



**REPUBLIC OF ZAMBIA**

**REPORT**

**OF THE**

**COMMITTEE ON EDUCATION, SCIENCE AND TECHNOLOGY**

**FOR THE**

**FIRST SESSION OF THE TWELFTH NATIONAL ASSEMBLY  
APPOINTED ON THURSDAY, 6<sup>TH</sup> OCTOBER 2016**

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# **REPORT OF THE COMMITTEE ON EDUCATION, SCIENCE AND TECHNOLOGY FOR THE FIRST SESSION OF THE TWELFTH NATIONAL ASSEMBLY APPOINTED ON 6<sup>TH</sup> OCTOBER 2016**

Consisting of:

Ms P C Mwashingwele, MP (Chairperson); Prof G Lungwangwa, MP; Mr K H S Kamboni, MP; Mr G M Imbuwa, MP; Mr S Tembo, MP; Mr E Machila, MP; Mr G K Mwamba, MP; and Mr K Sampa, 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, appointed on 6<sup>th</sup> October 2016.

## **Functions of the Committee**

2. Your Committee has the following mandate:

- (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) carryout detailed scrutiny of certain activities being undertaken by the 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 certain existing legislation;
- (iv) examine annual reports of the Ministry of General Education and the Ministry of Higher Education and departments under their portfolios in the context of the 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;and
  - (ix) consider any matter referred to it by the Speaker or an order of the House.

### **Meetings of the Committee**

**3.0** Your Committee held thirteen (13) meetings during the year under review.

### **Programme of Work**

**4.0** At your Committee's second meeting held on Monday, 17<sup>th</sup> October 2016, it considered and adopted the following programme of work:

- a) consideration of the Action-Taken Report on the Committee's Report for the Fifth Session of the Eleventh National Assembly;
- b) study on the Implementation of the Science and Technology Policy in Zambia; and
- c) consideration of the draft report.

## **PART I**

### **Procedure adopted by the Committee**

**5.0** 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. Your Committee also undertook local and foreign tours during the year under review.

## **SUBMISSIONS ON THE IMPLEMENTATION OF THE SCIENCE AND TECHNOLOGY POLICY IN ZAMBIA**

**6.0** Your Committee resolved to undertake a study on the Implementation of the Science and Technology Policy in Zambia. The objective of the study was to:

- (i) ascertain the effectiveness of the Government's Science and Technology Policy objectives with regard to the advancement of Science and Technology;
- (ii) establish the role of the National Institute for Industrial and Scientific Research (NISIR) in the advancement of Science and Technology;
- (iii) find out the role of the National Science and Technology Council (NSTC) in the advancement of Science and Technology;

- (iv) understand the role of the private sector in the advancement of Science and Technology;
- (v) understand the role of the Government in the advancement of Science and Technology;
- (vi) establish the challenges, if any, faced in the advancement of Science and Technology in Zambia;
- (vii) assess the benefits to national development derived from industrial research, engineering and manufacturing design, agriculture research, health and medical research, socio-cultural research, and information technology research; and
- (viii) make recommendations to the Executive on the way forward.

The following institutions made both written and oral submissions on the subject:

- (i) Copperbelt University (CBU);
- (ii) University of Zambia (UNZA);
- (iii) Engineering Institution of Zambia (EIZ);
- (iv) Private Sector Development Association (PSDA);
- (v) Zambia Association of Chambers of Commerce and Industry (ZACCI);
- (vi) Zambia Institute of Architects; (ZIA)
- (vii) United Nations Educational, Scientific and Cultural Organisation (UNESCO);
- (viii) Zambia National Farmers Union (ZNFU);
- (ix) Zambia Association of Manufacturers (ZAM);
- (x) Industrial Development Corporation (IDC);
- (xi) Hon Andrew Kashita-Member of the public;
- (xii) Junior Engineering Technicians (JETS);
- (xiii) SADC Plant Genetic Resources Centre Zambia;
- (xiv) Technical Education, Vocational and Entrepreneurship Training Authority
- (xv) National Science and Technology Council (NSTC);

- (xvi) National Institute for Scientific and Industrial Research (NISIR);
- (xvii) Curriculum Development Centre (CDC);
  
- (xviii) Ministry of Livestock and Fisheries;
  
- (xix) Ministry of Agriculture;
  
- (xx) Ministry of Health;
  
- (xxi) Ministry of General Education; and
  
- (xxii) Ministry of Higher Education.

## **CONSOLIDATED SUMMARY OF SUBMISSIONS**

### **GENERAL OVERVIEW OF THE NATIONAL SCIENCE AND TECHNOLOGY POLICY**

6.1 Your Committee was informed that the Government of the Republic of Zambia formulated the National Science and Technology Policy in 1996. The broad objective of the Policy was to embed Science and Technology as part of the culture of the key sectors to promote competitiveness in the production of a wider range of quality goods and services. The mission of this Policy was to promote and exploit Science and Technology as an instrument for developing an environmentally friendly indigenous technological capacity for sustainable socio-economic development in order to improve the quality of life in Zambia.

The strategies for achieving this broad policy objective include:

- (i) recognising gender concerns;
- (ii) changing institutional structures;
- (iii) ensuring that research is guided by national developmental goals;
- (iv) establishing a mechanism for increased innovation, transfer, diffusion and commercialisation of technology, especially for small and medium scale industries, with emphasis on indigenous technology;
- (v) putting in place efficient facilities to formulate and enforce standards and undertake quality control testing and assessment of industrial products;
- (vi) developing appropriate training which imparts practical skills and application of knowledge to develop prototype, products and processes in changing environment of market technology;
- (vii) establishing a comprehensive data bank which is easily accessible at strategic locations by scientific, management and industrial users; and

- (viii) providing incentives and targeted promotions for the furtherance of the impact of science and technology to economic development in the key sectors.

Your Committee was informed that the Science and Technology Policy led to a complete re-organisation of the legal and institutional frameworks of the Science and Technology sector. The results of these reforms led to the repeal of the *National Council for Scientific Research (NCSR) Act of 1970* and the creation of the National Science and Technology Council (NSTC), National Institute for Scientific and Industrial Research (NISIR), the National Technology Business Centre (NTBC) and the National Remote Sensing Centre (NRSC) through the *Science and Technology Act No. 26 of 1997*. Through this Act, Management Boards were also created to oversee the management of these institutions.

Your Committee further learnt that while the essence of the 1996 National Science and Technology Policy objectives remained valid, the social, legal, political, environmental and economic situation had undergone significant changes. This had necessitated the need to review the performance of this Policy. In this light, and in an effort to enhance the contribution of Science and Technology to the socio-economic development of the country, the Government had embarked on the revision of the National Science and Technology Policy. The revised policy will seek to strengthen the Science and Technology framework and create closer links between research and development programmes and the priority sectors for national wealth creation, productivity and competitiveness. It will also seek to incorporate the key aspect of innovation which was largely left out of the 1996 Policy.

## **EFFECTIVENESS OF THE GOVERNMENT'S SCIENCE AND TECHNOLOGY POLICY OBJECTIVES WITH REGARD TO THE ADVANCEMENT OF SCIENCE AND TECHNOLOGY**

**6.2** Your Committee was informed that the 1996 Science and Technology Policy could be said to have been effective in the advancement of Science and Technology mainly by the enactment of the *Science and Technology Act of 1997* and the creation of the National Science and Technology Council (NSTC); the National Technology Business Centre (NTBC) and the National Institute for Scientific and Industrial Research (NISIR). Through these three institutions, public universities and other public research organisations had been able to support the advancement of Science and Technology in the country.

Your Committee was also informed that the Zambian Science and Technology environment had changed drastically as a result of scientific advancements during the twenty (20) year period of the current Science and Technology Policy. The Policy, according to the situational analysis in the Sixth National Development Plan (SNDP, 2010), had not matched with the Science and Technology landscape and therefore, had not been very effective. The consequences of not having an up-to-date Policy had been detrimental to the advancement of Science and Technology in the country. For example, most of the technical colleges in the country rebranded with a focus on business-related programmes taking centre stage, and projects to improve the technical

programmes were largely donor-driven. This had led to technical skills shortages in the local labour market.

Your Committee heard that the Policy had not succeeded in putting in place measures for the identification and development of innovations. Further, the Policy did not contain concrete measures for promoting entrepreneurship and in particular was lacking intellectual property provisions to incentivise entrepreneurs. The poor performance of the country in the area of technology production was captured by the statistics in the table below.

#### **Number of patents for the period 2005-2013**

| <b>Country</b> | <b>Number</b> |
|----------------|---------------|
| South Africa   | 663           |
| Angola         | 7             |
| Zimbabwe       | 4             |
| Zambia         | 0             |

### **THE ROLE OF THE NATIONAL INSTITUTE FOR INDUSTRIAL AND SCIENTIFIC RESEARCH IN THE ADVANCEMENT OF SCIENCE AND TECHNOLOGY**

**6.3** Your Committee was informed that the functions of the National Institute for Scientific and Industrial Research as stipulated in the *Science and Technology Act of 1997 Section 4 and Statutory Instrument No. 73, are as follows:*

- a) to conduct and promote scientific, technological and industrial research in Zambia;
- b) to carry out research in civil, mechanic, chemical, electronic and electrical engineering, nuclear science, textile technology, biotechnology, energy resources, industrial chemistry, food science, materials science and natural products, information science, cartographic and location analysis;
- c) to cooperate with other organisations and institutions of higher learning in training programmes and other matters relevant to research;
- d) to disseminate research findings; and
- e) to cooperate with the Ministry responsible for Science and Technology, the Council and other relevant institutions in matters pertaining to research policies and priorities.

