



REPUBLIC OF ZAMBIA

REPORT

OF THE

COMMITTEE ON AGRICULTURE

FOR THE

**FIRST SESSION OF THE TWELFTH NATIONAL ASSEMBLY
APPOINTED ON THURSDAY, 6th OCTOBER, 2016**

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TABLE OF CONTENTS

No	Paragraph	Page
1.0	Composition of the Committee	1
2.0	Functions of the Committee	1
3.0	Meetings of the Committee	2
4.0	Programme of Work	2
5.0	Procedure adopted by the Committee	2
PART I		
Submissions on Current Issues:		
6.0	The Status of the Irrigation Programme in Zambia	2
7.0	Summary of Submissions from Stakeholders	4
PART II		
8.0	Local Tour Report	23
9.0	Committee's Observations and Recommendations	41
PART III		
10.0	Consideration of the Action-Taken Report on the Committee's Report of the Fifth Session of the Eleventh National Assembly	44
PART IV		
11.0	Consideration of the Action-Taken Report on the Report of the Committee of the Fourth Session of the Eleventh National Assembly	47
PART V		
12.0	Consideration of the Action-Taken Report on the Report of the Committee for the Third Session of the Eleventh National Assembly	62
PART VI		
13.0	Consideration of the Action-Taken Report on the Report of the Committee on Agriculture on the Report of the Auditor General on the Management and Control at Livestock Diseases for the Fifth Session of the Eleventh National Assembly	64

14.0 Conclusion	79
Appendix I – List of Officials	80

REPORT OF THE COMMITTEE ON AGRICULTURE FOR THE FIRST SESSION OF THE TWELFTH NATIONAL ASSEMBLY APPOINTED ON THURSDAY, 6TH OCTOBER, 2016

Consisting of:

Mr M J B Ng'onga, MP; (Chairperson); Mrs C M Mazoka, MP; Mr P C Mecha, MP; Mr E Mulenga, MP; Mr B Hamusonde, MP; Dr M Imakando, MP; Mr N Mwene, MP; and Mr S K Michelo, MP.

The Honourable Mr Speaker
National Assembly
Parliament Buildings
LUSAKA
Sir,

Your Committee has the honour to present its Report for the First Session of the Twelfth National Assembly.

2.0 Functions of the Committee

In addition to any other duties conferred upon it by the Honourable Mr Speaker or any other order of the House, your Committee carries out the functions as set out below.

- i. Study, report and make appropriate recommendations to the Government through the House on the mandate, management and operations of the Government ministries, departments and agencies under their portfolio.
- ii. Carry out detailed scrutiny of certain activities being undertaken by Government ministries, departments and agencies under their portfolio and make appropriate recommendations to the House for ultimate consideration by the Government.
- iii. Make, if considered necessary, recommendations to the Government on the need to review certain policies and existing legislation.
- iv. Examine annual reports of Government ministries and departments under their portfolio in the context of autonomy and efficiency of Government ministries and departments and determine whether the affairs of the said bodies are being managed according to relevant Acts of Parliament, established regulations, rules and general orders.
- v. Consider any Bills that may be referred to it by the House.
- vi. Consider International Agreements and Treaties in accordance with Article 63 of the Constitution.
- vii. Consider special audit reports referred to it by the Speaker or an order of the House.
- viii. Where appropriate, hold public hearings on a matter under its consideration.
- ix. Consider any matter referred to it by the Speaker or an order of the House.

3.0 Meetings of the Committee

Your Committee held twelve meetings during the year under review.

4.0 Programme of Work

At your Committee's second meeting held on 12th October 2016, your Committee considered and adopted the programme of work as set out below.

- i. Consideration of the Action-Taken Report on the Committee's Report for the Fifth Session of the Eleventh National Assembly.
- ii. Consideration of the Topical Issue: The Status of the Irrigation Programme in Zambia.
- iii. Tours.
- iv. Consideration of the Committee's Draft Annual Report for the First Session of the Twelfth National Assembly.

5.0 Procedure adopted by the Committee

Your Committee requested for detailed memoranda on the topic under consideration from concerned stakeholders and invited them to appear before it in order to give verbal submissions and clarifications on issues arising from their submissions.

PART I SUBMISSIONS ON CURRENT ISSUES

The Status of the Irrigation Programme in Zambia

6.0 Background

Your Committee noted that Zambia had the potential to expand agricultural production given the vast resource endowment in terms of land, water and labour that the country possesses. However, one fundamental issue which continued to work against more rapid development of the agricultural sector is the overwhelming dependence on rain-fed farming.

Your Committee also noted that it was widely accepted that the increasing global warming and climate change is having negative effects on the optimal availability of water resources for crop production worldwide, Zambia inclusive. The country had from time to time suffered severe droughts, resulting in reduced crop yields and livestock losses. The uncertainty in the weather patterns obtaining within the country and the region as a whole in recent years made a strong point for increased investment in irrigation.

Therefore, your Committee resolved to undertake a study to determine progress made in the implementation of the irrigation programme.

6.1 Objectives

The objectives of the study were to:

- i. understand the legal and policy framework governing the irrigation programme;

- ii. ascertain the implementation of the irrigation programme vis-à-vis the growth of the agriculture sector;
- iii. appreciate the role of the private sector and the cooperating partners in the implementation of the programme;
- iv. appreciate the challenges, if any, facing the implementation of the irrigation programme; and
- v. recommend to the Executive, the way forward on the implementation of the programme.

6.2 Stakeholders

In order to fully appreciate the subject under consideration, your Committee invited the following institutions to provide both oral and written submissions:

- i. Ministry of Agriculture;
- ii. Ministry of Water Development, Sanitation and Environmental Protection;
- iii. Ministry of Finance;
- iv. Ministry of Chiefs and Traditional Affairs;
- v. Ministry of Works and Supply;
- vi. Indaba Agriculture Policy Research Institute (IAPRI);
- vii. Zambia National Farmers Union (ZNFU);
- viii. National Union for Small-Scale Farmers of Zambia (NUSFAZ);
- ix. Zambia Environmental Management Agency (ZEMA);
- x. International Fund for Agriculture Development (IFAD);
- xi. Food and Agriculture Organisation (FAO);
- xii. Zambia Sugar Plc;
- xiii. African Development Bank (AfDB);
- xiv. World Bank;
- xv. Agriculture Consultative Forum (ACF);
- xvi. Cotton Development Trust;
- xvii. Tobacco Association of Zambia;
- xviii. Conservation Farming Unit;
- xix. International Development Enterprises (IDE);
- xx. Engineering Institution of Zambia;
- xxi. Amiran Zambia Ltd;
- xxii. SARO Agro Equipment Ltd;
- xxiii. Bankers Association of Zambia;
- xxiv. University of Zambia- School of Agriculture;
- xxv. University of Zambia – Agricultural Engineering Department;
- xxvi. Kasisi Agricultural Training Centre; and
- xxvii. Members of the Public.

SUMMARY OF SUBMISSIONS FROM STAKEHOLDERS

7.0 Government Position

Your Committee was informed that agriculture was a major economic sector in Zambia, employing about 65 percent of the country's labour force and contributing about 20 percent to the country's national Gross Domestic Product. However, agriculture remained characterised by low productivity and antiquated farming technologies. Despite being a large sector of the national economy, agricultural production systems in Zambia were largely rain-fed and hence, sensitive and vulnerable to climate variability. Therefore, the situation called for increased investment in irrigation and irrigated agriculture. Moreover, the rapidly growing population in the region had further increased pressure on the food production systems.

Legal and Policy framework governing the implementation of the Irrigation program

Your Committee was informed that the implementation of irrigation programmes was governed by the Irrigation Policy and Strategy of 2004 which was being revised. Irrigation programmes were also governed by the National Agriculture Investment Plan (NAIP – 2015). Other policies which had affected irrigation included the water policy of 2010.

Impact of the implementation of Irrigation Programmes

Your Committee was further informed that investment from the public sector irrigation had brought over 4,400 hectares under smallholder irrigation thereby benefiting about 1,600 households. The majority of these projects were funded by cooperating partners such as the Government of Finland, the World Bank, African Development Bank (AfDB) and Japan International Cooperation Agency (JICA).

Your Committee was informed that the Ministry of Agriculture was now implementing the Irrigation Development Support Project (IDSP) funded by the World Bank in three districts. The IDSP had an innovative Public Private Partnership (PPP) implementation approach catering for all categories of farmers ranging from smallholder and emergent to large scale commercial farmers.

Challenges faced in the implementation of Irrigation Programmes

Your Committee was informed that the Ministry of Agriculture had a weak institutional structure for effective implementation and coordination of irrigation programmes across the country due to the fact that irrigation was a mere section under the Department of Agriculture in the Ministry. Although long overdue, a Department of Irrigation was now being considered for establishment under the Ministry of Water Resources Development, Sanitation and Environmental Protection and not the Ministry of Agriculture where irrigation and indeed irrigated agriculture should belong.

Role of the Private Sector and Cooperating Partners in Irrigation Programmes

Your Committee was informed that the role of the private sector and cooperating partners in irrigation development and implementation of irrigation programmes had not been

effective and well-coordinated to ensure promotion and entrenchment of sustained irrigation sector development. The situation was attributed, primarily, due to lack of a consistent and up-to date irrigation policy and strategy framework. Therefore, the outdated 2004 Irrigation Policy and Strategy was being revised to ensure consistency, effective promotion and development of the irrigation sub-sector whose development was characterized by haphazard and fragmented development initiatives. It was noted that most of the development initiatives were skewed in favour of large scale commercial farmers who had the voice, capacity and access to finance in comparison to small and medium scale farmers.

Your Committee was informed that the Ministry didn't have sufficient officers as the camp officers were too busy in the rainy season and the Ministry needed to impart skills in them for them to be more useful. It was further explained that extension officers were few with an officer to farmer ratio of 1:1000 when the ideal should be 1:350. A good number of irrigation engineers were lost to other Ministries which had higher positions in their structure like the Ministry of Local Government. However, your Committee was assured that the problem would be addressed by the Irrigation Strategy.

7.1 Cooperating Partners Position

Your Committee was informed that cooperating partners recognised Zambia's endowment in terms of water resources that could support irrigation and contribute greatly to agricultural development, including the development and commercialisation of the Zambia smallholder agriculture in which cooperating partners like International Fund for Agricultural Development (IFAD) had a major stake. The primary objective of the cooperating partners to Zambia was to support the commercialisation of small agriculture, in particular by creating links between small scale farmers, suppliers and market intermediaries, and by improving the availability of rural financial services to small-scale farmers.

Your Committee was further informed that the objective had been introduced in order to meet the new challenges and opportunities for smallholder farmers' development that had been made possible through liberalisation. Cooperating partners also helped smallholder farmers in remote areas to make the best use of natural resources to improve food production and food security.

Your Committee was informed that the Swedish International Development Cooperation Agency, the United States Agency for International Development (USAID) and the World Bank coordinated donor activities in the agriculture and irrigation sector. Donors actively engaged in the irrigation subsector were the World Bank, the Finnish International Development Agency, the Japan International Cooperation Agency (JICA), the African Development Bank (AfDB), USAID, the International Fund for Agricultural Development (IFAD), and the Food and Agriculture Organisation (FAO) of the United Nations.

Your Committee was informed that local Non-Governmental Organisations (NGOs) such as International Development Enterprises (IDE) and Kickstart had been instrumental in introducing low-cost irrigation technology in Zambia. These NGOs provided technical

assistance and facilitated equipment access, which has increased small-scale farmers' adoption of low-cost irrigation technologies such as the treadle and motorised pumps.

With respect to the issue of ownership of dams, your Committee was informed that when dams were constructed, they were handed over to the Government or Water User Associations. However, before dams are constructed, the users are brought together. The ownership of dams is in the community and the dams are set up where they are necessary. Your Committee was further informed that for new ones, the community was sensitised after the identification of the dam site.

Your Committee was informed that the Zambian climate provided between 650 to 1,800mm of annual rainfall. Zambia had over 1,740,380 million m³ of underground water resources. Surface water resources ranged between 136.2 million m³ per day in a drought year to 237.3 million m³ per day in an average year. This was about 40 percent of the surface water resources in the SADC Region. Total renewable water resources were estimated at 163.43 km³/year. Of this, internal renewable water resources were estimated at 114.83 km³/year of runoff and 49.6 km³/year of ground water. The renewable water resource per capita was estimated at about 8,700 m³ per year, well above the Sub-Sahara African average of 7,000 m³ per year. One of the biggest assets of Zambia was its expanse of wetlands measuring an estimated total of 29,559 km³, with a drainage area of 382,912 km³ and swamp area of 36,625 km³ that captured and stored surface and underground water, allowing for a range of agricultural activities. The provinces with the highest water resource potential in order of size were Northern (29 percent), North-Western (16 percent), Central (14 percent), Luapula (11 percent), Eastern (9 percent) and Western (9 percent). Others were Lusaka (5 percent), Copperbelt (5 percent) with Southern (lowest at 2 percent).

Water Withdrawal and Utilisation in Zambia

Your Committee was informed that the total water withdrawal was estimated at 11.69 km³ of which 5.0 km³ was for domestic use, 5.0 km³ was for industrial use and 1.69 km³ was for irrigation. The total water withdrawal as a percentage of actual renewable water resources was therefore only 7.15 percent.

According to the *Water Act of 1993*, any user abstracting more than 500 m³/day of surface water shall apply for and hold a Water Right. In Zambia, the highest consumers of water according to water rights held by sector were Power/Energy (91 percent), Agriculture (7 percent), Water Utilities (1 percent) and Mining (1 percent). In view of low consumption levels, most smallholders applying low cost technology did not apply for water rights. In view of the high concentration of power stations and commercial farmers, Southern Province, Luapula and Central Provinces; (62 percent), (17 percent) and (12 percent) respectively, held the highest proportion of water rights. In an effort to expand water withdrawal, new multi-purpose storage facilities were required to be planned in the medium to long term for multipurpose use.

Water Withdrawal for Agriculture

Your Committee was informed that water withdrawal for agriculture development, irrigation and water management currently stood at 1.69 km³ or just 14 percent of total withdrawal. Zambia had irrigation potential whose estimate ranged from 2,750,000 hectares to 3,500,000 hectares. But less than 156,000 hectares was currently being irrigated, including flood plains and wetlands. This was less than 5 percent of the potential irrigable land. With the onset and rising trend in climate change, the scope for improving productivity in irrigated agriculture remained moderate to high.

Your Committee was further informed that most of the irrigated land lies along the line of rail, above karstic areas for ground water, adjacent to standing water bodies such as rivers, lakes and dams, and in dambos and wetlands. In order to raise the level of irrigation in the country, and recognising the role of irrigation and water management in poverty reduction, Zambia had indicated its intention to raise the amount of land under irrigation and had developed various irrigation projects while encouraging commercial investors to open new areas. However, most irrigation schemes, especially those targeted at smallholder farmers, have not performed well due to various factors.

