. These are the Biotechnology Research Institute (BRI), the Institute of Environment and Remote Sensing and the Institute of Energy Technology.

The research policy of SIRDC is determined by the needs of the country's industry and the public sector. Since the needs are dynamic, it means that the research policy and mandates are continually being modified. SIRDC achieves this by holding regular consultations with industry and carrying out market (client) studies. In this context, the clients are perceived as either a market or as industrialists.

#### *6.4.3 Forestry Commission*

The Forestry Commission is a parastatal under the Ministry of Environment and Tourism. Before independence in 1980, its mandate was to support farmers and companies involved in commercial forestry activities. After independence, the commission refocused its policy towards biodiversity and environmental conservation through social forestry (reforestation and agro-forestry) in the communal farming sector. The Forest Commission has departments of Research and Development and Indigenous Resources that deal with the research issues in biodiversity and conservation. The commission has a non-statutory Research Board with representatives from commercial foresters and saw millers. The function of the Research Board is to prioritise the needs of its clients and give support to them.

#### *6.4.4 Pig Industry Board*

The Pig Industry Board was formed in 1937 as a parastatal under the Ministry of Agriculture. Its mandate is to carry out research on the production and management problems for the pig producers. The board has research station that is funded by the government. It also provides advisory services to the producers.

### **6.5 Non Government Organizations**

A questionnaire was sent to 12 non-governmental organizations and only 4 responded. The information sought in the questionnaire is shown in Appendix 3.

#### *6.5.1 Catholic Relief Services*

The mandate of the Catholic Relief Services (CRF) of Zimbabwe is to engage partners in training, research and extension work that seek to reduce the proportion of

people suffering from hunger and extreme poverty. Currently the research, training and extension activities targeting smallholder farmers include:

- Conservation agriculture
- Horticulture production
- Livestock production
- Putting technologies into use
- Home-based care projects for HIV/AIDS patients.

### 6.5.2 *Safire*

The research and training mandate of the NGO, Safire, is to facilitate the development and application of innovative approaches to diversify and improve rural livelihoods based on the utilization, commercialisation and sustainable management of natural resources. Although most of the work of Safire involves extension and training, the NGO is also involved in the following research activities:

- Production, processing and storage of natural foods mostly from plants
- Market research for natural foods products
- Institutional analysis to determine the institutional constraints and opportunities for natural foods production
- Identification of pesticidal plants for use in grain storage and pest control in vegetables and livestock.

The training and research work is done in collaboration with local universities, particularly the University of Zimbabwe and Midlands University, Forest Commission and the Extension Services Department.

### 6.5.3 *Action Aid International*

The mission of Action Aid International is to work with the poor and excluded people of Zimbabwe in order to eradicate poverty and injustice. This NGO focuses mainly in the training of vulnerable households (e.g. child-headed or women-headed households), rural smallholder farmers and lead farmers (who will in turn train others) in various agricultural activities that include the following:

- Implementation of new farming practices such as the use of open pollinated varieties of crops
- Use of micro-irrigation in vegetable gardens.

The training is done in collaboration with the extension services and agricultural colleges. However, the collaborations are loosely assembled. There is no formalization and coordination of the collaborations at district, provincial or national levels.

In addition to training, Action Aid International is also involved in developmental work. This includes:

- HIV and AIDS work

- Women's Rights matters
- Governance issues
- Policy advocacy
- Humanitarian work
- Livelihoods work

The development work is done in collaboration with other NGOs, the private sector and government.

#### *6.5.4 Christian Care*

The mandate of Christian Care is to provide relief, development and support services to the disadvantaged and needy communities and other agencies in order to improve community welfare in a sustainable manner. This NGO achieves its objectives by carrying out training, extension and research activities.

The training activities target the disadvantaged and needy communities and include the following types of work:

- Conservation farming
- Nutrition and herbal gardens
- Crop production
- Crop processing
- Open varieties seed production

The training process is carried out in collaboration with the extension services departments, the Ministry of Agriculture, FAO and agricultural training institutions.

In addition to the training activities, Christian Care is also involved in research, extension and development work. The research and training activities are done in collaboration with the Department of Agricultural and Technical Extension Services and the research themes include:

- The suitability of open pollinated varieties in areas of low rainfall poor soils
- Genetic modified organisms (GMO) and food security in Zimbabwe
- The potential of small irrigation systems in increasing food production

The development work of Christian Aid together with its partners (UNICEF, FAO, Dan Church Aid and Norwegian Church Aid) focuses on the following:

- Food security and nutrition
- Water and sanitation
- HIV and AIDS
- Advocacy
- Development and capacity building

- Disaster preparedness

Christian Care also participates in several agricultural research and extension networks. The purpose of the networks is to get stakeholders involved in the planning, agenda and activities of Christian Aid. The networks also serve as a fundraising front. The major network Christian Aid is involved in is the United Church of Canada and the Canadian Food Grains Bank Network on GMOs. The major output of this network has been the extending of knowledge to the public on the debate about GMOs and food security.