Despite this well spelled out mandate, the role of the National Institute for Industrial and Scientific Research (NISIR) in the advancement of Science and Technology appeared limited as there was very little to point out in terms of research related to civil, mechanic, chemical, electronic and electrical engineering, nuclear science, textile technology, biotechnology, energy resources, industrial chemistry, food science, materials science

and natural products, and information science. This has had a spiral effect on the overall innovation acumen of the country.

## **THE ROLE OF THE NATIONAL SCIENCE AND TECHNOLOGY COUNCIL IN THE ADVANCEMENT OF SCIENCE AND TECHNOLOGY**

**6.4** Your Committee was informed that the National Science and Technology Council (NSTC) is a statutory body created under the *Science and Technology Act, No. 26 of 1997*. The main function of the Council as enshrined in the Act is to promote science, technology and innovation in order to create wealth and contribute to the improvement of the quality of life in Zambia. The Act further prescribes sixteen (16) other functions; however, to effectively operationalise the functions, they had been grouped into five (5) functional pillars as follows:

- i. promote the development and application of science and technology in Zambia;
- ii. regulate scientific research and technology development including the registration of research and development institutions and centres;
- iii. co-ordinate science and technology in the country;
- iv. advice Government on issues of science and technology; and
- v. mobilise financial, human and other resources including science and technology information for the development and application of science and technology.

Further to the mandate and functions of the Council, the *Science and Technology Act No. 26 of 1997* prescribes the roles of the Council as set out below.

**(i) Establishment of institutes and centres**

On the recommendation of the Council, the Minister responsible for Science, through a Statutory Instrument (SI), may establish any Science and Technology institute or a research and development support centre and set out the functions of each institute or centre. Institutes established under this role include the National Technology Business Centre (NTBC) and the National Remote Sensing Centre (NRSC).

**(ii) Registration of centres and institutes**

Every research institute and/or centre applies to the Council for registration annually as prescribed. Over the policy period, an average of seventeen (17) research institutions covering all the fields of science and technology are registered per year.

**(iii) Research agenda setting**

The Council was expected to facilitate the identification and determination of national research and development priorities for all fields of science and technology and had developed the National Research Agenda (NRA). The NRA spells out priorities for research based on sectoral development

priorities and aims to enhance co-ordination of Research and Development, rationalisation of resources and reduce duplication of research effort.

**(iv) Mobilisation of financial and other resources**

The Council carries out mobilisation of financial and other resources for development of science, technology and innovation in the country.

**(v) Science, Technology and Innovation advisory**

The Council provides advice to Government on Science, Technology and Innovation policies and activities. Key examples of advice issued to the Government during the policy period included:

- a) the governance of science, technology and innovation in Zambia;
- b) bioethics regulation and development in Zambia;
- c) the technical and commercial evaluation of Pineapples in Zambia; and
- d) the regulatory environment for research in Zambia.

Your Committee was informed that although the NSTC was legally established as the coordinating organ for the sector, the effectiveness of the coordination system had been hampered by inadequate legislation, lack of rationalisation in programming, disjointed and incoherent funding to research and development, and the absence of a common planning process and platform between the line ministries and other key stakeholders.

## **THE ROLE OF THE GOVERNMENT IN THE ADVANCEMENT OF SCIENCE AND TECHNOLOGY**

**6.5** Your Committee was informed that the current structure of market incentives and regulatory conditions in Zambia would not, by itself, produce sustainable outcomes or socially optimal investment in science and technology. The Government with its ability to influence markets, technology, and behaviour through policies and regulations had a critical role to play in the advancement of Science, Technology and Innovation.

Currently, the Government directly supported Science and Technology research through monthly grants to statutory bodies such as NISIR and the Zambia Agricultural Research Institute (ZARI). The Government also supported scientific and technical research in the country through the provision of Strategic Research Funds (SRF) in important scientific disciplines or themes, which was managed by the NSTC. Further, the Government's involvement in the advancement of science and technology was important because the private sector could not adequately supply and support certain types of research whose research results or benefits were long term.

Your Committee was also informed that some of the key roles that the Government could play in the advancement of Science, Technology and Innovation were to:

- (i) formulate policies that encouraged private sector involvement in science and technology activities;
- (ii) formulate policies that encouraged consumption of locally made products; and

(iii) aim at achieving 3 Percent allocation of GDP to science and technology.

## **THE ROLE OF THE PRIVATE SECTOR IN THE ADVANCEMENT OF SCIENCE AND TECHNOLOGY**

**6.6** Your Committee was informed that the major roles performed by the private sector in the advancement of science and technology are as set out hereunder.

### **Training ground for students taking science and technology based careers**

The mines and other industries provided a platform for student attachments during their training.

### **Provision of platform for testing technologies**

The private sector in the seed industry in Zambia had been very instrumental in testing seed technologies coming from the national agriculture research system to verify the quality and capacities of the new seed technologies. An example is the existing agreement of understanding between Zamseed and the Zambia Agriculture Research Institute.

### **Development of processes and rare skills**

The private sector in Zambia had provided a base for developing rare skills in the country. For example, Zambian scientists working with the mines had been able to develop copper extraction solutions with high efficiencies through internal Research and Development.

### **Demand driven research**

The private sector had occasionally initiated demand driven research especially at institutions of higher learning. An example was research in seed technologies being undertaken by the University of Zambia (UNZA), School of Agriculture on crops such as maize, sweet sorghum and wheat.

## **CHALLENGES FACED IN THE ADVANCEMENT OF SCIENCE AND TECHNOLOGY**

**6.7** Your Committee was informed of the challenges faced in the advancement of Science and Technology are as outlined below.

### **Weak Policy, legal and Institutional framework**

Your Committee was informed that at national level, the Ministry of Higher Education was responsible for the overall coordination and implementation of Science, Technology Innovation (STI) programmes and activities. However, Science, Technology and Innovation programmes in Zambia were being developed and implemented across various sectors such as agriculture, health, energy, education, manufacturing, mining and industry. Therefore, the key challenge in the sector had been the coordination of Science and Technology programmes across the line Ministries.

### **Insufficient commercialisation, transfer and diffusion of technologies**

Your Committee learnt that one of the major challenges faced in the advancement of Science and Technology was the insufficient transfer and commercialisation of

Research and Development outputs. The Government created the National Technology Business Centre (NTBC), to serve as a window for the promotion of research and development outputs to the end users. However, the performance of NTBC had not been up to the expectations of the Research and Development institutions and industry, mainly due to inadequate financing, low staffing levels, lack of awareness by Research and Development institutions about the mandate of NTBC in addition to low outputs from research and development institutions.

In terms of technology transfer, the main challenge had been the weak linkage between the research and development institutions and the private sector and lack of expertise to adapt and diffuse foreign technologies. The problem was further compounded by the limited information on the technological requirements of the various productive sectors due to the absence of capacity to forecast and assess the technology needs for the various sectors.

### **Insufficient Funding**

Your Committee was informed that Science and Technology development was costly and required massive investments in infrastructure, human resource development, commercialisation and transfer. The successful implementation of science and technology programmes depended on several factors, such as funding levels, disbursement mechanisms and financial information. Although, Government expenditure on STI programmes had shown an increase since 2002, the level of funding to the sector was still low, especially for research and development activities and this had made it very difficult for institutions to fulfil their mandates. The National Policy provides for 3 percent of GDP to be availed to Research and Development. However, only about 0.6 percent of Zambia's GDP was availed to Research and Development in 2014. (African Science and Technology Indicator Survey (ASTII) African Innovation Outlook 2014).

### **Inadequate popularisation of Science and Technology**

Your Committee learnt that appreciation of Science, Technology and Innovation (STI) remains very low among members of the public. One of the key challenges was the limited Information, Education and Communication (IEC) programmes. IEC played a key role in the promotion of Science and Technology in national development. Some of the major challenges included poor Science and Technology culture, insufficient public awareness about STI activities, inappropriate educational curriculum with regard to Science and Technology learning and teaching, poor dissemination and publication of Research and Development results, poor information management systems and lack of confidence in locally developed technologies.

### **Fragmented research environment**

Your Committee was informed that the fragmented implementation of the Science and Technology agenda in the country was one of the major challenges being faced in the advancement of science and technology. The carrying out of Research and Development in silos had led to the disjoint in the coordination of research outputs and

had, therefore, undermined the impact of Science and Technology on the economic development of the country.