African Development Bank (AfDB) Support to Zambia's Irrigated Agriculture Sector

1. Nakambala Expansion Programme and Outgrower Scheme

Your Committee was informed that as far back as 1980, the AfDB partnered with Zambia Sugar Plc, Barclays Bank Ltd, the Commonwealth Development Corporation (CDC) and the Development Bank of Zambia (DBZ), to integrate smallholder farmers in commercial irrigated agriculture using sugar as a case study. The acquired loan of US\$ 27million from the African Development Bank (AfDB) financed the scheme development (civil works, irrigation channels, roads, buildings, and survey and demarcation of fields). Other funds were from Commonwealth Development Cooperation (35 percent), Development Bank of Zambia (8 percent), Zambia Sugar Plc (1 percent), Barclays Bank (1 percent) and other sources (11 percent). These four shareholders established a special purpose vehicle (SPV) holding company Kaleya Smallholder Company Ltd - KASCOL. KASCOL is a private company incorporated in 1981.

The smallholder farmers provide sugarcane feed stock for the milling operation at Zambia Sugar Plc as outgrowers. Listed on the Lusaka Stock Exchange (LuSE), the Nakambala Sugar Estate employed over 5,100 workers, 3,400 seasonal casuals and had an installed processing capacity of over 450,000mt refined sugar per annum. The Estate land was 30,000 Ha of which 17,000 Ha was under cane. Your Committee was informed that Nakambala Sugar Estate was the largest irrigation operation in Zambia, with permissible water rights of 778,000 m³/day. Water was pumped from Kafue River for application through furrows, centre pivot irrigation and drip irrigation. With excellent agro-ecological conditions, coupled with good technical management of the estate, sugar cane yields have averaged between 100 tons and 120 tons per hectare, comparing favourably with those in Tanzania (90 tons/Ha), Swaziland (100 tons/Ha), Malawi (110 tons/Ha) and Brazil (80 tons/Ha).

Your Committee was informed that Zambia Sugar Plc supported out-grower farmers through Mazabuka Cane Growers Association (MCGA). Private commercial farms currently grew and supplied raw cane sugar from 2,085 hectares. Kaleya Smallholder Company (KASCOL) was incorporated to run the affairs of the outgrower farmers in 1984. The AfDB supported the Government of Zambia to invest in farm demarcation and irrigation infrastructure to facilitate the participation of smallholder farmers in the sugar out-grower scheme. KASCOL had since survived as the oldest and biggest smallholder irrigation scheme, with 161 farm households supplying about 2,156 Hectares of raw cane to Nakambala annually.

Your Committee was further informed that each smallholder farmer was allocated about 6.5-7.5 Ha plot to manage on a 14 year renewable lease, and provided with inputs and support services. KASCOL provided training, extension services, inputs, mechanical services, cane harvesting and haulage and distribution of irrigation water. The farmers care for the in-field irrigation, weed control, fertilizer application and removal of diseased cane stalks. Nakambala supplied 13,000 m³ per day of water to KASCOL at a fee, pumped through a pipeline canal to six night storage reservoirs from the Kafue River. The water is siphoned from tertiary canals into the fields for flood irrigation. Pricing is based on a 43 percent – 57 percent Cane Split for farmers and KASCOL respectively. Average yield is 110-115tons/Ha. The average price per ton, after deducting 57 percent for input costs and services provided by KASCOL, was US\$ 15.20 and for a 6.5-7.5 Ha plot, the farmer gets an average net annual income of US\$11,700, varying by yield and sucrose content. This level of income was far above the minimum wage rate in Zambia and compared well with wages of workers in formal employment. It was also far above the average annual income of about US\$ 500 for farmers in surrounding villages. There was therefore, a very high demand for land in the irrigation scheme. KASCOL provided social services, such as health clinics, a primary school and other recreation facilities. Each out-grower had a 0.65 Ha plot with good housing facilities. Most houses were electrified through a loan scheme and managed to send their children to good schools.

2. Small Scale Irrigation Project

Your Committee was informed that, based on the Kaleya Irrigation model, the AfDB and other donors had developed further irrigation schemes to support smallholder commercialisation. The European Union supported the 600 Ha Magobbo Irrigation Scheme to supply sugarcane to Nakambala in 2011. In 2003, the Ministry of Agriculture also approached the AfDB for more support to establish six more irrigation schemes in various parts of the country through the Small Scale Irrigation Scheme (SIP). This was done within the framework of the National Agriculture Policy with the objective, *“to facilitate and support development of sustainable and competitive agricultural sector that assures food security at national and household levels and that maximizes sector’s contribution to GDP”*. The SIP was to help develop water resources for irrigation and increase total irrigated area by 1,890 hectares by the year 2012. The AfDB provided a loan of US\$ 8.04 million while the Finnish Government added another grant of Euro 10 million. The SIP project sites were located in Sinazongwe, Mazabuka and Chongwe as indicated in Table 1 below.

DISTRICT	PROJECT SITE	AREA (HA)	FARM FAMILIES
Sinazongwe	1. Simupande Village	150	200
	2. Nzenga Fishing Camp	100	130
	3. Sinazongwe Village	150	200
	4. Buleya Malima Settlement	275	436
Mazabuka	5. Nega Nega Settlement B	595	164
Chongwe	6. Kanakantapa Settlement	620	483
Total		1,890	1,613

Your Committee learnt that between 2003 and 2005, the SIP activities focussed on procurement of goods and services related to laying the project on the ground. The main outputs were baseline surveys, feasibility studies, topographical surveys, engineering designs and bill of quantities and tender documents. The project also undertook community mobilization, staff and farmer training. Between 2006 and 2007, procurement and construction works commenced at Buleya Malima and Nega-Nega Schemes. Later, works started also at Nzenga Irrigation Scheme and Sinazongwe Schemes.

By 2015, the construction of irrigation schemes had been completed at Buleya Malima (67 Ha), Nega-Nega (Manyonyo) Schemes (550 Ha), Nzenga Irrigation Scheme (100 Ha) and Sinazongwe Irrigation Scheme (100 Ha). The following schemes were now planted and fully operational: Buleya Malima (mixed vegetables), Nega-Nega (sugarcane) and Nzenga (Cotton seed). The scheme at Sinazongwe had been beset with land wrangles and remained to be planted. Improved institutional management entities had also been installed at Nega-Nega and Nzenga Irrigation Schemes. The SIP irrigation project had demonstrated further success in smallholder irrigation and provided further lessons for the design of better irrigation interventions for integrating smallholders in commercial agriculture. Other donors and partners such as the World Bank, European Union, JICA and Finland had supported more smallholder irrigation projects modelled on the SIP.

3. Expansion of Irrigation Projects in Zambia

Your Committee was informed that after being spurred on by the successful piloting of commercial irrigation schemes for smallholders, the Zambian Government had requested the AfDB to expand its support to irrigated farming through various agriculture projects. A few examples are cited below.

i. Agriculture Productivity and Market Enhancement Project (APMEP)

Your Committee was informed that the Agriculture Productivity and Market Enhancement Project (APMEP) was financed through a US\$ 31.12 million Grant from the Global Agriculture and Food Security Programme (GAFSP). It was being implemented in Sinazongwe, Gwembe, Chongwe, Rufunsa, Serenje and Chitambo Districts. The main criteria for the selection of these Districts included:

- a. poverty, food insecurity and malnutrition prevalence;

- b. vulnerability to climate change;
- c. potential for economic growth; and
- d. potential to promote diversification to non-maize commercial crops.

The Project had three components i.e. Agriculture Production and Productivity; Value Chain Development and Market Linkages; and Institutional Strengthening which would be implemented over a period of five years from 2015, through the Ministry of Agriculture structures.

Your Committee was also informed that over 50 percent of the APMEP budget was allocated to the development of twelve smallholder irrigation schemes already identified during the pre-feasibility stage and expected to cover at least 2,032 Ha with 3,664 smallholder farmer beneficiaries (Table 2). The schemes were being designed with technical drawings and bill of quantities in readiness for tendering in 2017. The schemes would be commissioned in 2018.

PROVINCE	DISTRICT	Name of Scheme	Gross Area (Ha)
Southern	Gwembe	Chabbobboma	297
	Sinazongwe	Malima	215
		Bboko	100
		Siatwinda	68.3
		Simunyika	130
Lusaka	Rufunsa	Shikabeta	552
Central	Serenje	Munte	103
		Musangashi	264
		Mulembo	1000
		Saasa dam	327
		Lusuwashi	322
		Mazembe	50
TOTAL			3,428.3

ii. Upscaling Smallholder Irrigation Project (USIP)

Your Committee was informed that the Government of the Republic of Zambia (GRZ) had further accessed a grant of Euro 1.4 million from the African Water Facility (AWF), a multi-donor trust fund administered by the African Development Bank (AFDB). This grant would be used to undertake feasibility and environmental studies, to help prepare an investment programme to upscale smallholder irrigation in the country and to strengthen the adaptive capacity of farmers and the rural poor to climate change. The outcome of the Project would be increased investments in climate change adaptation and irrigated commercial agriculture, targeting to secure financing of no less than Euro 60 million by 2018.

Your Committee further learnt that, in addition, the anticipated downstream investment project would extend irrigated agriculture by 9,560 Ha, and reaching 4,800 households in rural communities which were vulnerable to the impacts of climate change. The investments would consider improved commercial and value chain linkages to large

operators throughout grower linkages, and to improve institutional management of these schemes through Public Private Partnership arrangements, a model successfully tested under the SIP project. Your Committee was informed that the Government had formally identified and characterised twenty-five potential irrigation schemes throughout Zambia as indicated in Table 3 below. The process to recruit a scheme design consultant had been initiated and design work was expected to commence by February 2017.

#	Site	District	Province	Area (Ha)
1	Makungwa	Chipata	Eastern Province	100
2	Lukuzye	Chipata	Eastern Province	120
3	Bwanyunka	Chipata	Eastern Province	150
4	Lusangazi	Lundazi	Eastern Province	120
5	Mukomba	Lundazi	Eastern Province	100
6	Luwesi/Emusa	Lundazi	Eastern Province	100
7	Lusowe	Petauke	Eastern Province	150
8	Kaulu	Petauke	Eastern Province	150
9	Chipompo	Kasama	Northern Province	200
10	Nseluka	Kasama	Northern Province	600
11	Mwenda	Mbala	Northern Province	500
12	Ipusukilo	Luwingu	Northern Province	200
13	Lubasenshi	Luwingu	Northern Province	300
14	Luwalizi	Isoka	Muchinga Province	400
15	Lubu	Chinsali	Muchinga Province	400
16	Manshya	Shiwang'andu	Muchinga Province	500
17	Rufunsa	Rufunsa	Lusaka Province	800
18	Chiawa	Kafue	Lusaka Province	450
19	Lusuwishi	Lufwanyama	Copperbelt Province	1,000
20	Chifuwe East	Manyinga	North-Western	450
21	Chizera	Mufumbwe	North-Western	510
22	Chembe	Chembe	Luapula Province	480
23	Luongo	Chipili	Luapula Province	650
24	Mutenda-Muchinshi	Chingola	Copperbelt Province	510
25	Mulungushi	Kabwe	Central Province	620
Total Area				9,560

Important Lessons Learnt and Recommendations for Scaling Up Irrigated Agriculture for Economic Empowerment of Smallholder Farmers

Your Committee was informed that the initial model of smallholder irrigation schemes managed by Government agents did not show much success in uplifting the economic conditions of rural beneficiaries. Key lessons have been drawn from the experiences of the Kaleya and SIP models of irrigation schemes. These were important to be applied as the Government upscaled irrigation throughout the country.

i. Need for Pre-Feasibility, Feasibility Studies and Bankable Documents

Your Committee learnt that one of the biggest constraints to expansion of irrigation schemes in Zambia was lack of credible and detailed feasibility studies and engineering designs. It was important that the Government identified potential irrigation sites and invests in consultancies to design and prepare bankable scheme design documents so that investors could take these up at short notice. The availability of such documents would enhance and quicken procurement and reduce the lead time of investment.

ii. Value Chain Approach

Your Committee was informed that irrigation projects should not stand alone but must be integrated into a clearly identified and profitable commodity value chain. At design stage, the crops to be grown should be clearly known, including their markets. Irrigation should be just one of the key interventions to improve productivity of the identified crop, with parallel interventions in other value chain stages. Irrigation is very expensive and should be targeted at high value and high productivity enterprises if decent returns are to be expected. There was need for an integrated approach involving not only engineering experts but other disciplines such as socio-economic experts as well in providing support to the farmers.

iii. Proximity to Market Off-taker/ Core Investors

Your Committee was informed that the success of Kaleya and Nega Nega Schemes was largely attributed to the market support guarantees received from core investors such as Zambia Sugar Plc. Schemes located far from such support tended to struggle to sell excess products. The core venture could provide additional support services to the outgrowers.

iv. Improved Institutional Management Mechanisms

Your Committee further learnt that irrigation is a complex enterprise technically, businesswise and operationally. The establishment of improved management entities (Special Purpose Vehicle) to support farmers as primary shareholders was a must for complex schemes. Skilled staff should be hired to manage the scheme on behalf of farmers and this cost would be compensated by improved productivity and profitability.

v. Land Tenure Security and Community Sensitisation

Your Committee was also informed that in land constrained communities such as Sinazongwe, the local people needed to be sensitised about the incremental benefits of irrigation compared to rain fed farming. Farmers should be adequately compensated in terms of improved incomes for any forfeiture of traditional land to the scheme for the good of the wider community. Beneficiaries should be involved in infrastructure selection, siting, construction and management in order to enhance ownership and sustainability.

vi. Climate Change Impacts

Serious lessons had been learnt in Sinazongwe where the receding water levels left the pumping stations kilometres away and the pumps became inoperable for lengthy periods of the dry season. Climate change should be considered and mitigation measures incorporated in the design of schemes.

7.2 Equipment Suppliers Submission

Your Committee was informed that Zambia's agricultural sector was comprised of different farm types and farming methods. There were large commercial farms which were fully mechanised and used advanced agricultural methods whilst the majority of the small scale farming enterprises had limited access to funds and ability to invest in modern agricultural technology. Equipment suppliers were working to introduce new methods of growing traditional crops, introducing the very best, high quality agricultural products and services, yet remaining sensitive to the needs of rural farmers. Furthermore, after sales services regarding the availability of spares, repairs and maintenance of the pumps was usually provided to the farmers.

Your Committee was informed that an important comparative advantage for Zambian irrigation development was the large number of experienced private equipment suppliers in the country. These suppliers were typically local branches of international operations, and offered extension services in addition to imported equipment. Equipment imports had been expanding rapidly in recent years, boosted by the Government's decision to remove all import duties from irrigation equipment.

Your Committee learnt that, based on the unique requirements of the Zambian farmer, equipment suppliers offered comprehensive solutions enabling agriculture to expand and develop. Suppliers provided everything that was required for growing crops along with expert advice on cultivation and post-harvest solutions.

Your Committee was informed that irrigation suppliers offered a wide range of equipment and technical support on design, installation and maintenance programmes across Zambia. These companies were well acquainted with import and export procedures, ensuring quick and timely delivery of systems and spares. They generally did not hold large stocks, although certain suppliers did have their own stores and could supply farmers with irrigation equipment for up to 10 hectares.

On the retail pricing, your Committee heard that there was a lack of information for irrigation equipment in Zambia, which was why some farmers bought pumps from expensive retail outlets. Centre pivots were the most popular irrigation equipment in Zambia, with over 250 systems operating throughout the country. The estimated capital and installation costs per hectare ranged between US\$ 2,500 and US\$ 3,000 for an average area of 50 hectares. The main customers were large and medium commercial farmers, because this technology could generally be cost effective only if used for at least 30 hectares of land. Pilots had been conducted in the region to test smallholders' cooperative use of centre pivots, but no examples had been observed of such scale.