## **7 RESEARCH AND TRAINING NETWORKS**

### **7.1 Methodology**

Eight kinds of questionnaires (see Appendix 3) were specifically sent to the various stakeholders to seek information on the existence of research and training networks among the different agricultural organizations and institutes. The types of organizations or institutions targeted were:

- Agricultural research and training institutions
- Agricultural private sector companies
- NGOs
- Agricultural research institutes
- Farmer-based organizations
- The Agricultural Research Council of Zimbabwe
- Extension services
- Registered agricultural networks

Samples of the questionnaires are shown in Appendix 3. A total of 94 questionnaires were distributed electronically and supplemented by physical visits to assist the recipients in completing the questionnaires. Only 38 of the recipients responded to the questionnaires.

In addition to the questionnaires, a workshop on the agricultural networks and their organizational structure and functions and the possibility of creating a National Agricultural Research System in Zimbabwe was held at the Bronte Hotel in Harare, Zimbabwe on the 19<sup>th</sup> of February 2008. Twenty-three participants from the different organizations and institutions listed above attended the workshop and the proceedings of the workshop are shown in Appendix 4.

### **7.2 Results and Discussions**

The questionnaires sought information on the following:

- Institutional organizational structures
- Numbers of scientists
- Names of scientists and their field of expertise
- Training and research activities

- Publications
- Agricultural Networks
- Respondents views and suggestions on setting up a National Agricultural Research System

Institutional organizational structures of institutions and organizations studied, their numbers of scientists and their names, the training and research activities carried out and publications from the organizations and institutes surveyed have already been discussed in the previous sections. This current section will concentrate only on existing networks, suggestions to set up a National Agricultural Research System in Zimbabwe and a proposal of an organisational structure of the SADC office that could effectively coordinate National Agricultural Research Systems in the region.

### **7.3 Agricultural Networks in Zimbabwe**

The workshop participants concurred that the establishment of viable and functional partnerships and linkage mechanisms promotes maximum exploitation of research resources and strengthens individual members of the partnership for effective and efficient research delivery. However, there were surprisingly very few registered agricultural networks in Zimbabwe. Those identified from the survey and workshop input:

- The Soil Fertility Consortium for Southern Africa (SOFECSA)
- New Seed Initiative for Maize in Southern Africa (NSIMA)
- International Centre for Research in Agroforestry (ICRAF)
- National Agroforestry Steering Committee (NASCO)
- African Network for Agriculture and Natural Resources Education (ANAFE)
- Farmers of the Future in Zimbabwe (FOF-Z)
- National Agroforestry Training and Education (NAFT)

All these networks were being funded by international donor agencies and most of them involved partners from other African countries. The networks appeared to be managed reasonably well and were quite active in carrying out their research mandates. It was interesting to note that the identified networks were linked to other networks in the region and internationally. The networks also involved active participation of NGOs and farmers. Within each of the identified networks, the partners involved agreed that belonging to the network promoted maximum exploitation of resources and there was cross-fertilization of ideas that also contributed to the reduction in duplication of research and training activities.

However, the networks had several weaknesses. The requirement of co-funding meant that without it, there could be significant problems in conducting work. Some of the networks were too bureaucratic and thus reducing the efficiency of the partners collaborations.

The existence of active and participatory networks in Zimbabwe was a good omen for the creation of an effective and efficient NARS in the country.

## 7.4 Creation of a National Agricultural Research System in Zimbabwe

The network participants were provided with information on the existing National Agricultural Research Systems in Malawi, Zambia, Tanzania, Nigeria, Ghana and Kenya (see Appendix 4). In addition to this information, the participants also received a presentation from the Agricultural Research Council of Zimbabwe. The discussions that followed proposed several ideal organizational structures for a NARS in Zimbabwe.