### **Outdated and irrelevant curricula**

Your Committee learnt that the curriculum currently being used in schools and universities was outdated and irrelevant to the current economic dispensation. This curriculum had failed to keep pace with the fast moving developments in Science and Technology. In addition, poor teaching methods had also contributed to this. Concerns about teaching methods included a heavy reliance on memory and repetitious exercises instead of analytical and critical activities. Further, there was need to resolve issues concerning science subjects on offer, professional choices or desires, career guidance and entrance requirements in order to increase the number of young people opting for science-related careers.

### **Limited role models in the field of Science and Technology**

Your Committee was informed that the lack of a thriving cadre of scientists and researchers in Zambia to act as role models to young learners was another challenge that was hindering the advancement of science and technology. The number of role models to provide positive examples of professions for young people to emulate and allow them to visualise the types of careers they could have by studying science was limited.

### **Lack of qualified science personnel**

It was reported that Science and Technology institutions of learning in Zambia had continued to experience severe shortages of skilled human resource. Most institutions had less than 50 percent of their required professional or research personnel. In terms of human resource development in STI, Zambia falls in the 0 – 100 scientists per million population cluster which is well below the target of between 300 – 1000 per million populations for a middle income country which Zambia aspires to be by 2030.

Your Committee also heard that the major contributing factors to the low staffing levels in the sector was the failure by the education system to produce sufficient numbers of qualified personnel with the specialised skills and competences required in the Science, Technology and Innovation related job market; the lack of staff development programmes and absence of mechanisms to utilise Zambian Science and Technology experts in the Diaspora. Currently, the development of a scientific cadre was driven by individual aspirations and institutional human resource development efforts rather than a national programme aimed at ensuring that the country had the critical mass of research skills to drive its development agenda. The low staffing levels in Science and Technology institutions was also compounded by the lack of options for scientists to continue in research positions after the statutory retirement age.

### **Inadequate requisites for Science, Technology and Innovation**

Your Committee was informed that the objectives of the Policy were impeded by a serious problem of infrastructure. The existing infrastructure in schools, colleges and Research and Development institutions was still in a dilapidated state and was well below acceptable international standards. According to the 2015 Ministry of Education

Statistical Bulletin, there was a huge inadequacy of laboratory and workshop infrastructure in both primary and secondary schools in Zambia. In 2015, there were only a total of 357 permanent laboratories in primary schools and 1,054 in secondary schools countrywide. This was out of a total of 832 and 8,804 primary and secondary schools, respectively.

### **Lack of qualified teachers**

Your Committee was informed that Science, Technology, Engineering and Mathematics (STEM) in Zambia faced the biggest shortage of teachers especially at secondary school level. The present decline in recruitment of science teachers in Zambia was particularly evident and stemmed from the low number of students with scientific backgrounds who were able to pursue teaching after completing secondary schools. This had created a cycle of stagnation in the field and this cycle continues to hinder the advancement of Science and Technology in the country.

### **Brain drain**

It was reported that one of the major challenges in the advancement of Science and Technology was Brain Drain. Brain Drain detracts educational and research efforts aimed at increasing national capacity. Highly skilled and educated citizens often emigrate because the academic and research market offers comparatively low incentives and few opportunities for advancement while the alternative, in other countries was more lucrative.

### **Reliance on foreign technology**

Your Committee learnt that a significant portion of the private sector included multinational corporations and foreign owned firms. As a result, most of the technology utilised by the private sector was developed outside the country. Similarly, interventions by cooperating partners which involved technology tended to rely on foreign technology. The implementation of this policy objective had been below expectations. Further, an effective mechanism to facilitate technology transfer would require closer collaboration between local research and development institutions with the private sector and cooperating partners. This had not been the case largely on account of weak scientific and technological capabilities necessary to make it attractive for foreign firms to see local Research and Development institutions as partners.

### **Inadequate incentives to possible players**

Your Committee was informed that the implementation of the provisions in the Public Private Partnerships Act (PPP) between industry and research centres had been weak. The tax incentives intended to attract the participation of the private sector in Science and Technology had not been implemented. This had resulted in the private sector's low participation in the advancement of Science and Technology.

It was also evident that in Zambia, the educational and Government sectors dominate Science and Technology at the expense of the business sector. However, it was the business sector which was best placed to produce the innovations which were the ultimate aim of Science and Technology as was the case in South Africa. This partly

explained the stronger economic performance of that country. Your Committee was informed that since incentives required to encourage the private sector to carry out Research and Development in Zambia were lacking, many international firms did their research outside the country, only occasionally importing such results as and when needed for specific purposes.

## **BENEFITS TO NATIONAL DEVELOPMENT DERIVED FROM INDUSTRIAL RESEARCH, ENGINEERING AND MANUFACTURING DESIGN, AGRICULTURE RESEARCH, HEALTH AND MEDICAL RESEARCH, SOCIO-ECONOMIC RESEARCH AND INFORMATION TECHNOLOGY RESEARCH**

**6.8** Your Committee was informed that the benefits derived from industrial research, engineering and manufacturing design, agriculture research, health and medical research, socio-economic research and information technology research are as outlined below.

### **Industrial Research**

Your Committee was informed that Industrial Research plays a very pivotal role in the socio-economic development of any country. The creation of technologies, products and processes for the key sectors was a vital drive of any economy. The development of research and technology products into goods on the market that improve the livelihoods of the people was the focus of most industrial research. NISIR had been developing products for the sectors identified as priority areas in national policy documents. For example, in the manufacturing sector, NISIR developed and greatly contributed to further developments to the formulae for Maheu and Boom among many others.

Additionally, most raw materials for this kind of research were locally sourced and this provided demand and, therefore, resources for the locals thereby increasing real demand in the economy.

### **Engineering and manufacturing design**

Your Committee learnt that manufacturing was one of the key sectors of this country. In order to attain development through manufacturing, one needed to explore opportunities towards creating and/or strengthening centres for the design or manufacturing of prototypes, products and processes that drive the small and medium sized enterprises (SMEs) in the formal and informal sectors. For example, to support growth of SMEs, the Technical Development and Advisory Unit had been successful in developing food processing technology, renewable energy sources, intermediate needs of transport devices, block presses for cheaper building materials, agricultural implements and automated poultry egg incubators.

This kind of research, therefore, ventures into improvements in conducting research, cost effective and quicker ways of production that help industry and the country to improve their competitiveness.

### **Agriculture research**

Your Committee was informed that through agricultural research, quality, appropriate and cost effective research provides services and products to farmers, generating and adapting crop and livestock technologies, which increase agricultural productivity and diversification in production. This included the development of low cost sustainable farming systems for all major agro-ecological zones and farm sizes in Zambia through participation of the public and private sector in research activities.

Currently, agricultural research being carried out in Zambia by the Zambia Agriculture Research Institution (ZARI), Golden Valley Agriculture Research Trust (GART) and other research institutions in the agriculture sector had focused on high yielding and drought resistant varieties of staple and other crops for improved productivity and crop resilience. The benefits of this were numerous and ranged from improved food security, improved nutrition and improved income for the farmers among others.

### **Health and Medical Research**

Your Committee was informed that health research was one of the key areas where local solutions to health problems had been generated. The local solutions based on evidence from research included control of critical diseases such as malaria, HIV/AIDs and Tuberculosis (TB). The Tropical Diseases Research Centre (TDRC) had scored significant successes in health research which had shaped health care interventions in specific areas of expertise, especially in malaria, HIV/AIDs and TB. Notable among its achievements is the description of the first case of chloroquine resistance whose evidence contributed to the change in malaria treatment policy from chloroquine to Coartem, the development of many other antimalarials including Fansidar, Halofantrine, Fansimef, malarone and most recently dihydro-artemisinin piperazine (Euratesim), among others. Further, notable among HIV related activities are the recent Phase 1 B clinical trials on the Sondashi Formula (SF 2000) and the successful completion of the baseline survey to determine the incidence of HIV in Zambia (the ZAMPHIA study).

Your Committee was also informed that TDRC had demonstrable achievements in the mitigation of the TB disease burden in Zambia, as the reference TB laboratory serving the northern region of Zambia was housed at the Centre.

### **Socio-economic research**

Your Committee was informed that socio-economic research was important in the economic development of a country as it provided an understanding of the social and cultural tenets underpinning the behaviour of people and societies. These behaviours were critical to understanding the performance of policies and interventions not only for science and technology, but other sectors as well. It was, therefore, important to obtain an understanding of historic, scientific, social and economic values of different groups of the Zambian people through socio-economic research. This helped to determine actions to be taken in order to protect such cultural values identified when any scientific or technological activity was initiated in the community. It was also important to undertake such analysis in order to determine priorities of the economically disadvantaged Zambian people, so that such priorities could be considered when initiating scientific and technological research.

### **Information Technology research**

Your Committee learnt that Information Technology research was at the core of all research as it acts as a conduit for undertaking other research. The ability to handle research as a result of advancements in Information Technology could, therefore, not be over-emphasised. For example, a lot of research such as space science research, agro research, health research, manufacturing and many others all relied on the advancements in information and communication. Additionally, through this kind of research, one could obtain information needs of industry including those of small-scale industrial enterprises, microelectronic hardware and software, and innovative microelectronic applications in order to identify and support priority areas.