Your Committee learnt that motorised pumps were the second most supplied equipment in the country. More than 300 different pump models were available and farmers had access to a wide selection of generators to power electrical pumps. The operating costs for fossil-fuel pumps were as much as five times the cost of electric pumps, which meant that this technology could only be used in small areas with high-value crops.

Your Committee was informed that irrigation suppliers also offered a comprehensive range of renewable energy equipment for use in irrigation, including photovoltaic solar modules, compatible AC and DC pumps, inverters and controllers. In addition, hybrid energy pumps were available, for example, one pumping system could be powered by photovoltaic solar modules, a wind-driven generator, direct current or a combination of these. The motors were also designed for battery supply and AC generator power for standby operation.

Your Committee was informed that the types of irrigation that are being promoted in Zambia included the following:

a. Drip Irrigation

Your Committee was informed that drip irrigation is one type of irrigation system supplied in Zambia, which allows water to flow slowly to the base of the plant or root zone through a network of valves, pipes, narrow tubes and emitters. The principle behind drip is that the flow of water is reduced through friction loss by use of a longer passageway inside an emitter resulting in water droplets - hence the name drip irrigation.

Some of the major advantages of drip irrigation include the following:

- i. keeps soil aerated;
- ii. reduces weed growth;
- iii. cuts down diseases and fungi;
- iv. minimised evaporation and water run-off;
- v. uniform and efficient application of water;
- vi. enables easy control of water consumption; and
- vii. accurate use of water and nutrients distribution.

On the maintenance protocols, your Committee was informed that suppliers ensured that farmers were trained in the use and maintenance of the equipment, the highlights which included:

- i. no matter how clean the water may be there is a requirement for every drip system to be installed with a filter;
- ii. periodic flushing of the drip lines by opening the ends every week or as frequent as required;
- iii. emitters should be installed facing upwards; and
- iv. periodic flushing of the system, with chemicals like supper-link and phosphoric acid to remove any calcium deposits.

The target crops for drip irrigation include fruits, vegetables, nuts, herbs, flowers, non-food crops e.g. grass, ornamental trees and landscape gardens.

b. Overhead Sprinkler Systems

Your Committee was informed that this is a type of irrigation system that deploys a number of sprinklers connected in series or in parallel and is ideally a portable system meant for small to medium scale farmers. The system is portable in that a basic unit comprising of one or more sprinklers that are placed at one station and after a certain period are then moved to another station, and through a series of such movements an entire field could be irrigated.

The typical crops that could be irrigated using this method include maize, soybeans, sugar cane and vegetables. There are various types of sprinklers on the market with varying radii, with sprinkler radius ranging from 10m to 30m, typical of the rain-gun series.

c. Micro Sprinklers

Your Committee was informed that this is another type of sprinkler irrigation system whose major difference rests in the size of the sprinklers and their radius of coverage. Micro sprinklers, as the name suggests, are only able to cover a small area whose radius may not typically exceed 5m. This characteristic makes these sprinklers ideal for nurseries and fruit trees where one sprinkler would ideally irrigate one tree as was the case for citrus trees or one for four trees as in the case of bananas.

Your Committee was informed that micro-sprinklers were ideal for the following:

- i. under tree irrigation of fruit trees;
- ii. irrigation in greenhouses and nurseries;
- iii. irrigation of landscapes and residential garden;
- iv. frost protection in orchards and vineyards;
- v. climate control (cooling and humidification in greenhouses, poultry houses and livestock areas; and
- vi. pesticide spraying in greenhouses and orchards.

d. Centre Pivot

Your Committee was informed that a centre-pivot is an irrigation machine that consists of a fixed, four-legged centre structure with a long pipeline to which sprinklers are attached for dispersing water. The pipeline rotates around the centre in a straight radial-arm fashion, like the arm of a clock, riding on wheeled tower structures and creating a large irrigated circle pattern of a wide variety of crops.

The correct amount of water on the crop was essential for producing high yields. Zimmatic centre pivot irrigation systems bring a cost effective solution, alleviating risk when the weather was not cooperating. It also gave more flexibility when it came to planting, because the timeline would not be as affected by nature. Proper irrigation management minimises

yield loss due to crop water stress, optimises yield per unit of water applied and promotes good management practices. This resulted in a greater return on investment.

The major crops grown under pivots include fruit tree orchards, commercial turf and fodder, high-value vegetables, cotton, wheat, maize, soya beans and tobacco.

On the maintenance protocols, your Committee was informed that during the installation, the farmer was encouraged to actively participate in the installations hands on training induction which always proved useful when it came to servicing and maintenance of the equipment. In addition to this, the farmer was inducted in the proper use of the equipment and user and service manuals were handed to the farmer.

Reservoir and Pond Lining

Your Committee was informed that suppliers were able to design, advise and do the lining of reservoirs for large irrigation schemes and fishponds of whatever size, using the High Density Poly Ethylene (HDPE) geo-membrane material. The material is UV treated ensuring that there is no degradation of membrane integrity even when directly exposed to sunlight.

Your Committee heard that numerous research had indicated that smallholder farmers in developing countries had the potential of being more effective than large scale or commercial farmers in helping governments and their cooperating partners reduce poverty, increase food security and helping attain many other development goals including job creation through the agricultural sector.

Your Committee was informed that in spite of popular belief that large-scale farms were always more productive than smallholder farms, this notion had proved to be an enduring myth that continued to guide most agricultural policies in developing countries. Studies from around the world had generally proved the opposite was true; small farms were more productive than large farms.

The smallholder farmers, however, had many challenges such as:

- i. having no access to improved technologies like irrigation, improved seeds and fertilizers;
- ii. limited access to markets - poor packaging, bad roads and long distances to the markets;
- iii. lack of credit facilities; and
- iv. land tenure insecurities.

However, given the right support, the smallholder farmers could greatly increase their agricultural productivity. The above concerns could be addressed by setting up cooperatives that would address issues of irrigation and adaptation of new technologies, add value to their produce by even simply packaging their produce nicely and be able to bargain the price for their produce by having one united voice. The cooperatives could equally help resolve the issues related to lack of credit facilities and land tenure issues. A model of incorporating one large-scale farmer surrounded by several smallholder farmers would

prove effective in such a cooperative, as this would ensure the smallholder farmers were properly mentored into how to run their farms like a business.

7.3 Submissions from Other Stakeholders

Your Committee was informed that Zambia's agricultural production was predominantly rain-fed with maize as the major crop. The over-dependence on rain-fed production made the sector vulnerable to climate changes. According to the National Agriculture Investment Plan (NAIP) 2014 – 2018, the agricultural sector recorded significant growth between 2003 and 2012. However, the sector had a high level of volatility; in 2005 and 2007, for example, the sector recorded a negative growth rate. The negative growth rate and volatility had been attributed primarily to the results of unfavorable weather conditions in those years.

Your Committee was informed that the country was also trapped in a model of predominantly smallholder agriculture, and the attention of policy makers had been focused on efforts to intensify rain-fed production on small parcels to achieve food security. Most of the smallholder farmers who contributed to the food security basket cultivated less than two hectares and had very little capacity to increase the areas under production and productivity. Government programmes that were intended to facilitate growth in the sector and which targeted small-scale farmers, like the Farmer Input Support Programme (FISP), therefore, had a limit, if not exhausted.

Your Committee was informed that public irrigation infrastructure development interventions that would facilitate a gradual shift of smallholders to larger scale production of commercially viable commodities had been neglected. Needless to state that irrigated agriculture had shown to increase yields from two-fold to four-fold when compared with rain-fed agriculture. Irrigation development, therefore, offered the country tremendous opportunity as an avenue for growth in the agricultural sector.

Your Committee was informed that efforts to bring more land under irrigation needed to be intensified. Practical and realistic strategies to bring more of Zambia's land and water endowment into profitable agricultural use required a shift in Government policy and make available appropriate technologies to the small-scale, medium and commercial farmers alike. The primary problem experienced by the sector was lack of adequate investment in bulk water transfer systems for irrigation during the dry seasons.

The indicators for this included the following:

1. out of 42 million Ha of arable land, only 6.02 million Ha was being used indicating a small fraction of arable land (14 percent) being cultivated; and
2. out of 3 million Ha (8 percent of arable land) of Zambia's irrigation potential, only about 156,000 Ha (5 percent) was under irrigation.

Your Committee was informed that Zambia was endowed with 40 percent of the water resources in the SADC region. In order to tap the irrigation potential that existed in the country, investment in bulk water transfer systems for irrigation in the proposed farm blocks during the dry seasons was required. Four major rivers transect Zambia, these are Zambezi

River (flow rate of 1,900 m^3 /s), Kafue River (flow rate of 350 m^3 /s), Luangwa River (flow rate of 500 m^3 /s), and Luapula River (flow rate of 690 m^3 /s). Besides these are Chambeshi River with a flow rate of 230 m^3 /s, Lake Bangweulu and Tanganyika. The problem was to come up with appropriate technologies to harness these water resources and where prudent, transfer in bulk to arable lands that had insufficient water resources for irrigation.

Irrigated Land in Zambia by Category of Farmers

Your Committee heard that in Zambia, farmers were categorised by cultivated land as follows:

- i. Commercial farmer 30 percent (above 10 Ha);
- ii. Emergent 10 percent (5 Ha to 10 Ha); and
- iii. Small scale 60 percent (up to 5 Ha).

These categories of farmers were differentiated by cultivated land. The commercial farmers being established businessmen had access to both local and foreign markets and finance. However, the emergent and small-scale farmers were the most vulnerable though they produced most of the staple food, and they had limited access to finance and market. They relied mostly on the local financing institutions and markets which were mainly unreliable.

The irrigated area of 155,912 Ha was composed of 32,189 Ha for surface irrigation, 17,750 Ha for overhead, 5,628 Ha for localised irrigation and 100,525 Ha for wetlands. The large portion of the land was taken up by large scale farmers.

Your Committee was informed that if Zambia was to achieve meaningful development in the irrigation sector, then the target categories should be small-scale and emergent farmers. The Government needed to undertake deliberate measures to assist these two categories of farmers and to immediately uplift the majority of these farmers with workable agriculture packages unlike just subsidised inputs.

Your Committee was informed that the challenges to achieving meaningful development in the irrigation sector were as set out below.

1. Conflict of Interest with Hydropower Generation

The following examples were cited:

- i. Kafue river – the water in the Kafue river could not be fully exploited for purposes of irrigation because the majority percentage of the water permits from Water Resources Management Authority (WARMA) were vested in the interest of ZESCO for hydro-power generation thereby disadvantaging irrigation development;
- ii. Lunsemfwa river – The development of the hydropower station along the Lunsemfwa river had been shelved because a lot of farmers upstream of the proposed site had obtained a lot of water permits thereby leaving too little water for power generation.

Your Committee was further informed that access to the power grid was one of the main barriers to expanding irrigated agriculture in Zambia. Pump-based irrigation systems generally required electricity (other than emerging solar options). However, the country did not have enough electricity for every household and it would take a long time before power was available to every smallholder farm. Although farmers could easily access diesel fuel for generators, this was a costly undertaking. It was estimated that running pumps on diesel in Zambia was about five times the cost of running on grid electricity.

2. Distribution of available water

Your Committee was informed that there was a water deficit in the central and southern parts of the country. The northern part had adequate water. However, there was little irrigation practiced in the north.

It was previously understood that farm blocks falling in the Kafue and Zambezi basins in the southern part of the country would easily be irrigated with abstracted water from the Zambezi and Kafue rivers. However, experience had shown that current base flows in the Kafue River were not only inadequate to meet the installed hydropower generation capacities on the river but had no capacity to support additional development in irrigation farming.

Your Committee was also informed that the developed farming blocks in Zambia which included part of Central and Southern Provinces did not have adequate water to support irrigation farming. For any meaningful irrigation development, therefore, water would have to be transferred from the northern region of Zambia which had a water surplus to meet the irrigation water requirements of the farming blocks and hydropower generation in the south.

3. Inadequate Capacity of WARMA in Monitoring and Enforcing conditions attached to water permits.

4. There was limited institutional capacity within the Government to implement irrigation programmes.

5. Lack of standards for irrigation equipment.

6. There were over 1,700 small dams that had been constructed by Government and other stakeholders but the utilisation of these dams for irrigation was very limited. The small scale farmers lacked technology for water abstraction and on-field management.

However, your Committee was informed that further engineering feasibility studies would have to be undertaken on how best to take advantage of the existing inland natural water channels in order to limit the construction of man-made channels. The concept was to

ensure that the water resource circulates in bulk around the ten provinces of the country as much as possible.

Your Committee was informed that one of the most serious constraints in irrigation development in Zambia was inadequate water supply for irrigation in the southern and central parts of Zambia where most of the farms were located. It was explained that elsewhere in the world, problems of water deficits had been solved by developing inter-basin water transfers. Examples of projects transferring hundreds of millions of cubic meters of water per year over hundreds of kilometers were found in different parts of the world, including Europe. For example, Israel's National Water Carrier goes for 130 km from the rainy north to the arid south, in North America the Colorado River Aqueduct (CRA) is a 389 km water conveyance in Southern California in the United States and in Asia the South-North Water Transfer Project, also translated as the South-to-North Water Diversion Project was a multi-decade infrastructure mega-project in the People's Republic of China. Ultimately it aimed to channel 44.8 billion cubic meters of fresh water annually from the Yangtze River in southern China to the more arid and industrialized north through three canal systems.

It was proposed that feasibility studies be funded to outline the technical and financial requirements to implement an inter-basin water transfer from the water surplus north to the water deficit southern region of Zambia. The Kafue and Luangwa basins would then be exploited to the maximum for irrigation, domestic, industrial and hydro power generation.

Your Committee was further informed that there was need for the capacity of WARMA to be strengthened to gather and maintain information on water resources and from time to time publish forecasts, projections and information on water resources.

Your Committee further heard that the Government needed to strengthen its institutional capacity to implement irrigation programmes. At the moment, the capacity to implement irrigation programmes was very limited. It was suggested that the Irrigation Engineering Section in the Department of Agriculture needed to be transformed into the Ministry of Irrigation and Drainage. The country must also establish standards for irrigation equipment and accessories.

Regarding the issue of water harvesting, your Committee was informed that Zambia needed an integrated water management system, from domestic to industrial use and not isolated structures. An example of India was given which employed the system though it received only 10-30 days of rain per year.

Your Committee was informed that there was need to develop technology to abstract water. However, unlike other industries such as construction, there was no deliberate Government policy directed towards irrigation research and implementation of local projects. Furthermore, there was need for a link between tertiary institutions, irrigation developers and the industry.

Your Committee further heard that the Government should upgrade and rehabilitate the existing old irrigation infrastructures that were among the small scale farmers in the country so that they become fully operational. It should also create and enhance awareness

among small scale farmers regarding the various irrigation programmes that were currently going on in the country. In this way, farmers could mobilise themselves to apply for such projects.

PART II

LOCAL TOUR REPORT

8.0 Manyonyo Irrigation Scheme

Your Committee toured Manyonyo Irrigation Scheme in Chikankata District which was founded to compensate the farmers displaced by the construction of the Kariba Dam. The direct beneficiaries include 145 farmer households. The project was funded by the African Development Bank and the Government of Finland. This scheme has adopted the Public Private Partnership model and was being run by a private registered company.