### 7.4.1 Proposal 1

One proposal was to upgrade the existing Agricultural Research Council of Zimbabwe (see Appendix 5) to create a NARS in the country. Currently the board of directors of ARC consists of representatives from the Department of Agricultural Research and Extension, Department of Veterinary Services, Department of Agricultural Engineering and the Research Council of Zimbabwe. It was therefore recommended that the current board of directors in ARC should consist of personnel from:

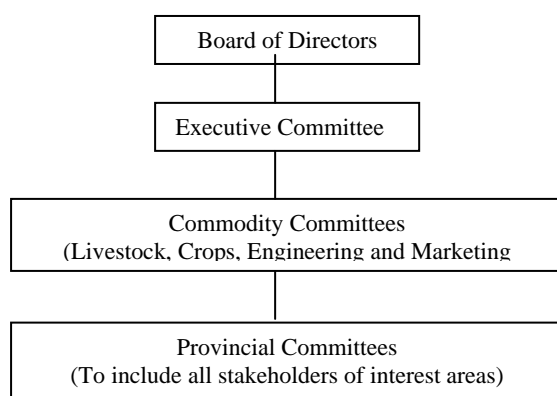
- government research stations, training institutions and extensions;
- quasi-government training and research institutions
- private sector

It was also recommended that NGOs should be viewed as partners and the executive committee of the proposed ARC should include representatives from government, quasi-government, farmer organizations and the private sector. The proposed organogram is illustrated in Figure 11.

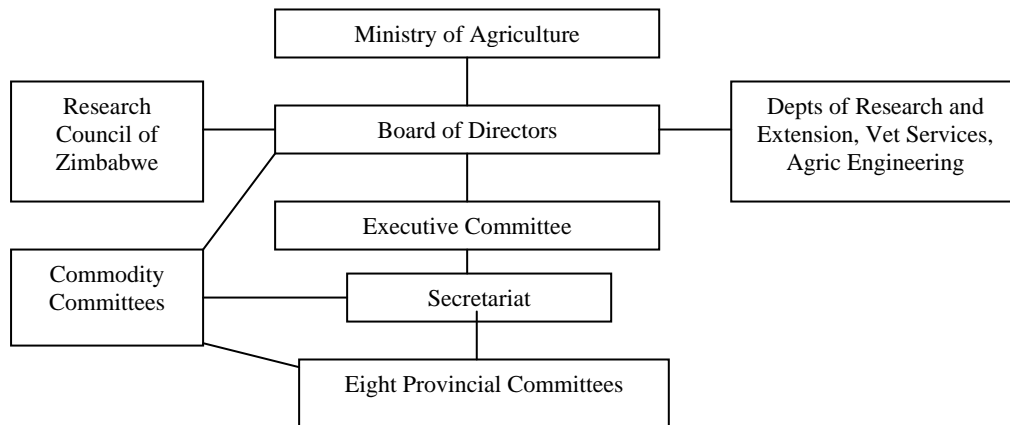
### 7.4.2 Proposal 2

The second proposal to create a NARS suggested that the current ARC retains its name and should report directly to the Minister of Agriculture (see Figure 12). Its board of directors should include representatives from the Ministry of Agriculture, agricultural technical departments, universities, agricultural colleges, private industry, NGOs and agricultural parastatals. The term of office for the directors was proposed to be 3 years and the new directors should be appointed according to the constitution. The appointments into the board and committees should reflect the current national interests of the country.

**Figure 11: First Proposal of a NARS in Zimbabwe**



**Figure 12: Second Proposal; ARC Adapted to Form a NARS**



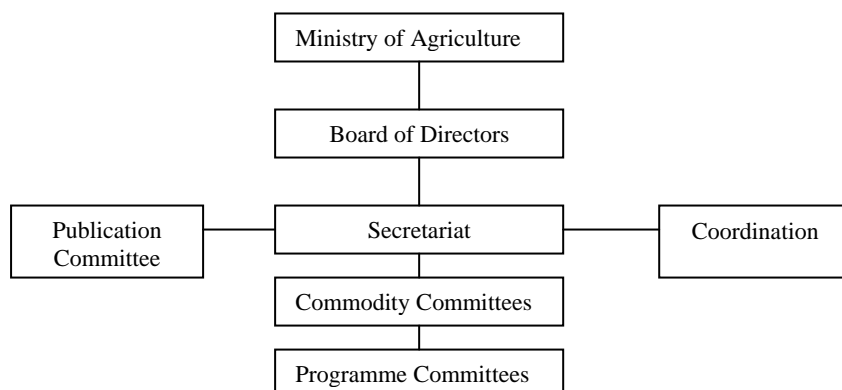
### 7.4.3 Proposal 3

In the third proposal for an NARS in Zimbabwe, some of the participants recommended that:

- The board of directors should have a full representation of all stakeholders (i.e. government, universities, private companies, NGOs, CGIARs, parastatals, and farmer organizations).
- Representatives from stakeholders selected into the board of directors should be renowned people in their fields of expertise and should be apolitical.
- The secretariat should have a CEO who has an agricultural and management background and whom personnel support with expertise in accounts, finance, administration, marketing and human resources management.
- The secretariat should have a publication committee whose mandate is to address the poor scientific research results publications problems in the country. Thus the committee should consist of active or retired experienced agricultural researchers.