### **COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS**

Your Committee makes recommendations as set out hereunder.

- (i) Your Committee observes that while the essence of the 1996 National Science and Technology Policy objectives remain valid, the social, legal, political, environmental and economic situation has undergone significant changes.

Your Committee, therefore, recommends that the Government should review and update the National Science and Technology Policy taking into account changes in the country's economic and social landscape over the last twenty years.

- (ii) Your Committee observes that the role of the National Institute for Industrial and Scientific Research (NISIR) in the advancement of Science and Technology appears to be limited as there is very little to point out in terms of research related to civil, mechanical, chemical, electronic and electrical engineering, nuclear science, textile technology, biotechnology, energy resources, industrial chemistry, food science, materials science and natural products, and information science.

Your Committee recommends that NISIR should be restructured and given increased funding to enable it play the fundamental role of being the fulcrum of industrial research in the country.

- (iii) Your Committee observes that there is poor coordination of Science and Technology programmes across the line Ministries.

Your Committee recommends that Science and Technology should be separated from the Ministry of Higher Education as it cuts across various sectors.

- (iv) Your Committee observes that there is a weak linkage between the research and development institutions and the private sector.

Your Committee urges the Government to put in place measures to establish partnerships and linkages between various sectors internationally and within the country.

- (v) Your Committee observes that although Government expenditure on STI programmes have shown an increase since 2002, funding levels to the sector are still low, especially for research and development activities and this has made it very difficult for institutions to fulfill their mandates.

Your Committee recommends that the Government should allocate 3 percent of the country's GDP to Research and Development as prescribed in the National Science and Technology Policy.

- (vi) Your Committee observes that Science, Technology, Engineering and Mathematics (STEM) in Zambia face the biggest shortage of teachers at secondary school level and in tertiary institutions.

Your Committee recommends that the Government should train more Science, Technology, Engineering and Mathematics teachers. Further, they should also be given incentives to enable them advance their studies.

- (vii) Your Committee observes that highly skilled and educated citizens often emigrate because the academic and research market offers comparatively low pay and few opportunities for advancement while the alternative, in other countries is more lucrative.

Your Committee urges the Government to improve the conditions of service for highly skilled critical personnel such as those in the health sector. This will play a critical role in retaining the few highly skilled and educated citizens. This can also work to retain high earners that can act as role models for the young and upcoming scientists.

- (viii) Your Committee observes that there is a lack of sufficient infrastructure and equipment for carrying out research. The existing infrastructure in schools, colleges and research and development institutions is still in a dilapidated state and is far below acceptable international standards.

Your Committee recommends that the Government should improve basic infrastructure, equipment and laboratory facilities in schools and Research and Development institutions. This can greatly contribute to the effective analysis of scientific results that are currently sent outside the country at a huge cost to the Government. It will also contribute to the general furtherance of science and technology in the country.

- (ix) Your Committee observes that appreciation of science, technology and innovation remains very low among members of the public.

Your Committee urges the Government to put in place measures to raise public awareness and promote the importance of science and technology to society and the important opportunities that could be opened for young people and communities that engage in Science and Technology.

- (x) Your Committee observes that research institutions in Zambia have continued to experience severe shortages of skilled human resource.

Your Committee recommends that the Government should endeavour to increase the number of qualified scientists with PhD, MSc, and BSc including technicians. This will contribute greatly in the promotion of Science and Technology. This can be done through providing more funds such as scholarships for the improvement of qualified personnel in Science and Technology. In the long term, improved skills can result in high levels of research outputs.

## **PART II**

### **LOCAL TOUR TO LUSAKA, COPPERBELT AND NORTH-WESTERN PROVINCES**

**7.0** In order to appreciate what was obtaining on the ground in relation to “the Implementation of the Science and Technology Policy in Zambia”, your Committee undertook a local tour to three (3) provinces in Zambia namely; Lusaka, Copperbelt, and North-Western Provinces.

Your Committee toured the following institutions:

- (i) Ndola Primary School;
- (ii) Northern Technical College;
- (iii) Solwezi Skills Training Centre;
- (iv) Solwezi Boys Technical Secondary School;
- (v) Lechwe School;
- (vi) Copperbelt University;
- (vii) National Institute for Science and Industrial Research Sites;
- (viii) Technical Development and Advisory Unit;
- (ix) Zambia Agricultural Research Institute; and
- (x) Muvi TV.

#### **Ndola Primary School**

Your Committee was informed that Ndola Primary School was built in 1953. Ndola Primary School became a basic school in 1986, which opened doors to Grade 8 and 9, respectively. In 2014, the school status reverted to Primary School due to change of Government policies on education. Your Committee was also informed that the School had implemented the revised curriculum and offered Home Economics and Agriculture Science for the vocational pathway and Computer studies for the academic pathway. However, your Committee heard that the equipment in the metal work and wood work workshops for effective teaching of the vocation career pathway at Ndola Primary School was inadequate. Your Committee was also informed that the School had high enrolment levels especially at grade 8 and 9 levels because this was the only school

within the catchment area. In this regard, the pupil book ratio was one (1) to four (4) in most subjects which was not adequate.

Your Committee was also informed that the School did not have a laboratory. However, Ndola Primary School had been innovative in the teaching of science by creating a room for practical's and demonstration in the absence of the laboratory. Further, your Committee was informed that the School was also faced with the challenge of inadequate funding.

### **Northern Technical College**

Your Committee was informed that the Northern Technical College (NORTEC) was established as an engineering skills training Institute by a private charity in 1959. The principal activity of the College was the provision of technical and entrepreneurial skills to students. The College also provided consultancy and technical services to the public in the area of engineering.

The responsibility of the College was to produce graduates at Craft Certificate, Advanced Certificate and Diploma levels through a dynamic response to the needs of industry and other customers and a commitment to excellence through an attractive and conducive environment for staff and students. The College was also a trade test centre.

The objectives of NORTEC from 2017 to 2021 were:

- (i) to provide quality market responsive training in heavy equipment repair, electrical and mechanical engineering in order to equip graduates with appropriate skills;
- (ii) to strengthen research and development in heavy equipment repair, electrical, and mechanical engineering in order to learn and enhance programme development;
- (iii) to increase access to quality training in heavy equipment repair, electrical, and mechanical engineering from 3,000 to 4,500 in order to meet the demands from the clients;
- (iv) to effectively plan, monitor and evaluate implementation of programmes at the institute in order to ensure achievement of the set goals and objectives;
- (v) to manage and develop effectively human resources in order to enhance individual and organisational performance;
- (vi) to manage effectively financial resources and expand revenue base in order to improve service delivery; and
- (vii) to effectively and efficiently manage the provision of administrative and logistical support services in order to enhance operations of the institute.

Your Committee was informed that the College frequently received volunteers from Japan through the Japanese International Cooperation Agency (JICA). The College had also established a Public Private Development Partnership with Volvo Sweden in cooperation with the Government of Sweden and the United Nations Industrial Organisation. The College also continued to work with the Department for Foreign International Development (DFID) through Tropical Health and Education Trust (THET). The Chinese Government had donated to the Government of Zambia state of the art training equipment in Automotive and Electrical Engineering from which the College had benefitted. The College also collaborated with Institutions such as Barrick Gold, FQMOL, Reba Industrial Corporation Limited, Zambian Breweries and Chibuluma Mine PLC in order to ensure liaison and linkages to industry for the students. However, placement of students for industrial attachment continued to pose a challenge to the College as industries were rationing places among several colleges and universities.

Your Committee was also informed that some of the students at the College were on bursary. However, there were inconsistencies in the disbursement of the bursaries. The delays in the disbursement of bursaries and erratic and low funding from the Government was negatively affecting the College's cash flow and consequently delaying a number of projects and activities. Further, your Committee was also informed that the metal and wood work workshops at NORTEC were not adequately equipped. Furthermore, commercial rates charged by utility companies such as ZESCO and Kafubu Water and Sewerage Company were very costly for the Institution.

### **Solwezi Skills Training Centre**

Your Committee was informed that Solwezi Skills Training Centre also referred to as Solwezi School for Continuing Education had the mandate to train school drop outs, adults, vulnerable pupils or students in both skills and literacy. The academic career pathway had been implemented at junior level by learners pursuing compulsory subjects at junior level such as Business Studies, English, Mathematics, Computer Studies, Integrated Science, Social Studies, Religious Education, Zambian language and French. The vocation career pathway chosen by the school at this level was technology and home economics. At the senior level, pupils continued with the vocational career pathway in Design and Technology and Home Economics.

Apart from the two career pathways, the school offered TEVETA programmes in metal fabrication, carpentry and joinery, power electrical, design, cutting, bricklaying and tailoring and general hospitality. Your Committee heard that the pupils were able to sell the items they produced. Your Committee was also informed that pupils obtained certificates at the end of the programmes which gave them an opportunity to join the formal sector.

Your Committee was informed that all the computers used during computer studies at Solwezi Skills Training Centre were outdated and obsolete and were not compatible with the internet. Your Committee was also informed that the school faced challenges such as inadequate funding as it only received a grant of K 2,500 per month. Further, the equipment in the metal and wood work workshops was obsolete.