Your Committee discovered that although the scheme had a ready market at Zambia Sugar, there was serious underutilisation of the investment as three reservoirs had been constructed but only one was being used for irrigation. There are also land issues that have not yet been resolved and stakeholders are concerned that land ownership issues were not taken into consideration in the design of the scheme. The scheme also uses the flood irrigation which is not a very efficient system because the soil fertility is disturbed when the land is levelled and flooded, with serious water losses due to seepage from the unlined canals.

Fig. 1: Unlined canal at Manyonyo Irrigation Scheme



Fig. 2: Pump Station at Manyonyo Irrigation Scheme



Fig. 3: One of the operational reservoirs at Manyonyo Irrigation Scheme



8.1 Mubuyu Farms Limited

Your Committee visited Mubuyu Farms Limited which is a privately-owned farm. The farm which is an innovator in water harvesting, is involved in growing irrigated wheat, soybeans and coffee. Your Committee was informed that Mubuyu Farms was seeking to influence water harvesting and additional damming as investment in irrigation had to be supported by adequate water supply.

Your Committee was also informed that there was need for the Government to invest in large communal sources of water which could be used by everyone in times of need. Your Committee was further informed that irrigation would only be profitable for high value crops and therefore, as the Government rolls out the irrigation schemes, there was need to have

markets for the irrigated crops as the drivers of the investment in irrigation. The major concern raised by Mubuyu Farms was that the period given for the lifespan of the water rights from the Water Resources Management Authority (WARMA) was hindering long term investment in irrigation due to the uncertainty of renewal of the water rights.

In its future plans, Mubuyu Farms was also proposing the construction of a storage and transfer dam on the Chitete Stream and the Mvuma Hills Irrigation Project which encompassed the whole catchment area of the Nega Nega River, which was bounded by the Mvuma Hills (Munali) on the east, the railway line on the north, and the watershed hills on the west. The project comprised a mixture of traditional farmers, small scale farmers, medium scale farmers, and large scale farmers. The project also covered the new Chikankata District Council headquarters.

8.2 Nanga National Irrigation Research Station

Your Committee toured the National Irrigation Research Station situated at Nanga. It was observed that the irrigation station was outdated and does not serve the purpose of an irrigation research station. It needs to be revamped and re-engineered to start serving its purpose as an irrigation research station. The laboratory did not have the necessary equipment to run as a research laboratory.

Your Committee noted that the irrigation system required total rehabilitation as the canal was infested with weeds and was highly sedimented. There were three reservoirs which were infested by weeds and sedimented. There was need to clean and deepen two of the reservoirs and to completely rehabilitate one of them. There was also need to overhaul and replace most of the pipe network and the sprinklers as there were a lot of water leakages along the irrigation system.

Your Committee also learnt that the station was understaffed and had not received any technical staff in the irrigation sector for the past five years. The land belonging to the research station was underutilised and it was not adding any value to the irrigation sector. There was serious underfunding to the institution which had rendered it a non-functional entity.

Fig. 4: Sedimented reservoir at Nanga Irrigation Research Station



Fig. 5: National Irrigation Research Station Canal overgrown with weeds



Fig. 6: Dilapidated pump station at National Irrigation Research Station



8.3 Nanga Farms Plc

Your Committee toured Nanga Farms PLC which is a shareholding company owned by Tukunka Agricultural Limited (85.73 percent) and the Government of the Republic of Zambia (14.27 percent). The main business activities include sugar cane production, cattle ranching and management services to Maggobbo Small Scale Grower Project under furrow irrigation which is about 440 hectares.

Your Committee learnt that the types of irrigation practiced at Nanga Farms include centre pivot, surface and sub surface drip irrigation and dragline and floppy sprinkler irrigation. The farm abstracts its water from the Kafue River. Its bulk water supply infrastructure included the Mazabuka Canal, the Main Canal and the Wolverton Canal which were serviced by seven pump stations with a total of sixty four pumps and 53.1 kms of main pipelines. Maggobbo had six pumps with 4 kms of pipelines.

Your Committee was informed that the most appropriate system of irrigation in terms of ability to manage was the Centre Pivot although for small scale farmers it would require community involvement such as a cooperative movement to run efficiently. Your Committee was further informed that the drip irrigation was not an option for small scale farmers as it required industrial level management while the furrow was the most inefficient in terms of water use and quite expensive in terms of land management. It was emphasised that continuous flood irrigation and land levelling reduced soil fertility. Your Committee was informed that the dragline sprinkler was a much simpler technology to manage and therefore recommended for small scale farmers. It was also agreed that small scale irrigation schemes needed a centralised pump station for bulk water infrastructure.

The major concern expressed by management at Nanga Farms PLC was the period of validity of the water permits. It was felt that five years was not a long enough period to encourage investment in irrigation as it was an impediment to accessing funding from external funders such as banks.

Fig. 7: Centre Pivot at Nanga Farms PLC



8.4 Zambia Sugar Plc

Your Committee toured Zambia Sugar Plc whose irrigation water was pumped from the Kafue River for efficient irrigation of the crop. It had its beneficiaries who were the large scale and small scale outgrowers operating through three established smallholder schemes, all irrigating from the Kafue River. The main irrigation systems employed by Zambia Sugar were sprinkler, drip, overhead sprinkler and furrows. The sustainability of the business was anchored on a robust irrigation regime and availability of water and electricity.

Your Committee was informed that the challenges the company faced regarding irrigation included the recently changed water permit system which stipulated that an irrigation permit was only valid for a period of five years. This posed a challenge in attracting long term investment in the sector because of the inherent risk of potentially losing the permit after a capital intensive investment. Further, there were delays in processing water permits which frustrated investment in the sector.

Your Committee was informed that the non-availability of water in the rivers for irrigation was a constraint to increasing hectareage under irrigation as there were competing needs between hydropower and other economic activities. Yield per hectare was negatively affected by intermittent power supply because crop stress sets in and pest and disease thrive under these conditions. Climate change issues as recently observed were putting the sector at risk as rivers and dams were becoming drier.

Your Committee was informed that Zambia Sugar emphasised the need for training and knowledge on appropriate water management systems amongst the smallholders. The Company stated that lack of appropriate irrigation technologies compatible with cultural norms coupled with limited financial resources made irrigation development amongst small scale growers quite difficult.

Fig. 8: Rehabilitated pump station at Zambia Sugar Plc



8.4 Nzenga Irrigation Scheme

Your Committee toured Nzenga Irrigation Scheme in Sinazongwe District. The Scheme was established in 2012, with funds sourced from the Finnish Government under the SIP, a climate change adaptation project. The scheme has an area of 104 hectares and earmarked to benefit about 100 households.

Your Committee heard that the scheme ran as a company on the premise of the Public Private Partnership (PPP) and was managed by three experts. Farmers were shareholders and sat on the board of directors. The Ministry of Agriculture was represented by the Permanent Secretary. The other members of the board were drawn from reputable organisations and individuals within the community.

Your Committee was informed that there had been a challenge in mobilising resources for crop establishment for the last three years since the completion of the scheme. The other challenge was the breaking down of the irrigation infrastructure due to a number of factors. Firstly, the infrastructure stayed for three years after completion without being used and this resulted in cracks along the joints. During irrigation, water seeps through the cracks thereby weakening the base. This has led to the collapse of the canals. Secondly the land leveling was done after laying the canals, an operation that should have been before. Because of this, some portion of land floods because they lie below the drainage canals. The flooding caused damage to the crops.

Fig. 9: Water Reservoir at Nzenga



Fig. 10: Bulk water supply at Nzenga



8.5 Sinazongwe Irrigation Scheme

Your Committee toured the Scheme which is another climate change adaptation project funded by the Finish Government through the SIP project. The scheme was completed in 2013 and is about 90 hectares and expected to benefit 90 households.

The main challenge with this scheme has been the resistance by some farmers. This was due to unresolved issues of land ownership as the community wanted to own the land and also to have a say on the type of crops grown. This had posed a great challenge in the implementation of irrigation activities in the area as the infrastructure lies unutilised exposing it to weather activities.

8.6 Kalonga Farms

Your Committee toured Kalonga Farms which is a private farm investment. The farm grows groundnuts under centre pivot and bananas under drip irrigation. The farm experienced challenges getting groundnut seed in Zambia. Other challenges faced included the issue of distances to the markets, high Zesco tariffs and water rights. Your Committee was informed that there was no need to have the entire equipment one needed to use on the

farm as some equipment could be hired. It was also observed that heavy investment in irrigation required good management.

Fig. 11: Groundnuts under centre pivot irrigation



Fig. 12: Bananas under drip irrigation



8.7 Zampa Farms

Your Committee toured Zampa Farms in Livingstone which grows groundnuts, soybeans and wheat under centre pivot irrigation. The major complaint was the issue of electricity tariffs and water rights.

Fig. 13: Water reservoir at Zampa Farms



Fig. 14: Groundnuts at Zampa Farms



8.8 Evergreen Farms

Your Committee toured Evergreen Farm in Pemba that had a functioning garden for vegetables and an orchard for fruits. However, it had faced challenges in that even though there was a stream, it dried up after some time. There was need to provide irrigation infrastructure such as dams and canals to irrigate the farm. There was also a lack of extension advice on pest control. The other challenge faced was the distance to the markets and lack of storage facilities near the market centres.

Fig. 15: Vegetable gardens and Citrus fruits at Evergreen Farm



8.9 Zambeef Huntley Farm

Your Committee toured Zambeef Huntley Farm in Chisamba and learnt that Zambeef had one of the largest irrigated row cropping operatives in Zambia. It had approximately 7, 971 Ha irrigated land and 8,623 Ha rain-fed, arable, developed land available for planting each year. Crop production focused on maize and soybeans during summer and wheat and maize during winter. The farming division produced raw materials input for further value addition processing within the group. However, during the tour, not much infrastructure was available for your Committee to view as the irrigation equipment was turned off.

8.10 Golden Valley Agricultural Research Trust

Your Committee toured the Golden Valley Agriculture Research Trust (GART) which was created in 1993, by the Government of the Republic of Zambia in partnership with the Zambia National Farmers Union (ZNFU). Your Committee was informed that GART was a substantially self-sustaining and autonomous Public Private Initiative and part and parcel of the National Agriculture Research and Extension System (NARES). It was registered under the *Land Perpetual Succession Act (CAP 288)* of the Laws of Zambia.

Your Committee was informed that the irrigation infrastructure at the research centre was in a state of disrepair as most of it was very old and presented leakages during irrigation. Your Committee further heard that some donors wanted to provide funds for the improvement of the irrigation infrastructure but were awaiting a comprehensive report indicating what was in existence before they could commence. Given the circumstances at the institution, there was need to leverage the resources from those who might want research done for them so that they could pay for the service. It was also expected that management would be proactive in engaging the donors and other stakeholders so that the public meets its share of support and the donors supplement their efforts.

Fig. 16: Irrigation lines buried underground at GART



8.11 Globespan Investments

Your Committee toured Globespan Investments which was a farm run by a young entrepreneur, in Keembe. Your Committee was informed that the farm had employed mostly women who were trustworthy and loyal. It started small but was expanding with more land being purchased and added on to the existing land area. Your Committee learnt that the owner of the farm was always on hand to supervise the farmers. The farm grew tomatoes under drip irrigation and had started expanding towards growing onions under sprinkler irrigation. The farmer also kept fish in the water reservoir. The tomatoes grown already have a link to the market. Your Committee learnt that the farmer had received expert advice on the running of the irrigation equipment from the suppliers of the equipment and they were on hand to assist in setting up the infrastructure. Your Committee was further informed that there was need for the Government to streamline internship programmes by attaching the young interns to farmers who were successful entrepreneurs.

Fig. 17: Laying of pipes for expansion of irrigation at Globespan



8.12 Nansanga Correctional Farm

Your Committee toured Nansanga Correctional Farm site located in the Nansanga Farm Block in Serenje. It is 3,883 hectares in total. The farm has nine centre pivots. 700 hectares of land was earmarked for the irrigation scheme and Saro Agriculture Equipment was contracted to erect the nine centre pivots – 77.78 Ha each.

The status of the progress that had been made at the project site was as follows:

- i. installations of booster pumps at the two (02) pump stations (pontoon pump station at Musangashi dam and the infield main reservoir – pump house) had been completed. All major fittings and accessories on the five (05) booster pumps on the pontoon and six (06) booster pumps in the pump house at the main reservoir were satisfactorily mounted and awaited testing;
- ii. installation of all the nine (09) irrigation centre pivots has been completed with only minor fittings and accessories (sprinklers and other fittings) yet to be done during testing;
- iii. there was slow progress on land clearing under the nine (09) centre pivots. This slow progress was mainly attributed to the failure by the contractor Delta Auto that had failed to execute the contract. The breakdown of the three excavators and one bulldozer had also made it impossible to make progress. However, the tender committee at Ministry of Home Affairs was handling the issue of the failed contract;
- iv. trenching on the main water distribution line from the water source (Musangashi dam) to the infield main reservoir stalled due to the hard rock that was encountered during excavations along the channel covering 3.6kms. However, a contractor (Farmers Pit) has been awarded a contract to do the blasting so that the works were completed;
- v. trenching on the feeder line to the main centre pivots had been done.
- vi. the water reservoir had been completed and the dam lining had also been laid though there was need to plant grass on the sides to strengthen the embankment;
- vii. the grain storage shed had been completed and handed over; and
- viii. the 33kv power line had been completed up to the location of the proposed camp site and installations of the transformer had also been done. The other line to the

dam and pump house was yet to be completed though the contractor was on site and making progress, the works would be completed soon.

Major points to note.

- i. Inadequate equipment such as excavators, bulldozers and a heavy duty ripper for removing of all roots after land clearing.
- ii. Lack of funds for servicing and maintenance of the equipment as this was not included in the contract.
- iii. Lack of transport and infrastructure i.e. officers accommodation, cells for inmates and kitchen.
- iv. Poor communications, officers were covering at least 12km to find network.

Your Committee learnt that the Zambia Correctional Service had made some strides in the project and some of the works were nearing completion. Your Committee also learnt that there was a disconnect between the project management team and the project implementers, therefore, there was need to sub-contract project managers. It was also noted that the core business venture which was supposed to anchor the investment was not in place.

Your Committee noted and appreciated that the investment was quite huge and therefore, a concerted effort to support the Zambia Correctional Service financially was required to actualise the project.

Fig.18: Pump station at Nansanga Correctional Irrigation Site



Fig. 19: Water Reservoir Lined at Nansanga Correctional Irrigation Site



8.13 Albert Moffat Farms

Your Committee toured Albert Moffat Farm where granadillas and macadamia nuts are grown under drip irrigation. Challenges faced included the issue of water permits and water rights.

Fig. 20: Granadillas growing at Albert Moffat's Farm



8.14 Kafwa West Furrow

Your Committee toured Kafwa West Furrow which is a group of farmers who came together to grow tomatoes using the furrow irrigation. The challenges faced were the distances to the markets and transport cost. The desire of the farmers was to have a venture where they could do value addition to the crop grown so that they avoid the crops going to waste in case they could not access the market easily and quickly.

Fig. 21: Furrow at Kafwa West



Fig. 22: Tomatoes growing at Kafwa West Furrow



8.15 Public Hearing

Your Committee held a public hearing at Mkushi Country Club Farm Block. The findings are outlined below.