The organogram of the above proposed structure of the NARS is shown in Figure 13.

**Figure 13: Third Proposed Organizational Structure of a NARS in Zimbabwe**



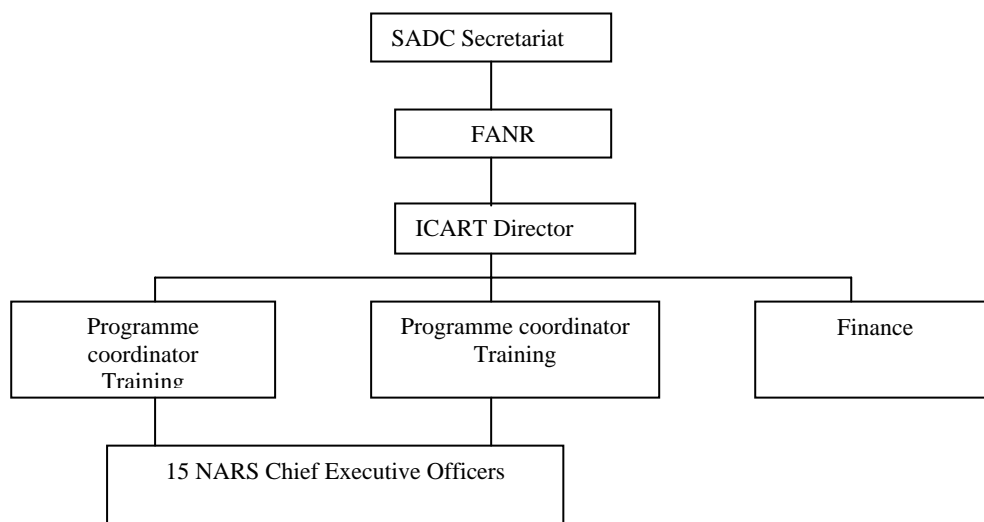
After prolonged discussions and debates on which of the three proposals for a NARS in Zimbabwe should be adopted, the workshop participants eventually settled on the third proposed organizational structure of the NARS. It is clear that there is a need for further discussions that include a wider and larger group of participants in order to get a clear consensus on which proposed NARS to adopt. Unfortunately, the limited time and resources available could not allow this to be done.

### 7.5 Organizational Structure of the SADC Office to Coordinate the National Agricultural Research Systems in the Region

The workshop participants also discussed and debated on how best the SADC secretariat could coordinate and manage the different NARS in the 15 community members. Efficient and effective coordination of the different NARS in the 15 countries is a daunting challenge, considering that SADC is expected to facilitate the improvement of agricultural production, food security and poverty alleviation among the millions of resource poor smallholder farmers and urbanites in the region. With this in mind, the Zimbabwean participants came up with a suggestion on how the SADC office could be re-structured to manage the diverse national NARS in the region. The organizational structure proposed is illustrated in Figure 14.

Both the workshop participants and the respondents to the questionnaire were very enthusiastic about setting up a NARS in Zimbabwe and other regional countries and having SADC coordinate their activities.

**Figure 14: Organizational Structure of the SADC Office that will coordinate all NARS in the Region**



## **7.6 Conclusions**

This project revealed that the agricultural sector stakeholders supported the creation of a National Agricultural Research System in Zimbabwe. The stakeholders went further to propose that the current Agricultural Research Council of Zimbabwe should be quickly upgraded into a NARS by broadening its mandate and restructuring its current organogram. The proposed structure was envisaged to consist of a board of directors whose members were representative of all the stakeholders in agriculture. It was proposed that the board of directors should be assisted by a secretariat headed by a chief executive officer or a director general. The secretariat itself was to be assisted by the provincial and commodity committees whose function was to identify sub-sectoral research and training needs in their mandate areas. The NARS was envisaged to operate under the general direction of the Ministry of Agriculture. The stakeholders further proposed that the NARS would relate to SADC ICART through its chief executive officer. It was recommended that SADC ICART should be headed by a director and should have two coordinating offices (training and research) plus a finance office. The SADC director reported to the FANR directorate. The stakeholders concluded that the main functions of ICART were to coordinate research resources and mobilize funds for, and on behalf of the 15 member states.

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