### **Solwezi Boys Technical Secondary School**

Your Committee was informed that the School was opened in 1957, as a secondary school and the revised curriculum had been successfully implemented. With regards to the vocational career pathway the School embraced technology because it was a Technical School. With regards to the academic career pathway, the School did not offer French and Chinese because the School did not have teachers to teach French and Chinese. Although design and technology had been successfully implemented, the School was faced with a challenge of inadequate workshop space. Your Committee heard that the School had turned some old buildings into workshops in order to accommodate the increased number of pupils.

Your Committee was also informed that learners who came from other Schools at grade 10 faced a challenge as they had no background of design and technology. Further, most teachers in the department were trained to teach Industrial Arts. However, capacity building was being enhanced through Continuing Professional Development (CPDs) to bring the teachers in line with the demands of the revised curriculum.

### **Lechwe School**

Your Committee was informed that Lechwe School was founded in 1977. The School follows the International Primary Curriculum (IPC) and Cambridge Primary Syllabus (CPS) in the primary school and the International Middle Years Curriculum (IMYC) and Cambridge International Examinations Syllabus for the secondary section. Some of the School's science and technology facilities included interactive boards, science laboratories, design & technology room, secondary and primary computer rooms and the music room.

The School was wholly dependent on tuition fees for all of its operations. Your Committee was informed that Lechwe School imports most of its text books and equipment from abroad because of the syllabi offered at the School. However, concern was raised that the School was subjected to the same taxes paid by profit oriented companies. Your Committee was also informed that taxes on school buses were quite high considering that Lechwe School replaced its buses every ten (10) to fifteen (15) years.

### **Copperbelt University**

Your Committee was informed that the Copperbelt University (CBU) over the years had been struggling to ascertain itself in the annals of academic achievement. The number of academic staff was relatively low in relation to the number of programmes the University offered on its academic calendar. Even more evident was the low numbers of senior academic staff, especially at PhD and Professorial level. Even more blatant was the relatively poor publication record. However, the record in all these factors had remarkably improved over the past three years (CBU Research Reports of 2013, 2014, 2015 and 2016).

Your Committee was informed that the University has had to reorganise the Research Directorate in order to ensure that research activities were undertaken effectively.

Further, your Committee heard that the University was committed to supporting research activities for its members of staff and in the recent past, the Senate Research and Grants Committee approved twenty-five (25) Research Proposals from schools and units whose total budgets amounted to K1,285,043.00. Your Committee was informed that most research activities were at data collection level. The University received support from cooperating partners on various projects.

Your Committee was also informed that metal and wood work workshops were not adequately equipped. Further, one of the workshops at the University had been abandoned by the contractor who was hired to rehabilitate the workshop.

Your Committee was also informed that in compliance with the *Constitution of Zambia (Amendment) Act of 2016*, Articles 188 and 189, eighty-seven (87) members of staff were separated on 4<sup>th</sup> March, 2016. However, they had been retained on the payroll until full payment of their benefits. Total benefits due to the retired members of staff amount to K62.9 million. In addition, the University required K5.1 million to liquidate deceased estates for nine (9) late members of staff. Accrued terminal benefits and deceased estates as at 19<sup>th</sup> May, 2017 amounted to K67.0 million.

Your Committee heard that following approval by the caretaker committee, management negotiated to contract a loan from the Zambia National Commercial Bank (ZANACO) to facilitate payment of the retirees' benefits. ZANACO approved the loan in November, 2016, and the offer had been submitted to the Ministry of Finance for scrutiny, approval and sovereign guarantee. Management expected that the Government would approve the loan to enable the Institution pay terminal benefits to retired members of staff. Deceased estates were being managed within the Institution's meagre financial resources.

Your Committee also visited the School of Medicine at the Copperbelt University. It was anticipated that the School would train 900 students in different medical fields and was expecting equipment in August this year. Your Committee was also informed that the University hoped that the Government could offer bursaries to the students at the Copperbelt University.

### **National Institute for Science and Industrial Research Sites**

Your Committee toured the National Institute for Science and Industrial Research (NISIR) Sites in Ikelengi, Kitwe, Chilanga and Lusaka.

Your Committee inspected the pineapple farming community in Ikelengi in order to monitor the progress of the pineapples produced from the pineapple seedlings manufactured by NISIR.

Your Committee also toured the Plant Sciences Research Centre in Kitwe which was established in 1965, as a tree improvement research Unit of the Agricultural Research Council of Central Africa. Your Committee was informed that the Centre was currently focusing on assisting the pineapple farming community to enhance productivity through

the provision of ample and quality pineapple seedlings and production of a cassava plant that is resistant to cassava mosaic disease and improved cassava starch quality. Cassava mosaic disease reduced the yield of Cassava thus impacting the livelihoods of Zambians who depended on Cassava. The Centre also offered support to various public and private organisations by providing them with micro-propagated bananas, sweet potatoes, artemisia, potatoes, umumbu, tumerine, and ginger. These products were buttressed by the Centre's Innovative Tissue Culture Technology. Furthermore, the Centre was in the process of establishing a pilot plant for herbal medicines. In this regard, the Centre was anticipating support from the Government and the private sector to construct the herbal medicine pilot plant building.

With regards to the nuclear research laboratory, your Committee was informed that nuclear energy had been used to determine the levels of water contamination in drinking water around Lumwana, Kitwe and Chingola towns. It had also been used in producing bio-fertiliser from human waste. It had been found that by ironising domestic human sewage sludge, the bacteria are inactivated producing bio-degradable organic chemicals present in the sludge. The final product was a rich source of nitrogen, phosphorous, and potassium (N,P,K) and micro nutrients essential for crops. Despite having made the above achievements, your Committee was informed that some of the equipment at the nuclear laboratory was obsolete.

Your Committee was informed that the NISIR centre in Chilanga which was known as the Livestock and Pest Research Centre (LPRC) focused on identification, elucidation and suggestion of solutions to problems that adversely affect livestock health and reproduction, especially in the traditional or peasant sector. Your Committee was informed that the Centre was adequately equipped with the relevant computers and machinery. Some of the activities undertaken since its inception are as set out below.

- a) **Base line study on the commonly modified foods, maize and soya beans**  
Your Committee was informed that maize and soya beans samples were collected from all the provinces, especially along the borders. When these were analyzed, it was found that all seeds grown in Zambia were negative for GMO's. The few that were positive came from refugee camps that had received aid from GMO consuming countries.
- b) **The provision of GMO testing analytical services to the public:** In the surveys it indicated that most imported products were positive for GMO (70-95% of total sampled, while Zambian products tested were 0%).
- c) **Conservation of Animal Genetic Resources:** Your Committee was informed that while Zambia was endowed with some important cattle breeds like the Angoni, Baila, Barotse, and the Tonga, the unique traits of these animals were under threat especially with the Baila breed of which research had shown that the traits could soon become extinct due to the sharply dwindled numbers. Crossbreeding with superior exotics had attributed to this genetic bottle being created. Your Committee was also informed that the indigenous breeds had

better characteristics such as resistance to disease and resistance to drought conditions. Going forward, the laboratory had further built capacity in Animal Genetic resources as part of the country's conservation effort. A project on genetic characterisation was initiated in 2009 (Dr. J.Simbaya, UNZA) to genetically characterise the four indigenous cattle breeds. The project entered a second phase to carryout characterisation using genetic sequencing in 2013.

- d) **Training:** Students from CBU, UNZA and Evelyn Hone were attached to the laboratory for their training where they were practically taught some of the advanced techniques in use in molecular biology.

Despite having made the above, achievements your Committee was informed that NISIR had inadequate staffing levels at all its sites.

### **Technical Development and Advisory Unit**

Your Committee was informed that the Technical Development and Advisory Unit (TDAU) of the University of Zambia operated as a semi autonomous engineering research and development unit. The University of Zambia was established under the University Act Chapter 136 of the laws of Zambia which was repealed and replaced by the Higher Education Act No.4 of 2014. The Technical Development and Advisory Unit was established in 1975 to provide a link between the expertise of the University and the industry. Some of the products and services offered by Technical Development and Advisory Unit included consultancy, process design, development of new technologies and adoption and adaption of foreign technologies. Technical Development and Advisory Unit manufactured portable hammer mills, Mukwa doors, interlocking block press machines, groundnut hammer mills and kitchen units.

Your Committee was informed that some of the challenges faced by the Unit included inadequate funding and inadequate equipment in the metal work and wood work workshops. Further, your Committee heard that the retirees at UNZA had been retained on payroll until full payment of their benefits. This was a huge cost to the University.

### **Zambia Agricultural Research Institute**

Your Committee was informed that the objective of the Zambia Agricultural Research Institute (ZARI) was to provide a high quality, appropriate and cost effective service to farmers, generating and adapting crop, water, soil and plant protection technologies. ZARI research programmes were based on an agro-ecological approach. The target beneficiaries were smallholder farmers, public and private extension agents, agro-chemical companies and students.