- i. The export duty on maize disadvantaged farmers and affected prices of maize adding to the cause of the oversupply.
- ii. Farmers feared oversupply of wheat on the market if millers were allowed to import the 100,000 tons of wheat requested.
- iii. The new Bank of Zambia Statutory Instrument on cash and cheque payments was likely to have a huge impact on farmers' ability to pay for labour and necessary inputs. Rural workers did not have access to electronic systems or banks. In addition, all bank account holders were required to get a TPIN number and this was nearly impossible for them.
- iv. The recent legislation by the Road Transport and Safety Agency (RTSA) regarding private transporters being treated as commercial transporters and making them get red and white number plates was very restrictive and costly to farmers. It meant farmers would have to pay more for their vehicle taxes and the drivers would have to get new licences. There were long queues at RTSA and inefficiency was rife as they

spent many days there and corruption took place to get driving licences. Farmers, therefore, appealed to have a RTSA office in Mkushi.

- v. Regarding work permits, farmers were concerned that highly qualified technicians of agricultural equipment were not having their work permits extended. With agricultural equipment becoming more and more specialised, there was a need for these skills to be available in Zambia as farmers could not repair these machines. A concern was raised that skilled persons involved in science and technology and teaching and training were being refused work permits. Schools like Chengelo in Mkushi trained and taught children to world standards. They were also involved in training small scale farmers to improve farming methods.

Fig. 23: Farmers at Mkushi Country Club Farm Block Public Hearing



Fig. 24: Farmers at Mkushi Country Club Farm Block Public Hearing



8.16 Mwomboshi Dam

Your Committee toured the Mwomboshi dam project site which is situated 26 Km north of Chisamba town centre and was funded by the World Bank through the Zambian Government and the Ministry of Agriculture as the implementing agent. The capacity of the dam is 12 million m^3 of water at full supply level estimated at a cost of about US\$ 28 million. The total dam wall length is 1,500 m and the height is 28 m.

The dam would be used to irrigate high value crops such as flowers, green beans, tomatoes and other horticultural crops. About 1, 715 hectares of land would be irrigated benefiting about 700 households. 178 housing units for resettlement have been constructed while 52 were still under construction.

Challenges encountered at the dam site included lack of transport for Ministry staff that were expected to supervise the project, no funding for irrigation activities since 2010 and the non-involvement of the provincial and district agricultural offices in the on-going projects.

Fig. 25: Works at Mwomboshi Dam Site



Fig. 26: Houses for resettlement at Mwomboshi dam



8.17 Kasisi Agricultural Training Centre

Your Committee toured Kasisi Agricultural Training Centre whose emphasis is on organic sustainable agriculture. The Centre uses the centre pivot for the main agricultural project with local farmers. The Centre was helping with irrigating the crops for the farmers and had linked them to a market with the chain stores to sell their produce. It had also started a programme for value addition especially with the milk section.

Fig. 27: Milk Processing Plant at Kasisi for Value Addition



9.0 COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

After a detailed analysis of the written memoranda and careful consideration of oral submissions from the stakeholders, the local tour and the public hearing, your Committee makes the observations and recommendations set out hereunder.

- i. Your Committee observes that the implementation of irrigation programmes was governed by the Irrigation Policy and Strategy of 2004. Your Committee further observes that the development and implementation of irrigation programmes has not been effective and well-coordinated to ensure promotion and entrenchment of a sustained irrigation sector development. The situation was attributed, primarily, to lack of a consistent and up-to date irrigation policy and strategy framework. In light of this, your Committee strongly recommends that Government should expedite the revision of the Irrigation Policy and Strategy of 2004. Your Committee further requests for a review of the Water Policy of 2010 to align it with the revised Irrigation Policy and Strategy of 2004.
- ii. Your Committee notes that irrigation development offers the country tremendous opportunity as an avenue for growth in the agricultural sector. However, your Committee observes that there is limited institutional capacity within the Ministry of Agriculture to implement irrigation programmes. Your Committee further observes that the Ministry of Agriculture does not have adequate skilled human resource in irrigation as trained irrigation engineers were lost to other Ministries.

Your Committee strongly urges the Government to upgrade the irrigation section in the Ministry of Agriculture and ensure the recruitment of appropriate and sufficient numbers of staff at all levels in order to strengthen its institutional capacity to implement irrigation programmes.

- iii. Your Committee observes that the role of the private sector and cooperating partners has not been effective and well coordinated to ensure the promotion and entrenchment of sustained irrigation sector development.

In this regard, your Committee recommends that the role of the private sector and cooperating partners must be streamlined to ensure consistency, effective promotion and development of the irrigation sector whose development has been characterised by haphazard and fragmented development initiatives. Your Committee further recommends the equitable promotion of irrigation among different categories of farmers to exploit synergies by integrating smallholder and emerging farmers in commercial irrigated agriculture.

- iv. Your Committee observes that there have been numerous constraints to the expansion of irrigation schemes which include lack of credible and detailed feasibility studies and engineering designs.

In light of this, your Committee urges the Government to ensure that there are pre-feasibility, feasibility studies and bankable documents before construction of any irrigation scheme.

- v. Your Committee notes that irrigation is a very expensive venture which should not be engaged in without expecting decent returns on investment. Your Committee further observes that irrigation schemes located far from market off-takers tend to struggle to sell excess products and that proximity to market off-takers or core ventures guarantees success of the irrigation schemes.

Your Committee, therefore, recommends that irrigation should be targeted at high value and high productivity enterprises if decent returns on investment are to be expected. Your Committee further recommends that irrigation projects should not stand alone but must be integrated into clearly identified and profitable commodity value chains.

- vi. Your Committee observes that where there is no sensitisation of the community on issues of land tenure security and land ownership, the scheme is bound to encounter challenges.

Your Committee strongly urges the Government to ensure that beneficiaries are involved in infrastructure selection, siting, construction and management of the schemes in order to enhance ownership and sustainability.

- vii. Your Committee observes that the ban on exports for certain crops is contributing to the slow progress in investment in the irrigation sector.
In this regard, your Committee strongly recommends that, in order to support long term investment in irrigation, the open border policy must be maintained. The Government must therefore, avoid frequent export bans on agricultural produce.
- viii. Your Committee notes that the five year period of validity of an irrigation permit hinders long term investment in irrigation because of the inherent risk of losing the permit after a capital intensive investment.
Arising from this, your Committee strongly recommends that the Government should increase the period of validity of the irrigation permit to encourage investment in irrigation.

- ix. Your Committee observes that the only National Irrigation Research Station in the country meant to feed into research in the irrigation sector is in a dilapidated state, understaffed and virtually non-operational. Your Committee further notes that there is limited or no funding to the Irrigation Research Station.

Your Committee strongly urges the Government to prioritise research in the irrigation sector and ensure that there is a deliberate effort to invest in the rehabilitation and construction of irrigation infrastructure at the National Irrigation Research Station.

- x. Your Committee observes that there is no equity in the distribution of irrigation funds and irrigation infrastructure in the different provinces.

Your Committee, therefore, recommends that irrigation funds and infrastructure must be distributed according to identified needs in the different provinces.

- xi. Your Committee observes that accessibility to some existing irrigation sites is very poor thereby rendering them inaccessible during certain periods of the year.

Your Committee recommends that accessibility to the irrigation sites should be enhanced by improving the road infrastructure leading to the irrigation sites.

Your Committee further recommends that the Government must take stock of the status of existing irrigation infrastructure in the country in order to carry out rehabilitation of the existing infrastructure and come up with new sites for construction of new infrastructure.

PART III

CONSIDERATION OF THE ACTION-TAKEN-REPORT ON THE COMMITTEE'S REPORT FOR THE FIFTH SESSION OF THE ELEVENTH NATIONAL ASSEMBLY

Review of the Implementation of the Farmer Input Support Programme (FISP)

10.0 Your previous Committee had recommended that after reviewing the challenges encountered in the e-voucher piloting, the Government immediately rolls out the e-voucher to all districts as this would help weed out ghost beneficiaries and eventually graduate the beneficiaries.

Executive's Response

In the Action-Taken Report, your Committee was informed that the E-Voucher System was piloted in 13 districts during the 2015/2016 agricultural season. A total of 241,000 farmers were targeted to benefit from the programme. Based on the performance of the pilot, the Ministry was scaling-up the implementation of the E-Voucher System, during the 2016/2017 season to 39 districts targeting 602,521 farmers.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the performance of the roll out programme with clear performance indicators.

10.1 Your previous Committee had strongly recommended that a separate FISP Unit with its own dedicated staff be set up as this would greatly improve the operational efficiency of the Programme.

Executive's Response

In the Action-Taken Report, your Committee was informed that the proposed structure for a separate Farmer Input Support Program (FISP) unit had been prepared and was under discussion within the Ministry of Agriculture. Plans were that in 2017, a separate unit of Farmer Input Support Program would commence operations.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the commencement of operations of the separate FISP unit and also the feasibility of having the FISP unit at camp level.

10.2 Your previous Committee had urged the Government to have a dedicated division or unit to carry out monitoring and evaluation of the FISP Programme.

Executive's Response

In the Action-Taken-Report, your Committee was informed that a robust Monitoring and Evaluation Unit had been proposed in the proposed structure of the separate Farmer Input Support program (FISP) unit. Under the E-Voucher System, the Ministry had engaged the Indaba Agricultural Policy Research Institute (IAPRI) to conduct an independent Monitoring and Evaluation of programme implementation in the pilot districts. The Ministry was currently awaiting an Evaluation Report from IAPRI.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the Evaluation Report.

10.3 Your previous Committee had recommended that selection of agro dealers should be open and should not be done by the Government to allow more private sector actors.

Executive's Response

In the Action-Taken Report, your Committee was informed that all procurement of goods and services with financing from the Government and other Cooperating Partners was governed by the ZPPA Act.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and calls for a review of the distribution network so that the big suppliers do not stifle the small-scale agro dealers.

10.4 Your previous Committee had urged the Government to encourage crop diversification based on soil type by carrying out soil sampling. Your previous Committee had further urged the Government to avoid blanket fertilizer recommendation to all areas. It had stated that distribution should be preceded by the soil structure analysis and advice given to farmers on what may be required in their particular area must be site specific.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Government was in the process of digitalising the soil map of Zambia so that fertilizer recommendations can be more site specific according to the prevailing soil fertility status.

Crop Diversification based on soil was emphasised in the National Agricultural Policy. Specific crops were being encouraged in agro-ecologies where such crops have comparative advantage. For instance, rice was promoted in certain parts of Western, Muchinga, Northern and North-Western Provinces; Cashew in Western Province; Groundnuts in Eastern Province; Cowpeas in Southern Province; Cassava in North-Western, Luapula, Western, Northern and Muchinga Provinces.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the progress made in the digitalisation process for the soil map.

10.5 Your previous Committee had urged the Government to restructure FISP and the FRA and increase the Ministry's budgetary allocation for research and extension services.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Government through Ministry of Agriculture had taken note of this very important observation and recommendation by the Committee. In this regard, the Ministry of Agriculture had commenced the process of restructuring the Farmer Input Support Programme (FISP) through the introduction of the Electronic Voucher System which was cheaper to administer and implement compared to the current administration of subsidised inputs. Through the introduction of the Electronic Voucher System, the Ministry was likely to make savings which would be directed towards research and extension in the next budget.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests for tangible proof of the savings made through the E-Voucher.

10.6 Your previous Committee had recommended that FISP be hived off to another Ministry such as Ministry of Commerce, Trade and Industry or to an independent agency which can be created to oversee the implementation of FISP. This would in turn free the Ministry of Agriculture so that it concentrates on key agricultural development programmes.

Executive's Response

In its response in the Action-Taken Report, the Executive informed your Committee that the Government under Ministry of Agriculture was exploring ways of turning FISP into an independent agency to oversee the implementation of FISP. This would help FISP concentrate on farmer support and leave the Ministry to concentrate on other key agricultural development programmes.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the matter indicating the timeframe and what is being done to improve efficiency.

PART IV

CONSIDERATION OF THE ACTION-TAKEN REPORT ON THE REPORT OF THE COMMITTEE FOR THE FOURTH SESSION OF THE ELEVENTH NATIONAL ASSEMBLY

State and Management of the Fisheries Sector in Zambia

11.0 Your previous Committee had requested the Executive to provide a timeframe within which the revision of the fisheries regulations would be done and an update on the finalisation of the aquaculture regulations.

Executive's Response

In its response in the Action-Taken Report, the Executive stated that the timeframe for the revision of the Fisheries Regulations and enactment of the Aquaculture Regulations was initially put at six (6) months from January 2016. However, there had been some delays and the new deadline was October 2016.

However, after further enquiry, your Committee was informed that the revision of the Fisheries Regulations and process of enactment of the Aquaculture Regulations had now been given a deadline of August 2017 because stakeholder consultations would only commence as funds were made available.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the stakeholder consultations on the revision of the Fisheries Regulations and the enactment of the Aquaculture Regulations.

11.1 Your previous Committee had urged the Government to provide a timeframe within which the Fisheries and Aquaculture stand-alone Policy would be finalised.

Executive's Response

In the Action-Taken Report, your Committee was informed that the timeframe for the finalisation of the Fisheries and Aquaculture stand-alone policy was initially put at six (6) months from January 2016. However, the policy could not be finalised due to lack of funds to conduct consultations with stakeholders in the sector. Your Committee heard that Cabinet approved the Second National Agriculture Policy (S-NAP) which was the umbrella Sector Policy.

Upon further enquiry, your Committee learnt that the draft Fisheries and Aquaculture stand-alone policy document was available and considering that the S-NAP may not directly address some pertinent issues for the subsector, wide stakeholder consultations would be embarked upon once resources were available. The estimated timeframe was up to August 2017.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on whether there will be a stand-alone Fisheries and Aquaculture policy and whether stakeholder consultations have begun.

11.2 Your previous Committee had urged the Executive to give an update on the implementation process of infrastructure that supported the fisheries sector and when the same would be rolled out to other parts of the country.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that apart from the infrastructure cited in the earlier response, the following infrastructural developments were taking place in the fisheries subsector.



a) Fish freezing facility in Senanga – in progress



b) Fisheries Office Block in Kabompo – completed



c) Student Dormitory at Sinazongwe – in progress



- d) Fisheries Office and laboratory in Kapiri Mposhi – in progress

Fish Pond



- e) National Aquaculture Research and Development Centre had four (4) fish ponds rehabilitated and chalets wired, ceilings done and tiles fixed.



- f) Community fingerling production centre at Mpungu in Kasempa – completed



- g) At Ibenga Fish Farm, fourteen (14) ponds were rehabilitated and security wire put around the farm.
- h) Chipata Aquaculture Research Station - the rehabilitation of Davies dam was completed.
- i) Construction of a student dormitory was at roof level at Sinazongwe Fisheries Research Station.



j) Indoor Hatchery at the Solwezi Aquaculture Research Station

Your Committee was informed that the infrastructural development was already being rolled out to all parts of the country but because of budgetary constraints, these were done on an annual basis through the national budget. However, major infrastructural developments were expected during the implementation of the Lake Tanganyika Development Project in Mpulungu and Nsama Districts, and the Zambia Aquaculture Entrepreneurship Project.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the implementation of the Lake Tanganyika Development Project.

11.3 While noting the response, your previous Committee had requested the Government to give an update on progress made in seeking Treasury Authority on the establishment of an inspectorate unit.