Your Committee was informed that one of the Institution's major achievements was the use of Inoculum. Inoculum was affordable and easy to store, and increased yields of soybeans by 25%. The Institution had since 1992 released varieties of maize, sorghum, wheat, rice, sunflower, pearl millet, finger millet, beans, ground nuts, cowpeas, cassava, pigeon peas, sweet potato and vegetables.

Your Committee was informed that ZARI was facing budget constraints due to a massive reduction in the budgetary allocation. The budgetary allocation to ZARI had decreased from 62 percent in 2012, to 4 percent and 3 percent in 2015 and 2016 respectively. Further, the plant quarantine section had raised about K 2.5 million in 2016, but only a small fraction was returned to ZARI from the Ministry of Finance. This hindered the operations of ZARI because it resulted in inadequate funds to support manpower at the borders.

Further, your Committee was informed that there was a lack of technical and professional staff at ZARI. Only 128 professional staff and 111 technical staff were in place at the Institution as opposed to 175 professional staff and 144 technical staff required by the establishment.

### **MUVI Television**

Your Committee was informed that Muvi Television (TV) was established in 2002 to bridge the gap in the Zambian Television industry. Your Committee was informed that with the announcement of the digital migration in 2006, Muvi TV decided to switch to the use of the digital satellite in 2010. Your Committee was informed that advancements in science and technology had capacitated the growth of Muvi TV and had enabled it to promote the Zambian culture.

### **COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS**

Your Committee makes observations and recommendations as set out hereunder.

#### **Ndola Primary School**

- (i) Your Committee observes that Ndola Primary School has been innovative in the teaching of science by creating a room for practical's and demonstrations in the absence of a laboratory.

Your Committee recommends that the Government should provide funds for the construction of the laboratory and provision of all the necessary apparatus and materials required during science lessons at Ndola Primary School.

- (ii) Your Committee observes that the pupil book ratio of 1 to 4 in most subjects at Ndola Primary School is inadequate.

Your Committee recommends that the Government should provide funds for the procurement of books at Ndola Primary School in order to ensure that the pupil book ratio is 1 to 1.

- (iii) Your Committee observes that the equipment in the metal and wood work workshops for effective teaching of the vocation career pathway at Ndola Primary School and Solwezi Boys Technical School is inadequate.

Your Committee recommends that the Government should adequately equip Ndola Primary School and Solwezi Skills Training Centre to enable the effective teaching of the vocational career pathway.

### **Solwezi Skills Training Centre**

- (i) Your Committee observes that the electrical and carpentry courses are taught in one workshop at Solwezi Skills Training Centre.

Your Committee recommends that the Government should provide funds for the construction of an additional workshop at Solwezi Skills Training Centre.

- (ii) Your Committee observes that the equipment in the laboratories and metal and woodwork workshops at Solwezi Skills Training Centre is completely outdated.

Your Committee recommends that the Government should provide sufficient funds for the overhaul of the metal and wood work workshops at Solwezi Skills Training Centre.

- (iii) Your Committee observes that the computers being used during computer studies at Solwezi Skills Training Centre are outdated, obsolete and are not compatible with internet.

Your Committee recommends that Solwezi Skills Training Centre should be equipped with modern computers in order to ensure that computer studies are conducted effectively.

### **Northern Technical College, Technical Development and Advisory Unit and Copperbelt University**

- (i) Your Committee observes that most of the machinery in the metal work and wood work workshops at NORTEC and TDAU is obsolete and needs to be replaced.

Your Committee recommends that the Government should procure modern equipment for metal and wood work workshops at NORTEC and TDAU.

- (ii) Your Committee observes that commercial rates charged by utility companies such as ZESCO and Kafubu Water and Sewerage Company are a huge cost to institutions of learning and research centres.

Your Committee recommends that the Government should provide a social rate for electricity tariffs for both private and public institutions of learning and research centres.

- (iii) Your Committee observes that delays in the disbursement of bursaries at NORTEC, CBU and UNZA are negatively affecting the college and University cash flows and consequently delaying a number of projects and activities.

Your Committee recommends that the Government should put in place measures to ensure that the disbursement of bursaries at NORTEC, Copperbelt University and University of Zambia is timely.

- (iv) Your Committee observes that retired members of staff at CBU and UNZA have been retained on payroll until full payment of their benefits. This is a huge cost to the University.

Your Committee recommends that the Government should ensure that retirees at CBU and UNZA are given their terminal benefits.

- (v) Your Committee observes that funding to the TEVETA Institutions is inadequate.

Your Committee recommends that the skills development fund should be ring fenced and disbursed directly to TEVET Institutions.

### **Solwezi Boys Technical Secondary School**

- (i) Your Committee observes that there are no laboratory assistants to help teachers of science prepare certain materials in advance at Solwezi Boys Technical Secondary school.

Your Committee recommends that the Government should urgently recruit laboratory assistants at Solwezi Boys Technical School.

- (ii) Your Committee observes that due to lack of funding from the Government the Solwezi Boys Technical Secondary administration and PTA have raised funds to construct two laboratories and 80% of the construction works have been done.

Your Committee recommends that the Government should procure chemicals, equipment and other laboratory materials needed to make utility of the two laboratories being constructed at Solwezi Boys Technical School up to the expected standards.

- (iii) Your Committee observes that while an effort had been made to modernise the computer laboratory at Solwezi Boys Technical Secondary School, the equipment for teaching the vocational pathway is obsolete.

Your Committee recommends that the Government should provide equipment at Solwezi Boys Technical School for the effective teaching of the vocational pathway.

### **Lechwe School**

- (i) Your Committee observes that Lechwe School is subjected to the same taxes paid by profit oriented companies when importing school equipment, text books and school buses.

Your Committee recommends that the Government should abolish VAT and Customs tax on imported text books, equipment and buses for Government and private schools.

### **Zambia Agriculture Research Institute**

- (i) Your Committee observes that there is a lack of technical and professional staff at ZARI.

Your Committee recommends that the Government should ensure that adequate technical and professional staff are recruited at ZARI.

- (ii) Your Committee observes that most of the revenue generated at the plant quarantine section is not returned to ZARI and this results in shortages of manpower to carry out inspections at the borders.

Your Committee recommends that the Government should ensure that a certain percentage of funds raised by the plant quarantine section at ZARI are retained to the Institute to enable it carry out its functions effectively.

## **PART III FOREIGN TOUR TO RWANDA**

**8.0** Your Committee undertook a foreign tour to Rwanda. The objective of the tour was to learn the best practices in the implementation of the national science and technology and innovation policies.

In view of the objective of the tour, your Committee visited the following institutions:

- (i) Ministry of Education;
- (ii) University of Rwanda – College of Science and Technology;
- (iii) Kigali Special Economic Zone;
- (iv) Knowledge Laboratory;
- (v) National Commission of Science and Technology;
- (vi) Work Force Development Agency;

- (vii) Integrated Polytechnic Regional Center (IPRC Kigali);
- (viii) Rwanda Revenue Authority; and
- (ix) Ministry of Youth, Information and Communication Technology.

### **Findings of Your Committee**

Your Committee's key findings are as set out below.

- (a) The Rwandan Government allocates 20 percent of the National budget to the education sector in line with the standards prescribed by the Cairo Declaration.
- (b) The Rwandan Government had entered into strategic partnerships with various international organisations to finance research at tertiary level. For example, the College of Science and Technology receives results based funding for infrastructure and equipment from the African Development Bank (AfDB).
- (c) The National Research and Innovation Fund is adequately funded by the Rwandan Government.
- (d) The physical chemistry and the microbiology laboratories at the Science and Technology College offer a diverse range of product and analytical services such as carrying out Environmental Impact Assessments at a fee to clients.
- (e) The Rwandan Government has a data base of Rwandan scientists abroad and the research they are carrying out. These Scientists act as mentors to Rwandan students at the College of Science and Technology and offer lectures when need arises.
- (f) The Rwandan Government has overcome barriers that usually prevent children from accessing primary education including the removal of fees to attend school with no exceptions such as PTA fees.
- (g) Construction of more classrooms at the administrative sector level has contributed to quality education by reducing the number of pupils in a class.
- (h) The Rwandan Government through the use of Public Private Partnerships (PPP) has put in place regional centres of excellency for ICT's. The centres have been established to provide capacity development in ICT.
- (i) The Rwandan Government has introduced Saturday Morning Science, which is a show that demonstrates how things work. For example, viewers could be shown how an elevator works.

- (j) The Rwandan Government has a one laptop per child project which started in 2007. The objective of the One Laptop per Child Project is to distribute half a million lap tops to primary school pupils by 2017. Since 2011, over 140,000 laptops have been distributed to school going children across the country. This has led to increased access to information and research, promotion of ICT skills from an early age and creativity among the pupils.
- (k) The Rwandan Government has embraced home grown solutions in the area of Science and Technology through the “Made in Rwanda Campaign”. Rwandan polytechnic institutions are offering technical and vocational skills in order to solve Rwandan problems.
- (l) The Rwandan Government ensures that polytechnic schools are adequately funded and well equipped. This has enabled students to invent and fabricate basic machinery such as vending machines, traditional four plate cookers and fabrication of motor vehicle spare parts.
- (m) The Rwandan Government provides guarantee funds for business innovative ideas of up to 75 percent of the project value.
- (n) The Rwandan Government carries out a skills gap analysis with regard to the technical and vocational curriculum through consultations with stakeholders in the industry.
- (o) The Rwandan Government offers scholarships for students wishing to undertake technical and vocational courses.
- (p) All ICT components in Rwanda are VAT zero rated.
- (q) There is political will to support research and development.