Executive's Response

In its response in the Action-taken Report, the Executive informed your Committee that the Ministry was still awaiting Treasury Authority for the establishment of the inspectorate unit. In the meantime, while awaiting the establishment of the unit, the Ministry had identified officers who would be expected to coordinate the envisaged functions of the inspectorate, which would include the enforcement of the Fisheries Act, the Livestock Development Act and the Animal Health Act and their respective regulations.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the establishment of the inspectorate unit.

11.4 Your previous Committee had urged the Government to give an update on the progress made in concluding the draft new Environmental Impact Assessment Regulations.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Layman's draft of the Environmental Impact Assessment (EIA) Regulations had been concluded as indicated earlier. The Layman's draft was further subjected to Internal Review by the Zambia Environmental Management Agency (ZEMA) from 18th to 20th May, 2016 in order to ensure that the said draft was properly aligned to the *Environmental Management Act No. 12 of 2011*.

Your Committee was further informed that, following the Internal Review and the further refinement of the draft, the Zambia Environmental Management Agency would undertake selective consultations with identified key stakeholders. This was necessary especially in light of the refinement of the text and its associated schedules. ZEMA would subsequently submit the draft to the Ministry of Lands, Natural Resources and Environmental Protection for onward transmission to the Ministry of Justice for scrutiny and finalisation.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the enactment of the new Environmental Impact Assessment Regulations.

11.5 Your previous Committee had urged the Executive to provide a progress report on the operationalisation of the Fisheries and Aquaculture Development Fund.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Government under the Ministry budgeted for the activities under Fisheries and Aquaculture Development Fund in the 2016 annual Budget and would operationalise the Fund.

Your Committee was further informed that the Fisheries and Aquaculture Development Fund had not yet been operationalised as no funds were released during the 2016 financial year. However, the funds were expected to be released beginning March 2017 according to the approved 2017 work plan.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests for an update on whether the Fund has now been operationalised and whether funds were released.

11.6 Your previous Committee had sought an update on the support given to ADAZ in order to enable the Association have a national presence since the Association was now a registered entity.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that through the Ministry of Fisheries and Livestock, the Government had allocated a sum of K500, 000.00

through the SAPP project in order to facilitate the institution in having a national presence and ensure the development of aquaculture in the country.

Your Committee was further informed that the K500,000 from SAPP was not released in 2016 and ADAZ was still struggling to have a national presence as it currently was present in North-Western and Lusaka (Rufunsa District) through the support of YAPASA (ILO) project. Your Committee was also informed that there were consultations being made towards transforming ADAZ into a statutory board that would be eligible for direct government support for the development and growth of the aquaculture subsector.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on progress made towards achieving the transformation of ADAZ.

11.7 Your previous Committee had urged the Government to give an update on how the fisheries sector was being enhanced.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that value addition in the fisheries sector was being enhanced by promoting the application of standards in fish post-harvest handling. To that effect, the Department of Fisheries working in collaboration with the Zambia Bureau of Standards was developing standards for post-harvest handling. To date, three standards had been developed for smoked, dried and frozen fish products. Five more were being developed for aquaculture. The standards would be incorporated into the Fisheries and Aquaculture Regulations in order to make them mandatory.

Your Committee was further informed that the fish and fish products' standards developed with the Zambia Bureau of Standards had not yet been incorporated into the Fisheries and Aquaculture Regulations because targeted consultations with stakeholders were just being arranged now. It was planned that these could be finalised and included in the Regulations by November 2017.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the incorporation of the standards in the Fisheries and Aquaculture Regulations.

11.8 Your previous Committee had awaited a progress report on the establishment of the inspectorate unit.

Executive's Response

Your Committee was informed through the Action-Taken Report that the Government through the Ministry took note of your previous Committee's recommendation and that the current Monitoring, Control and Surveillance (MCS) Systems would be strengthened once the proposed inspectorate unit was established under the Department of Fisheries.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the establishment of the Inspectorate Unit under the Department of Fisheries.

11.9 Your previous Committee had awaited an update on the regulation of fish imports in order to allow for the growth of the aquaculture subsector in the country.

Executive's Response

Through the Action-Taken Report, your Committee was informed that, in order to address the matter, the Government through the Ministry met stakeholders in order to address the importation of fisheries and livestock products at Government Complex on 30th March 2016. The outcome of the meeting was that the following issues surrounded the importation of fish:

- i) there was under-valuing of fish imports by some importers;
- ii) there was destination fraud in fish imports because people were indicating that fish was transiting when in actual fact the fish would be offloaded in Zambia; and
- iii) there was false declaration of fish coming from outside the SADC Region when the fish was not from the region, thereby resulting in loss of revenue by the country.

Going forward, the Ministry would put in place the following measures to regulate the importation of fish and enhance aquaculture production:

- i) improve the enforcement of the law controlling fish and livestock imports;
- ii) improve information sharing so as to ensure that the regulation of fish and livestock imports is more effective;
- iii) establish a multi-sectoral inspectorate for fish and livestock imports and exports; and
- iv) conduct a comparative study on the cost of fish production in Zambia and the countries from which fish was imported.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on whether the measures to regulate the importation of fish were finally in place.

11.10 Your previous Committee had urged the Government to expeditiously relocate the Fisheries National Headquarters and the Chilanga District GRZ Fish Farm from their current location.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that the Government, through the Ministry, had taken note of the recommendation to relocate the Chilanga District GRZ fish farm to a site with adequate space and water resources. The Ministry would make budgetary provisions in the 2017 budget.

Further, your Committee was informed that the Ministry did not include this undertaking in the 2017 budget due to re-prioritisation of programmes and activities, but the land had been identified in Kafue on the western side of the Kafue District Offices up to the fish market situated next to the rail bridge.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the relocation process.

11.11 Your previous Committee had urged the Government to expedite the review of the funding to the Fishery subsector.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that the Government had noted the recommendation and the review of the funding to the Fishery subsector would be considered in the newly created Ministry of Fisheries and Livestock.

Your Committee was further informed that the Government was keen to support the growth and development of the fishery subsector. In this regard, the Fisheries Development Fund had been established to facilitate start-up capital and development funds to fish farmers across the country. In addition, the Treasury would endeavour to further review funding to the Fishery subsector after the policy meetings to be held between the Treasury and key sectors Ministries, which would inform the resource allocations for the 2017 Budget and the 2017-2019 Medium Term Expenditure Framework (MTEF).

Your Committee, however, heard that although the overall administration budget had declined for the subsector, the Ministry was currently finalising the start of the Zambia Aquaculture Entrepreneurship Development Project with the AfDB support. The Lake Tanganyika Development Project (also with AfDB support) had a large component of Fisheries and Aquaculture development. In preparation stages, was the EU/EIB support of up to 40 million Euros to the sub-sector.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

While noting the response, your Committee wishes to know the outcome of the policy meetings with the Treasury on the review of funding to the subsector.

11.12 Your previous Committee had urged the Government to expedite the finalisation of the aquaculture regulations and awaited a progress report on the national strategic hatchery policy.

Executive's Response

In its response in the Action-Taken Report, your Committee was informed that the Government through the Ministry of Fisheries and Livestock had initiated the development of Brood-stock and Fingerlings Standards in collaboration with the Zambia Bureau of Standards and was still consulting with stakeholders. Once finalised, these standards would lead to certification of fish hatcheries.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the outcome of the consultations.

National Aquaculture and Research Development Centre (NARDC)

11.13 Your previous Committee had requested for an update on the engagement with PSMD on the filling of the staff establishment in the Ministry.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that following the split of the Ministry on 18th September, 2015, the Government had proposed a structure for the newly created Ministry of Fisheries and Livestock and was awaiting Treasury Authority to fill the vacant positions. Additionally, the Ministry had engaged PSMD for the unfreezing of positions in the establishment.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests an update on the unfreezing of positions in the establishment by PSMD.

11.14 Your previous Committee had urged the Ministry to expeditiously establish a fish disease and fish nutritional laboratory at NARDC.

Executive's Response

In its response in the Action-Taken Report, the Executive informed your Committee that the process of establishing the Fish Nutrition Laboratory at the National Aquaculture Research and Development Centre (NARDC) was initiated and the site verified by the Ministry of Works and Supply. The establishment of the fish disease laboratory was at planning stage and building plans had been prepared. The actual funding for the establishment of the fish disease and fish nutrition laboratories was among the activities included in the Zambia

Aquaculture Entrepreneurship Development (ZAED) Project which would be implemented in the course of 2016.

Your Committee further heard that the funds were not released in 2016 because the modalities were being finalised in February, 2017. The project document for ZAED project outlined to establish fish disease and fish feed/nutritional laboratories whose procurement processes were scheduled to start in May, 2017.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests for an update on procurement process for the Zambia Aquaculture Development Project.

Fiyongoli Research Station

11.15 Your previous Committee had noted that the aquaculture and fisheries research stations in the provinces were in a dilapidated state and therefore, strongly recommended that the Government must expeditiously improve the infrastructure at these research stations.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Government had put in place plans to improve infrastructure in research stations imbedded in the Zambia Aquaculture Entrepreneurship Project, which would be implemented starting later in the year 2016.

Further, your Committee learnt that the ZAED project would start in 2017 and laboratories and research infrastructure at NARDC, Misamfu, Chipata, Solwezi, Fiyongoli and the Central Veterinary Research Institute were planned for rehabilitation and/or construction. The preliminary Bill of Quantities was done, but final requirements would be ready by May 2017.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests an update on the implementation of the improvement of infrastructure in the aquaculture research stations.

11.16 Your previous Committee had awaited an update on the recruitment of staff and aquaculture researchers who would be sent to Fiyongoli and other stations.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Department of Fisheries recruited One Hundred and Fifteen (115) Fisheries and Aquaculture officers broken down as follows:- Two (2) Fisheries Officers, Five (5) Aquaculture Officers, Fifteen (15) Fisheries Technicians, Twenty three (23) Aquaculture Technicians, Forty two (42) Aquaculture Assistants and Twenty eight (28) Fisheries Assistants.

These were distributed as follows:-

- i) Luapula Province – One (1) Fisheries Officer, One (1) Aquaculture Officer, Three (3) Fisheries Technicians, Two (2) Aquaculture Assistants. Two (2) Aquaculture Assistants and Six (6) Fisheries Assistants. Two (2) Aquaculture Assistants were posted to Fiyongoli Aquaculture Research Station;
- ii) Northern Province – One (1) Fisheries Officer, One (1) Fisheries Technician, One (1) Aquaculture Technician, Two (2) Aquaculture Assistants and Two (2) Fisheries Assistants;
- iii) Western Province – Two (2) Aquaculture Officers, Five (5) Fisheries Technicians, Six (6) Aquaculture Technicians, Ten (10) Aquaculture Assistants and Ten (10) Fisheries Assistants;
- iv) Lusaka Province – One (1) Aquaculture Officer, Three (3) Fisheries Technicians, Two (2) Aquaculture Technicians, Three (3) Aquaculture Technicians and Four (4) Aquaculture Assistants;
- v) Muchinga Province – One (1) Aquaculture Officer, Two (2) Aquaculture Technicians and Four (4) Aquaculture Assistants;
- vi) Copperbelt Province – One (1) Aquaculture Technician and Two (2) Aquaculture Assistants;
- vii) Central Province – Two (2) Fisheries Technicians and Four (4) Aquaculture Assistants;
- viii) Eastern Province – Two (2) Aquaculture Technicians and Four (4) Aquaculture Assistants;
- ix) North Western Province – Two (2) Aquaculture Technicians and Four (4) Aquaculture Assistants; and
- x) Southern Province – One (1) Aquaculture Officer, Two (2) Aquaculture Technicians, Four (4) Aquaculture Assistants and Two (2) Fisheries Assistants.

Further, your Committee was informed that only Luapula and Northern provinces received Fisheries Officers because of the critical need and limited numbers allocated to the subsector at the particular time (in 2015) at the two major capture fishery areas Mweru-Luapula and Lake Tanganyika. At the time of audit, the staff number stood at 432, but had now increased to 576 because of the 115 positions given to the Department to employ as well as the 29 positions unfrozen. Your Committee was informed that these numbers were way below the required or approved establishment of 2,347. This meant that the Department was still operating at only 24 percent capacity.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests for an update on the filling up of vacant positions in the establishment.

Mpende Fisheries

11.17 Your previous Committee had awaited an update on the upgrading of the Kaputa-Nsumbu-Mporokoso Road which led to Mpende Fisheries in Nsama District.

Executive's Response

In its response in the Action-Taken Report, the Executive informed your Committee that the contract for the upgrading of approximately 240km of the Mporokoso – Kaputa via Mutundu Gate and Mutundu Gate to Nsumbu Road in Northern Province was divided into three (3) lots for ease of implementation as shown below:

1.1.1 Lot 1, Mporokoso – Muya Village - 80 Km

The contract for the upgrading to bituminous standard of Lot 1, Mporokoso to Muya Village (80Km) was awarded to Messrs Raubex Zambia Limited at a contract sum of K265,768,382.85 with a duration of 24 months. The draft contract was submitted to Attorney General's office for clearance on February 29, 2016 and clearance was expected to be granted by June 2016. The Government through the Ministry of Finance was still sourcing funding for the upgrading of the above mentioned project road. Once the resources were found, the Road Development Agency (RDA) would go ahead to sign the contract.

1.1.2 Lot 2, Muya Village – Mutundu And Mutundu – Nsumbu Town - 88 Km

The contract for the upgrading to bituminous standard of Lot 2, Muya Village – Mutundu – Nsumbu Town (88Km) was awarded to Messrs China State Engineering Corporation Limited at a contract sum of K292,104,992.61 with a duration of 24 months. The Government through the Ministry of Finance was still sourcing funding for the upgrading of the above mentioned project road. Once the resources were found, the RDA would go ahead to sign the contract.

1.1.3 Lot 3, Mutundu – Kaputa – 82 Km

The contract for the upgrading to bituminous standard of Lot 3, Mutundu – Kaputa (82Km) was currently under procurement. It was envisaged that the procurement process would be completed by June 2016.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests for an update on the matter.

11.18 Your previous Committee had urged the Government through the Ministry of Commerce, Trade and Industry, which was in charge of co-operatives, to give an update on the engagement of the Northern Cooperative Union in setting up the fish feed production plant.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that the Northern Province Co-operatives Union Limited had embarked on a Stock Feed Mill plant for production of poultry, pig and fish feeds through funding from the Citizens Economic Empowerment Commission (CEEC). About ninety percent of the work on the plant had been undertaken and the Union could now make mash for poultry and pig feeds as they await installation of a boiler for making pellet feeds for pigs and chickens.

Your Committee was further informed that fish feed production was an industry on its own which required separate financing for the factory equipment and raw materials. In this regard, the Cooperative Union had applied for funding from the CEEC to install the equipment.

It was expected that funding and operationalisation of the fish feed processing project would meet the high demand for fish feed as well as provide employment opportunities to the locals.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests for an update on the funding and operationalisation of the fish feed processing project.

Lake Tanganyika Project

11.19 Your previous Committee had urged the Government to provide information of what measures had been put in place in engaging the local leadership in the implementation of Phase II of the Lake Tanganyika Integrated Project.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note that your previous Committee's recommendation was not responded to and, therefore, requests for a response. Your Committee also wishes to know whether Phase II of the Lake Tanganyika Integrated Project has been implemented.

11.20 Your previous Committee had urged the Government to provide a progress report on the extension of the Lake Tanganyika project to other fishing communities so that they also have alternative sources of livelihoods.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note that your previous Committee's query was not responded to and therefore, requests for a response.

11.21 Your previous Committee had awaited a progress report on the establishment of ZEMA presence in all the ten provinces.

Executive's Response

In the Action-Taken Report, your Committee was informed that the process of establishing the presence of ZEMA in all the provinces had not yet been concluded owing to the restructuring of ZEMA following the enactment of the Environmental Management Act as well as the availability of funds to conclude the restructuring process. Notwithstanding the foregoing, ZEMA planned to effect the establishment of its presence in a phased approach by starting with the opening up of a maximum of three provincial offices in 2017. This process was expected to be completed by 2019. With regard to the issue of devolution of some of the functions of ZEMA and the processing of Environmental Project Briefs in particular, this activity had not yet been attended to as the same was dependent on availability of funds as well as the presence of ZEMA at the provincial level as a minimum. Furthermore, with the support of the World Bank under the Zambia Mining and Environmental Remediation and Implementation Project would conclude the development of procedures for the appointment of Honorary Inspectors. In line with this, Honorary Inspectors would be appointed in Chingola, Kabwe, Kitwe, and Mufulira on a pilot basis. This activity would help to increase the presence of ZEMA across the country. Based on the Honorary Inspector programme, ZEMA would roll out the capacity building programme in 2018.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests an update on the issue of establishing ZEMA presence in the ten provinces.

PART V

CONSIDERATION OF THE ACTION-TAKEN REPORT ON THE REPORT OF THE COMMITTEE FOR THE THIRD SESSION OF THE ELEVENTH NATIONAL ASSEMBLY

Legislation and Regulation of Non-Traditional Crops

12.0 Your previous Committee had urged the Government to expedite the operationalisation of the dissolved boards and to ensure that the National Agriculture Policy (NAP) and other pieces of legislation were finalised.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that the Government through the Ministry of Agriculture finalised reviewing the National Agricultural Policy. The

Policy was approved by Cabinet in February, 2016. Accordingly, the Ministry was in the process of reviewing the pieces of legislation to support the operationalisation of the National Agricultural Policy.

Furthermore, the Boards in the Ministry of Agriculture had been reconstituted and appointed. The Boards were the Cotton Board of Zambia, the Coffee Board of Zambia, the Food Reserve Agency Board and the Tobacco Board of Zambia. Others were the Cotton Board of Trustees, Golden Valley Board of Trustees, and the In-Service Board of Trustees. The reconstituted Boards were oriented and given full briefings by the Minister of Agriculture.

The Policy document could not be finalised due to lack of funds to conduct consultations with stakeholders in the sector. Your Committee was informed that Cabinet approved the Second National Agriculture Policy (S-NAP) which was the umbrella Sector Policy.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the pieces of legislation that need to be reviewed to support the operationalisation of the Second National Agricultural Policy.

Agriculture Officers to Monitor the Non-Traditional Crops

12.1 Your previous Committee had noted the response and awaited an update on the recruitment of crop specialists especially in non-traditional crops.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Crop Specialists especially in non-traditional crops had not yet been recruited. However, the Ministry of Agriculture was in consultation with Public Service Management Division (PSMD) on the recruitment of Crop Specialists, especially those with expertise in non-traditional crops.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests an update on the recruitment process for Crop Specialists in non-traditional crops.

Markets for Non-Traditional Crops

12.2 Your previous Committee had awaited a progress report on the operationalisation of the online marketing system database.

Executive's Response

In the Action-Taken Report, your Committee was informed that the process of developing an on-line data base between the Ministry of Agriculture and the Indaba Agricultural Policy

Research Institute was on-going. This was to ensure that the system was fully secure to avoid abuse.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests an update on the process of developing an on-line data base and also what the abuse that this was supposed to cure was.

Zambia Agricultural Research Institute (ZARI)

12.3 Your previous Committee had requested the Government to expedite the turning of ZARI into an autonomous research institution and also to increase the budgetary allocations to enable it undertake research.

Executive's Response

In the Action-Taken Report, the Executive informed your Committee that the Government was still exploring the best ways of transforming ZARI, first into a semi-autonomous institute before turning into full autonomous institute. This would enable ZARI retain funds generated through contract research and services which would be ploughed back into research activities. ZARI would also raise funds through commercialising some of the products such as varieties releases, inoculums production, etc. In this regard, ZARI should be run by a Board of Directors reporting to the Permanent Secretary of the Ministry of Agriculture.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests a progress report on the issue of turning ZARI into a semi-autonomous organisation.

Issuance of Tobacco Floor licences by TBZ

12.4 Your previous Committee sought an update on the revision of the *Tobacco Act*.

Executive's Response

In the Action-Taken Report, your Committee was informed that a special committee drafting the revised Tobacco Act was still working on the Act. They were yet to submit the Act to the Ministry of Agriculture.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests an update on the drafting of the revised Tobacco Act.

PART VI

CONSIDERATION OF THE ACTION-TAKEN-REPORT ON THE REPORT OF THE COMMITTEE ON AGRICULTURE ON THE REPORT OF THE AUDITOR GENERAL ON THE MANAGEMENT AND CONTROL OF LIVESTOCK DISEASES FOR THE FIFTH SESSION OF THE ELEVENTH NATIONAL ASSEMBLY

13.0 Lack of a Strategic Plan and Livestock Development Policy

Your previous Committee had recommended that the Ministry expedite the finalisation of consultations and development of the Livestock Development Policy and Strategic Plan.

Executive's Response

In the Action-Taken Report, your Committee was informed that Cabinet had approved the Second National Agriculture Policy (S-NAP) which was now the umbrella Policy for the agriculture sector. The S-NAP would be launched in the course of 2016. Further, the Ministry was still in the process of developing the Livestock Development policy which would be in line with the S-NAP.

Following the expiring of the R-SNDP, the Ministry prioritised the development of the Seventh National Development Plan (7NDP) from which the Strategic Plan and other sector plans would be drawn. Development of the Strategic Plan would commence after the 7NDP was approved.

According to the National Planning and Budgeting Policy (2014), the Vision 2030 came first and was followed by the National Development Plan. In the current planning cycle, the Seventh National Development Plan (7NDP) should come first and should be followed by the Strategic Plan for the Ministry of Fisheries and Livestock. The Strategic Plan would then operationalise the 7NDP, outline medium term Fisheries and Livestock sectoral development programmes and actualise medium term sector specific medium targets.

In line with this Policy, the Secretary to the Cabinet issued Cabinet Office Circular Minute of 2016 – Revision of Plans and Development of the Seventh National Development Plan on 31st March, 2016 to all Ministries to develop or review their Strategic Plan after the 7NDP was finalised. This would lead to the alignment of national priorities to the 7NDP.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests an update on the progress made in developing a Livestock Development Policy.

13.1 Inadequate Dip Tanks and Resources for Compulsory Dipping

Your previous Committee had observed that the inadequacy of the dip tanks and resources for compulsory dipping was posing a risk to the development of the livestock sector.

Your previous Committee had, therefore, recommended that the Ministry should ensure that dip tanks were rehabilitated or new ones constructed in all livestock farming areas, as a matter of urgency in order to promote the development of the Livestock Sector.

Executive’s Response

In the Action-Taken Report, your Committee was informed that Government had targeted construction of a further 60 dip tanks in 2016. The table below shows works undertaken in dip tank construction and rehabilitation during the period under review.

Dip-tanks constructed	52
Dip-tanks rehabilitated	106
Dip-tanks under construction	50
Dip-tanks under rehabilitation	58

Further, your Committee was informed that the Ministry provides dip chemicals for the first charge but farmers were expected to pay a contribution to sustain the programme. Farmers were encouraged to start a revolving fund through the cooperatives.

Your Committee was further informed that the Government had continued with the programme of rehabilitation and construction of dip tanks in nine (9) Provinces, except Western Province. To date, contracts had been awarded for construction and rehabilitation of 460 dip tanks. These included 215 new and 245 old dip tanks. So far 139 dip tanks had been rehabilitated and 59 new dip tanks had been constructed, giving a total of 198 dip tanks completed. Currently, there were 198 dip tanks (77 rehabilitations and 121 new) under construction works.

In the 2017 budget, the Government had a budget for K30 million for the completion of ongoing works and was in the process of mobilising 64 contractors to complete the outstanding works in all the districts. The table below gives a summary of works carried out so far.

Table 1:

Dip-tanks constructed	59
Dip-tanks rehabilitated	139
Dip-tanks under construction	121
Dip-tanks under rehabilitation	77

Table 2 gives the status of dip tanks constructed and rehabilitated province by province.

Table 2: Province by Province dip tank status

Province	Types of Works	Stage of Works
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	New	Rehab	Mobilisation	Construction	Completed
Central	18	14	2	18	12
Copperbelt	31	3	1	13	20
Eastern	9	72	6	28	47
Luapula	11	5	6	3	7
Lusaka	15	13	2	14	12
Muchinga	16	5	1	12	8
North Western	16	7	0	7	16
Northern	21	8	8	12	9
Southern	78	118	38	91	67
Total	215	245	64	198	198

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests for a progress report on the rehabilitation and construction of dip tanks stating what the required numbers are, and from what has been planned for construction, what the shortfall will be.

13.2 Non-Submission of Surveillance Reports by Districts

Your previous Committee had recommended that the Ministry ensured that all veterinary camps were issued with stock registers without fail and that vast camps should be demarcated as soon as possible and transport provided to ease movement.

Executive's Response

In the Action-Taken Report, your Committee was informed that the process of data collection by the Ministry of Fisheries and Livestock (MFL) started at the veterinary camp level. Before it could be sent to headquarters and the province, the data in the form of monthly reports had to be submitted and summarised at the district offices. When it reached headquarters, the data from all the 106 districts was then entered into a database. This whole process of having the data entered into a database at a central place might lead to delays in having the data available to stakeholders in a timely manner.

Your Committee was also informed that the MFL was devising an online web based reporting system to deal with this aspect. The department intended to take disciplinary action for the officers that failed to submit reports on time. However, the submission of disease outbreak reports had been timely; notable being the 2013 and 2015 outbreaks of African swine fever in Lusaka Province and foot and mouth disease and Contagious Bovine Pleura Pneumonia in Western Province. The department also managed to detect subclinical Peste des Petits Ruminants (PPR) in goats.

Further, your Committee was informed that the Ministry had been carrying out manpower, infrastructure and technical capacity assessment necessary for timely early warning and reduction of the risk of disease spreading further. The smallest administrative unit of the Ministry was a veterinary camp manned by the veterinary camp officers. For most veterinary camps in the country, the numbers of people and livestock had increased over the years.

The MFL was currently digitising veterinary camps in order to plan for the re-demarcation of the large veterinary camps in the country to manageable smaller sizes.

The exercise was being carried out countrywide. Areas completed so far include the whole of Southern Province, parts of Western Province, parts of Luapula Province and parts of North-Western Province. In these areas, the existing infrastructure, available manpower, human population had been tabulated with a view to superimpose with the livestock population (when the census data was available) to assist in effective camp demarcation. Once the exercise was completed, the maps generated would have to be validated. The reduction of the veterinary camp sizes to manageable sizes would lead to optimised service delivery by the MFL.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests for an update on the digitising of veterinary camps.

13.3 Lack of Livestock Census

Your previous Committee had recommended that as a matter of urgency, the Government should provide adequate funding and staffing and ensure that the livestock census was conducted as this was key to planning any livestock activities.

Executive's Response

In the Action-Taken-Report, your Committee was informed that the Government acknowledged the critical role the sector played in growing the economy. In this regard, the Government had commenced preparations to undertake the Livestock Survey. Further, the Government was working on the new structure for the Ministry of Fisheries and Livestock that would form the basis for the Treasury to address the staffing levels.

Your Committee was also informed that the Ministry of Fisheries and Livestock was committed to conducting a comprehensive livestock census in order to improve on the accuracy of livestock statistics in the country. The Ministry had setup a Livestock Census Committee comprising of representatives from the Ministry of Finance, Central Statistics Office and from Policy and Planning Department, Department of Livestock Development and Department of Veterinary Services.

The technical committee was further sub-divided into the census methodology subcommittee tasked with the responsibility of developing the survey instruments and the finance subcommittee tasked to develop a comprehensive budget for carrying out the census. The census methodology subcommittee finalised its assignment while the finance committee was still consulting with the Ministry of Finance. The MFL intended to conduct a stakeholder's workshop to discuss the census survey instruments and budgetary requirements to ensure ownership of the programme. The census was planned for January, 2017.

Your previous Committee had requested the Ministry to clarify what activities would be carried out with the K50 million provided in the budget when the actual planned figure was K109 million. Your Committee also requested for an update on the whole census progress.

In response, your Committee learnt that it had to be clarified that the Ministry of Fisheries and Livestock would conduct a full-fledged Livestock Census, and the budget for a full-fledged Livestock census was K710, 007, 190 (Seven Hundred and Ten Million Seven Thousand One Hundred and Ninety Kwacha). The Livestock census would be done in 2017. Given that already the Government had given a provision of K50 million Kwacha, the Ministry would be able to undertake the following preliminary activities:

Designing and finalization of Census Instruments -----	K 377, 150
Instruments review by stakeholders -----	K 21, 000
Pretesting of census instruments, pilot and Publicity ---	K 4, 214, 240
Training of master trainers -----	K 3, 077, 420
Procurement of Census Materials -----	K46, 190,400

The total cost of the above activities was K 53, 880, 210. The summary budget and time frame for the full-fledged Livestock Census costing K 710,007,190 was as set out below.

Budget for Undertaking the Fisheries and Livestock Census			
The 100% Coverage of Census Enumeration Areas (EAs)			
(Targeting 26,000 EAs and 2,600,000 Households)			
ACTIVITY	TIME FRAME	TOTAL COST (ZMW)	TOTAL COST (US\$)
Designing & Finalisation of Census Instruments	1 – 14 March 2017	377,150	37,715
Instruments review by Stakeholders	16 – 23 March 2017	21,000	2,100
pre-testing, Review and Finalisation of census instruments	25 March –19 April 2017	214,240	21,424
Pilot/publicity	20 – 30 April 2017	4,000,000	400,000
Questionnaire Production	1 May to 30 June 2017	148,386,000	14,838,600
Training of Master Trainers	1 – 15 July 2017	3,077,420	307,742
Procurement of Census Materials	16 July – 30 August 2017	46,190,400	4,619,040
Training of Supervisors at Provincial level	1 – 14 September 2017	40,084,240	4,008,424
Training of Enumerators at District Level	15 - 30 September 2017	139,224,240	13,922,424
Data Collection	1 – 30 October 2017	311,909,900	31,190,990

Data Processing	1 – 30 November 2017	4,310,000	431,000
Data Cleaning	1 – 30 December 2017	5,216,100	521,610
Tabulation, Analysis and Report Writing (Preliminary Report)	1 – 30 January 2018	3,794,500	379,450
Tabulation, Analysis and Report Writing (Final/ Summary Report)	1 Feb 2018 – 30 March 2018	3,202,000	320,200
TOTAL		710,007,190	71,000,719
The exchange rate used is 1 US\$=K 10			

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee will await a progress report on the conduct of the census.

13.4 Inadequate Surveillance at Abattoirs

Your previous Committee had urged the Ministry to expedite its consultations with the Ministry of Health to help meet the export market requirements in livestock products.