### **Committee’s Recommendations**

In view of the foregoing, your Committee makes recommendations as set out below.

- (a) The Zambian Government should ensure that a minimum of 20 percent of the National budget is allocated to the education sector as prescribed in the Cairo Declaration.
- (b) The Zambian Government should consider entering into strategic partnerships with various international organisations to finance Science, technology, innovation and infrastructure at tertiary level.
- (c) The Zambian Government should ensure that the Strategic Research Fund is adequately funded.

- (d) The Zambian Government should ensure scientific laboratories at NISIR, ZARI, CBU and UNZA are capacitated to service clients more efficiently and effectively;
- (e) The Zambian Government should have a data base of Zambian scientists, including those abroad and the research they are carrying out. These scientists could act as mentors to students in Zambia.
- (f) The Zambian Government should consider the removal of PTA fees in primary schools to ensure free access to education to all children. Further, grants to primary schools must be increased and availed to the schools consistently.
- (g) The Zambian Government should ensure that more classrooms are constructed in communities, as this will ensure quality education.
- (h) The Zambian Government should consider using PPP to establish regional centres of excellence for ICT's in order to provide capacity development in ICT.
- (i) The Zambian Government should introduce a television channel that promotes Science, Technology and Innovation. This will ensure that the advancement of science and technology is embraced at household and national level.
- (j) The Zambian Government should establish adequately equipped computer laboratories in all the primary schools in the country in order to increase access to information and research, promotion of ICT skills from an early age and creativity among pupils.
- (k) The Zambian Government should ensure that trade institutions are capacitated to offer technical and vocational skills in order to solve Zambian problems and embrace the buy Zambia campaign.
- (l) The Zambian Government should ensure that the skills development fund is disbursed to TEVET Institutions in order to ensure that Trade institutions are adequately funded and well equipped to fabricate machinery as this will reduce the cost of production faced by most SME's.
- (m) The Zambian Government should consider providing guarantee funds for business innovative ideas based on the Rwandan Model.
- (n) The Zambian Government should allocate part of the skills development funds to TEVET Institutions for the awarding of scholarships to students.
- (o) The Zambian Government should consider offering scholarships for students wishing to undertake technical and vocational courses.

- (p) The Zambian Government should consider ensuring that purchases of all ICT components targeted at educational activities are duty free.
- (q) The National Science and Technology Council (NSTC) should be domiciled under the Office of the President in order to enhance political will to support research and development.

#### **PART IV FOREIGN TOUR BY THE ZAMBIAN PEER GROUP TO AUSTRIA**

**9.0** On 26<sup>th</sup> October, 2016, a Joint Parliamentary Peer to Peer Exchange Group on the monitoring of the implementation of the Sustainable Development Goals (SDGs) was established by Members of Parliament from Austria and Zambia to:

- (a) exchange information on the steps taken at Government level to implement the respective SDGs;
- (b) exchange of information on the current status of the respective SDGs; and
- (c) define sufficient ways on how to hold both Governments accountable on the implementation of SDGs.

In light of this, the Zambian Parliament was in the process of developing a partnership with the Parliament of Austria under the North South Dialogue Programme (PNSD). The programme was being financed by the Austrian Development Agency (ADA) and was designed to promote parliamentary support on a bilateral twinning partnership level based on a method of peer to peer learning. The Zambian/ Austrian partnership would focus on strengthening parliamentary oversight on the implementation of the Sustainable Development Goals specifically SDGS 3.7, 4.4 and 4.7 outlined below.

**SDG 3:** Ensure healthy lives and promote well being for all at all ages:

**Target 3.7:** by 2030 ensure universal access to sexual and reproductive health care services, including family planning, information and education, and the integration of reproductive health into national strategies and programmes.

**SDG 4:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

**Target 4.4:** by 2030, substantially increase the number of youths and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

**Target 4.7:** by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.

In this regard, your Committee was informed that the Zambian peer group visited the following Institutions in Austria as set out hereunder.

### **The Democracy Workshop**

Your Committee was informed that the Zambian peer group had an encounter with Austrian pupils at the Democracy Workshop. The Democracy Workshop provided access to democracy and parliamentarism to children and young people between the ages of eight (8) and fourteen (14) years. In the “workshop with parliamentarians”, school children can discuss the legislative process and the system of checks and balances with members of the two chambers, Nationalrat and Bundesrat.

### **Austrian Society for family planning**

Your Committee was informed that the Austrian Society for Family Planning was established in 1956. All the services offered at the Austrian Society for Family Planning such as sexual education and contraception were free of charge apart from the insertion of the copper spiral which cost 75 Euro.

### **Youth Vocational Training Centre (Jugend am Werk)**

Your Committee was informed that the initial vocational education was extremely important in Austria. After completing their compulsory school period, about 40 percent of young people in Austria were trained in a legally recognised apprenticeship occupation whilst another 40 percent opted for a Vocational Education and Training (VET) school or college. This meant that about 80 percent of Austrian pupils follow a Vocational Education and Training pathway. About 350 young people aged between fifteen (15) and eighteen (18) years were currently being trained in a multitude of professions by twenty-nine (29) qualified members of staff at the “Jugend am Werk” Vocational Training Centre, a non-profit organisation in the North of Vienna. The Centre offered metal work, wood work, electronics, motor mechanics, plumbing and textiles.

Your Committee was informed that young people could complete their entire apprenticeship at vocational training centres if they had been unable to get an apprenticeship on the open market and attend professional schools. They were also given support in an effort to get an apprenticeship at a company. To counteract youth unemployment, the Austrian Government implemented a training guarantee for young people in 2001. This promised each young person who would like to take up an apprenticeship, a training place. If young apprenticeship seekers could not be placed in a regular company, they were guaranteed the opportunity to enter an apprenticeship programme in a supra company apprenticeship training entity organised and financed by the Austrian Public Employment Service.

The Centre also offered an extended vocational training scheme to disadvantaged young people in order to ensure that they had additional support for their training by extending the time needed for apprentice training by a maximum of two years, or to acquire a partial qualification. For adults who have not completed any vocational training, the centre offered modular training programmes, intensive specialist training and the opportunity to prepare for the final apprenticeship exam.

### **Selbstlaut- (Against sexualized violence against children)**

Your Committee was informed that Selbstlaut was a non-profit organisation which worked against sexualised violence against children. The organisation worked with children in groups in order to sensitise them, prevent sexual violence, and offer consultation services on the same. The organisation also sensitised pre-school teachers to be alert when children showed signs of sexual abuse. The Organisation was funded by the Ministry of Education, Ministry of Family and Health, Ministry of Gender and the City of Vienna.

### **School for Nursing and Health Care, Gmunden -Salzkammergut Clinic**

Your Committee was informed that training locations at Salzkammergut Clinic were mostly school premises. Appropriate skill laboratories often reflected a real-life nursing environment, achieved with identical or comparable equipment and facilities. Observation rooms had been installed with cameras allowing the trainers to follow the trainings. The learning institutions took place under supervision and in consideration of methodological-didactic concepts, ideally creating an atmosphere that allowed the trainees a repeated, anxiety-and-risk-free practice of targeted skills. This setting allowed students to make mistakes, discover and correct them accordingly without having fear of any consequences for themselves or patients.

### **Energie AG Water- and Solar Power Station (Education and Training Centre for Young People)**

Your Committee was informed that the apprentices were being trained by the Energy Company prior to their employment by the same Company upon completion of apprenticeship. The Company enrolled fifteen (15) apprentices per year and had a total number of sixty (60) apprentices. Most of the apprentices were sent back to work from the Company's subsidiaries located in their home towns.

### **Mostviertler Bildungshof (Agriculture School), Amstetten- Lower Austria**

Your Committee was informed that the Agriculture School was established in 1935. The school offered Technical Agricultural Training and Home Management Training. The curriculum was divided into theoretical lessons and a practical training programme. The School was provided with modern classrooms and three IT suites with sixteen (16) computers each. The School also had modern seminar rooms for students to undertake practical trainings.

### **Committee's Observations and Recommendations**

Arising from the tour by the Zambian Peer Group and from its interactions with the Members of the Austrian Peer Group, your Committee makes the following observations:

- (a) the budgetary allocation in Austria towards the health and education sectors is relatively high;
- (b) the Austrian Government has love buses which drive to schools and educate pupils on sexual reproductive health and rights;

- (c) the technical and vocational institutions in Austria are adequately equipped; and
- (d) the Austrian Government links technical and vocational courses to industry. Students at Technical institutions in Austria work with enterprises to acquire finished products through research and development.