Executive's Response

In the Action-Taken Report, your Committee was informed that the consultations were ongoing with the Ministry of Health on market access for livestock products. Among them was the improvement of the coordination of food safety through the proposed Food Safety and Quality Bill.

Consultations on monitoring of antibiotic usage in animal and the resistance in human beings through an integrated approach and cooperation were being done through the sub-committee under the Zambia Medicines Regulation Authority.

Apart from Mongu and Livingstone abattoirs, the mandate (Public Health Act Cap 295) to control operations at abattoirs in the country was with the Ministry of Health with delegated responsibility to the Ministry of Local Government. However, mandate to control abattoir operations, in future, by the Ministry of Fisheries and Livestock had been provided for in the proposed Food Safety and Quality Bill.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and will await progress on the enactment of the Food Safety and Quality Bill.

13.5 Non-Accreditation of Laboratories

Your previous Committee had recommended that the Ministry should, as a matter of urgency, dispatch the required documentation to support the application process for accreditation of Central Veterinary Research Institute (CVRI).

Executive's Response

Your Committee was informed in the Action-Taken Report that the Central Veterinary Research Institute (CVRI) submitted the accreditation documents to Southern African Development Community Accreditation Service (SADCAS) in April 2016 and was awaiting SADCAS response.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and requests for an update on the SADCAS response.

13.6 Inadequate Diagnostic Capacity in Regional Laboratories

Your previous Committee had recommended that the Government should expedite the construction of regional laboratories and installation of diagnostic equipment and ensure staff was recruited expeditiously.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Department had procured equipment, reagents and consumables to the Central Veterinary Research Institute and Regional laboratories in Mongu, Choma, Chipata and Ndola. The installation of this equipment in Choma and Chipata would be done as soon as the renovation works of the laboratories were completed. The Department was also in the process of rehabilitating the thirteen district sample preparation rooms for the following district laboratories:

- Monze, Namwala, Livingstone, Kalomo (Southern Province);
- Kaoma, Lukulu, Senanga, Shangombo, Sesheke (Western Province);
- Kabwe, Mumbwa (Central Province); and
- Kafue, Chongwe (Lusaka Province).

The Central Veterinary Research Institute had been undergoing accreditation process since 2014. Accreditation required that a laboratory's quality systems, staff, facilities, equipment, test methods, records, and reports be evaluated using objective and measurable criteria.

Your Committee was further informed that the Ministry planned to improve the diagnostic capacity of CVRI to do virus isolation for foot and mouth disease through a bio-security level 3 (P3) laboratory that could also be used for isolation of other viruses like Ebola, Marburg, Peste des Petits Ruminants, Rift Valley fever, etc.

Your Committee was also informed that a new laboratory had been constructed at Kakumbi Research Station in Mambwe District for Tsetse activities. Polymerase Chain Reaction

(PCR) equipment was recently acquired for this laboratory that would be used for trypanosomiasis diagnosis.

Additionally, the following laboratory offices had undergone training:

Period	Name of training programme	Staff trained
August 2014	Training Course on the Diagnosis of Transboundary Animal Disease: "Pathogen Typing Using Molecular Techniques". Conducted by IAEA, in Ethiopia.	Dr M. Ziba
Sept 2014	Regional Training Course on the diagnosis of transboundary animal diseases - "Practical approaches of introducing new assays for routine use in Veterinary Laboratories". Conducted by IAEA in Vienna, Austria.	Mr C. Simuntala
April 2015	Bench training of laboratory technicians in the diagnosis of CBPP, Anthrax, ASF, Rabies and parasitic disease. Also trained in Quality Control, sample preparation and handling	Laboratory Technicians from Mongu RDL (Ms Hamaundu), Sesheke (Ms Kalinda), Livingstone (Mr Mkandawire), Kaoma Mrs H. Simainga), Zambezi (Mr. Mayomfwe), CVRI (Mr Mwanza, Mr Zulu, Mr Mshongo)
April 2015	Bench training of laboratory technicians in the diagnosis of Parasitic diseases, Anthrax, ASF, and Rabies. Also trained in Quality Control, sample preparation and handling.	Laboratory Technicians from Namwala (Mr Halyoka), Kabwe (Mr Chisha and Mr Lungu Chipata RDL (Mr Munkombwe, Ms Hatuma, Mr. Sinyangwe, Mr. Mweemba, Mr Hapooma, Ms Mangambwa, Mrs Kafundanga, Monze (Mr Muleya), Choma (Ms Chilupula, Ndola RDL (Mr. Mache and Msimba, CVRI (Mr Mwiinga, Mr Banda, Ms Ngandu).
April 2015	Professional staff training in leadership, study design, research methodologies, scientific writing and data analysis.	All Research Scientists and Veterinary Research Officers from CVRI and Regional Veterinary Laboratories
2014 - 2015	Master's degree training: MASTER OF BIOTECHNOLOGY (HONOURS), University of Australia	Mr B. Muchanga
2013-2015	Bachelor of Science in Biotechnology and Lab sciences – Tanzania	Ms F. Makondo
2015	Master Degree in One Health analytical epidemiology – UNZA	Dr M. Malama

2014	Laboratory Training in molecular parasitology – BRAZIL	Dr Chitala, Mr Sakala
2015	Laboratory Training in molecular Bacteriology – BRAZIL	Dr. Kabunda, Dr Bowa, Mr Simuntala

However, the officers trained were not enough to cover the district and regional/provincial laboratories. Furthermore, for the provincial laboratories to be effective, there was a proposed structure where each of the laboratories should have the following:

- (i) 1 Principal Research/Veterinary Officer;
- (ii) 2 Senior Research/Veterinary Officers;
- (iii) 4 Research/Veterinary Officers;
- (iv) 1 Principal Laboratory Technician;
- (v) 2 Senior Laboratory technicians;
- (vi) 6 Laboratory Technicians; and
- (vii) 2 Laboratory attendants.

The above would result into optimal utilisation of the Provincial Laboratories. The proposed structure had not been approved yet.

The current establishment for Regional/provincial laboratories was as follows:

Town	Veterinary Research Officer/Scientist	Laboratory Technicians
Mongu	1	3
Ndola	1	3
Mazabuka	1	3
Chipata	1	4
Isoka	1	2
Solwezi/Zambezi	1	2

Further, staff training in laboratories at all levels was a continuous activity. This was because staff had to be continuously updated in new disease diagnostic techniques.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee takes note of the response and awaits a progress report on the approval of the proposed structure for staff in provincial laboratories.

13.7 Failure to follow Vaccination Schedules

Your previous Committee had recommended that the Ministry should endeavour to disburse funds timely to procure vaccines on time.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Government was cognisant of the challenges all Ministries, Provinces and Spending Agencies were facing

with regard to the timely release of funds. As such, major reforms aimed at enhancing cash management were being undertaken, which included the operationalisation of the Treasury Single Account (TSA), which would allow for the optimal utilisation of resources by making payments to institutions as and when they fell due. In addition, other reforms being undertaken were aimed at increasing revenue mobilisation such as the introduction of Points of Sale (PoS) to remove human intervention and also the introduction of the Zambia Revenue Authority Tax online system which made it easier to pay taxes.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests for an update on whether the operationalisation of the Treasury Single Account has been done and its effectiveness.

13.8 Lack of Field Equipment

Your previous Committee had recommended that the Government should procure and distribute kits to the extension officers, as a matter of urgency, to avoid hampering disease surveillance activities.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Government through Ministry of Fisheries and Livestock had procured equipment, reagents and consumables to the Central Veterinary Research Institute and functional Regional laboratories. To this effect, the Ministry would phase the distribution of the Kits to the extension officers.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee wishes to know whether the kits had been distributed and whether they were adequate for all the extension officers.

13.9 Non-functional Quarantine Facilities

Your previous Committee had recommended that the Government expedite the construction and renovation of the obsolete quarantine facilities to avert the importation of diseases from other countries.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Ministry had continued to mitigate the risks posed by imports of livestock commodities through conducting risk assessments and on farm quarantine. The construction of quarantine facilities in Lusaka and Livingstone was planned while construction in Mbala and Nakonde were under way.

Table 4: Transboundary and Diseases of National Economic Importance

Disease	Number Vaccinated			
	2013	2014	2015	2016
Foot and Mouth Disease (FMD)	1,080,705	1,059,515	1,200,000	1,600,000
Contagious Bovine Pleura Pneumonia (CBPP)	367,233	300,983	450,421	
Newcastle Disease		1,463,677	2,500,455	
East Coast Fever	89,422	88,668	90,255	

The strategic vaccinations were done in the high risk areas to preserve the disease freedom in the middle of the country.

The Ministry produced the thermal stable I-2 Newcastle disease vaccine and the east coast fever stabilates at CVRI in addition to the rabies, anthrax, brucellosis, black quarter, and hemorrhagic septicaemia vaccines. Further, the unit also produced soya inoculums which farmers used to grow soya beans in the country. Investment in a bio security level 3 (P3) laboratory and cell culture production was required for the virus isolation a pre-requisite for Foot and Mouth Disease (FMD) vaccine production.

To improve the cold chain and maintain the efficacy of the vaccines, the Ministry had procured two refrigerated trucks to transport vaccines to the districts.

Land that was still available for quarantine facilities was as set out below.

Quarantine Station	District	Land Available
Simoonga	Kazungula	152 Ha
Nalusanga	Mumbwa	3 Ha
Chanida	Chadiza	6 Ha
Kanyunya	Lundazi	8 Ha
Mwami	Chipata	10 Ha
Kaluzi (Kaseshya area)	Mbala	4 Ha

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests for a progress report on the construction of quarantine facilities in Lusaka and Livingstone which were planned and the progress made on the construction in Mbala and Nakonde.

13.10 Non-functional Dip Tanks

Your previous Committee had recommended that, as a matter of urgency, the Government construct more dip tanks to meet the requirements.

Executive's Response

In the Action-Taken Report, your Committee was informed that in order to better control tick-borne diseases in the country, the Government passed the Animal Health (Livestock Cleansing) order, 2014 [Statutory Instrument Number 16 of 2014]. A total of K48, 927,000 was funded under the Euro Bond for dip tanks and other infrastructure in Agriculture. The total amount released as of 31st December, 2015 was K45, 223,337.24. Of this amount, K23, 685, 664.70 was spent on dip tank construction and rehabilitation while the balance K21, 537,672.50 was spent on other infrastructure in Agriculture.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee wishes to know what the shortfall of dip tanks is, countrywide.

13.11 Failure to maintain the Cordon Line

Your previous Committee had recommended that the Government should provide funds to rehabilitate and operationalise the cordon line.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Government through the Ministry of Fisheries and Livestock was consulting stakeholders on the modalities of where and how far the cordon line should be, given that the disease social dynamics had since changed. The Ministry had further engaged its counterparts in Angola to explore the possibilities of eradicating the disease in that country and also to harmonise the measures that should be put place in the buffer zone in both Zambia and Angola once the cordon line was put up.

Your Committee was also informed that the Ministry was working on modalities on how to employ cordon guards as part of its strategy. Once the extent of the cordon line was known, the number required could be worked out. Discussions were currently on going with stakeholders.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee wishes to know how far consultations have gone with other stakeholders and whether the Ministry had employed cordon guards to patrol the cordon line.

13.12 High Disease Incidence

Your previous Committee had recommended that Government should ensure that there was improved disease control through improved service delivery.

Executive's Response

In the Action-Taken Report, your Committee was informed that the Government ensured improved disease control through improved service delivery by 1) Human development; 2) reviewed disease control strategies; and 3) Infrastructure development.

1) Human resource development

In order to improve animal health service delivery, the Government through the Department of Veterinary Services (DVS) managed to employ 120 extension officers who were deployed in various veterinary camps across the country. In 2016, the Ministry of Fisheries and Livestock targeted to employ 1,000 extension Officers some of whom would be allocated to the Veterinary Services.

A training needs assessment was conducted across the spectrum including training institutions and a training plan had been developed. Arising from this the following trainings have been undertaken:

- skills training was undertaken for 50 tsetse control assistants;
- skills training of veterinary assistants in sample collection methods, data collection, outbreak investigation, pregnancy diagnosis and risk assessments;
- 5 Field Officers had upgraded from Veterinary Assistant to Veterinary Surgeons ;
- 15 Veterinary Officers had acquired Master degree training; and
- 3 Veterinary Officers had acquired PhD Degree training and 5 are currently undergoing study in various fields of study.

In order to improve extension service delivery, the Ministry of Fisheries and Livestock had reviewed the training curriculum for the Zambia Institute of Animal Health in Mazabuka to include Animal Health, Animal Production, and Laboratory and Tsetse control. These courses were being offered at diploma level, an upgrade from the previous certificate level.

2) Review of disease control strategies

The disease control strategies for East Coast fever and Contagious Bovine Pleura Pneumonia had been developed and were about to be published. The National Disease Control Strategies for foot and mouth disease, African swine fever and Rabies were in the process of being reviewed and developed in accordance with the global and regional strategies.

Other measures included:

Aerial spray for tsetse flies in the lower Zambezi basin. The 6,300 km^2 covered included parts of Sesheke, Mulobezi and Mwandu Districts in Western Province.

The Ministry of Fisheries and Livestock, working together with the Ministry of Health, was reviewing the Food and Drug's Act as well as the Public Health Acts to include the global food safety trends, practices and standards. This was being done in order to strengthen the veterinary public health and food safety ranging from meat inspection to the control of veterinary drugs and monitoring of foods for residues of drugs and chemicals.

3) Infrastructure development

To improve service delivery, the Department had embarked on infrastructure development that was critical for early warning and diseases control. The notable infrastructure included:

- checkpoints construction on the roads leading to the main cattle producing areas of the country i.e. at the Kafue Bridge along Kafue Road, Nalusanga in Mumbwa along Mongu Road and at the Luangwa Bridge along Great East Road;
- quarantine facilities construction in Chongwe, Kazungula, Mbala and Nakonde and laboratory construction in Chipata, Choma, Kasama, Mongu, Ndola, and Solwezi;
- dip tanks construction and rehabilitation for tick-borne disease control including corridor;
- camp houses rehabilitation and construction;
- procurement of 312 motor bikes for extension officers;
- construction of demand driven five level 1; six level 2 and two level 3 Livestock Service Centres; and
- construction of a double storey learning centre at the Zambia Institute of Animal Health in Mazabuka.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

Your Committee requests for a progress report on all the activities outlined in the response.

14.0 CONCLUSION

Your Members Mr Speaker, wish to extend their gratitude to you for appointing them to serve on your Committee on Agriculture and for the support rendered to them throughout the year.

Your Committee is indebted to all the stakeholders who appeared before it for their cooperation in providing the necessary memoranda and briefs.

Your Committee is hopeful that the observations and recommendations contained in this Report will be favourably acted upon by the Executive.

Finally, Sir, your Committee wishes to express its appreciation to the Office of the Clerk of the National Assembly for the invaluable and tireless assistance rendered throughout its deliberations.

M J B Ng'onga, MP
CHAIRPERSON

June, 2017
LUSAKA

APPENDIX 1

LIST OF OFFICIALS

National Assembly

Mr S C Kawimbe, Principal Clerk of Committees
Ms M K Sampa, Deputy Principal Clerk of Committees
Mr F Nabulyato, Senior Committee Clerk (SC)
Mrs M K Siwo, Committee Clerk
Ms B Shula, Typist
Mr C Bulaya, Committee Assistant
Mr M Chikome, Committee Assistant