In view of the foregoing, your Committee recommends the following:

- (a) the Zambian Government should significantly increase the budgetary allocation to the health and education sectors;
- (b) the Zambian Government should scale up the establishment of youth friendly corners in schools and clinics in order to educate pupils on sexual reproductive health and rights;
- (c) the Zambian Government should ensure that Technical and Vocational Institutions are well equipped; and
- (d) the Zambian Government should put in place measures to ensure that Technical and Vocational courses are linked to industry.

## **PART V**

### **CONSIDERATION OF THE ACTION-TAKEN REPORT OF THE REPORT OF THE COMMITTEE ON EDUCATION, SCIENCE AND TECHNOLOGY FOR THE FIFTH SESSION OF THE ELEVENTH NATIONAL ASSEMBLY**

#### **THE ROLE OF BOOK PUBLISHING AND DISTRIBUTION IN EDUCATION**

##### **Book policy**

**10.0** Your previous Committee had recommended that the Government should formulate a national book policy that would guide the publishing, procurement and distribution of books.

##### **Executive's Response**

Your Committee was informed that the Government was in the process of constituting a committee comprising of Universities, Colleges of Education, Curriculum Development Centre (CDC), Book publishers Association and experienced authors to develop the national book policy that would guide the publishing, procurement and distribution of books.

##### ***Committee's Observations and Recommendations***

Your Committee notes the response and requests for a progress report on the matter.

### **Procurement system**

**11.0** Your previous Committee had recommended that there was need for the Government to urgently clarify the matter relating to the procurement system with all relevant stakeholders so that there was clear understanding of procurement procedures that were being used to purchase and distribute books.

### **Executive's Response**

Your Committee was informed that the Government would soon commence a sensitisation programme for all keys stakeholders to establish a common understanding on the procurement procedures.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a progress report on the matter.

### **Book evaluation process**

**12.0** Your previous Committee had recommended that the Ministry of General Education should urgently set up specific timelines for the different stages in the evaluation and approval process which should be availed to all relevant stakeholders.

### **Executive's Response**

Your Committee was informed that the Curriculum Development Centre (CDC) was reviewing the criteria and policy document that guides publishers and individual authors on book development. In this regard, the Curriculum Development Centre would include specific time lines for different stages in the evaluation and approval process.

### **Committee's observations and recommendations**

Your Committee notes the response and requests for an update on the development of the specific time lines for different stages in the evaluation and approval process.

### **Sole distribution of books**

**13.0** Your previous Committee had urged the Government to ensure that all the significant players, including book publishers and book sellers, were part of the distribution chain as a way of creating employment and empowering citizens. The inclusion of book sellers would no doubt lead to the reopening of bookshops that had closed around the country and lead to an improved reading culture and ultimately more literate citizens.

### **Executive's Response**

It was reported in the Action-Taken Report that the Government was in the process of reorganising text book procurement and would take into consideration the issues raised.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests for an update on the reorganisation of text book procurement to ensure that all the significant players, including book publishers and book sellers, are part of the distribution chain.

### **Distribution of books to remote areas**

**14.0** Your previous Committee had recommended that the Ministry of General Education should take up the distribution of books to areas where the private sector appeared to have problems to reach.

#### **Executive's Response**

It was reported in the Action-Taken Report that the Ministry of General Education had taken up the challenge of distributing text books to hard-to-reach areas especially where the private sector had problems reaching. Funding for distribution of books had been increased from K1, 500 to K6, 000.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests the Government to increase funding for the distribution of books, as K6,000 was clearly insignificant.

#### **State owned publishing houses**

**15.0** Your previous Committee had recommended that the Ministry of General Education should have a deliberate policy of awarding a certain percentage of its contracts to the Times Printpak Zambia (TPPZ) and the Zambia Education Publishing House (ZEPH).

#### **Executive's Response**

It was reported in the Action-Taken Report that the Zambia Education Publishing House is a statutory Body under the Ministry of General Education and it had been awarded contracts to support book development. However, TPPZ had never been involved in book publication by the Ministry. The Ministry would create a deliberate policy of awarding a certain percentage of its contracts to the TPPZ.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests for an update on a deliberate policy of awarding a certain percentage of the Ministry's contracts to the TPPZ.

### **Copyright and Performance Rights Act**

**16.0** Your previous Committee had urged the Government to ensure enforcement of the *Copyright and Performance Rights Act* so that the interests of publishers could be protected. One way of doing this was by controlling the sale of photocopied materials by unregistered book sellers and vendors.

#### **Executive's Response**

Your Committee was informed that one way of respecting copy rights was by controlling the sale of photocopied materials by unregistered book sellers and vendors.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests the Government to clearly state the measures that will be put in place to ensure enforcement of the *Copyright and Performance Rights Act* in order to protect the interests of publishers.

### **Decentralised system of book procurement**

**17.0** Your previous Committee had recommended that the Ministry of General Education should revert to the decentralised system of book procurement and delivery and concentrate on delivering books to difficult to reach areas.

#### **Executive's Response**

Your Committee was informed that the Government would continue with the centralised procurement system until capacity was created at lower levels. The structure of the Ministry had not been revised to include positions of procurement officers at district level. Further, the Zambia Public Procurement Authority (ZPPA) did not allow officers without procurement qualifications to handle such procurements. In the meantime, decentralised book selection would continue to give chance to individual schools to choose the books of their choice.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on the matter.

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

### **The Delivery of Education in Institutions of Higher Learning**

#### **Incentives for private sector participation**

**18.0** Your previous Committee had requested a more concrete report on how the Ministry of Higher Education was seeking Public Private Partnerships (PPPs).

#### **Executive's Response**

Your Committee was informed that the Ministry had been discussing options for entering into partnerships with private property developers. There were plans to partner with private enterprises in constructing university student hostels at public universities.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on the matter.

#### **Strengthening vocational training outputs**

**19.0** Your previous Committee had requested a more concrete report on how the Ministry of Higher Education was facilitating the interface between Micro, Small and Medium Enterprises (MSMEs) and TEVETA training providers in order to strengthen vocational training outputs.

#### **Executive's Response**

The Government through the Ministry of Higher Education was in the process of identifying the TEVET graduates and other leading MSMEs as role models to give motivational talks to the students in the TEVET institutions. The role models would also develop documentaries to be aired on local television and radio stations, as well as produce DVDs for distribution to the students for wider coverage. Currently, plans were

underway to commence the programme in Lusaka, Copperbelt and Luapula provinces with a view of rolling out to the rest of the provinces in Zambia.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on rollout of the programme to the rest of the provinces.

### **Extension of the bursary scheme to all institutions of higher learning**

**20.0** Your previous Committee had requested a progress report on the process of assessing the feasibility and the cost implication of this recommendation.

### **Executive's Response**

Your Committee was informed that the feasibility studies were on-going and Government would provide a comprehensive report once the studies had been concluded.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on the matter.

## **OUTSTANDING ISSUES FROM THE ACTION-TAKEN REPORT ON THE COMMITTEE'S REPORT FOR THE THIRD SESSION OF THE ELEVENTH NATIONAL ASSEMBLY**

### **The Structure of the Zambian Education System: From Basic- High School to Primary-Secondary School; Opportunities and Challenges.**

### **Revision of the National Education Policy, *Educating Our Future* and the *Education Act No.23 of 2011***

**21.0** Your previous Committee had requested a progress report on the revision of the National Education Policy, *Educating Our Future* and the *Education Act* of 2011, which were meant to provide a policy and legal framework to the shift in the education structure.

### **Executive's Response**

Your Committee was informed that the then Ministry of Education, Science Vocational Training and Early Education (MESVTEE) was developing the National Education Policy prior to its splitting in December, 2016. The split resulted in the formation of two Ministries; the Ministry of Higher Education and the Ministry of General Education.

In line with the portfolio mandates assigned to the two Ministries by the Presidential decree that established the two Ministries, the Ministry of Higher Education was mandated with University Education, TEVET and Science and Technology. In this regard, the Ministry had commenced work on the view of the TEVET and Science and Technology Policies as well as developing the Higher Education Policy which did not exist prior to the establishment of this Ministry. Further, stakeholder consultations had been undertaken and completed with regard to the STI and the Higher Education Policies. The drafts for these two policies were expected to be ready for validation by

stakeholders within 2017 and it was envisaged that they would be submitted to Cabinet for approval before the end of the year. Consultations for the TEVET Policy would also commence soon.

The Ministry of General Education was also in the process of finalising the National Policy of Education which covers the primary and secondary sub-sectors. Provincial consultations were undertaken towards the close of last year.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on the matter.

### **Implementation strategy and guidelines**

**22.0** Your previous Committee had requested a progress report on the development of the implementation strategy and guidelines.

### **Executive's Response**

It was reported in the Action-Taken Report that your Committee would be updated on the progress attained once the Education Act of 2011 had been reviewed.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a progress report on the development of the implementation strategy and guidelines.

### **Procurement and distribution of desks to schools**

**23.0** Your previous Committee had requested a progress report on the equipping of fifty secondary schools with desks.

### **Executive's Response**

It was reported in the Action-Taken Report that plans to procure and distribute desks to schools in fifty-five (55) secondary schools would be implemented as soon as funds to procure the desks were released. For 2016, a budgetary allocation of Seventy Six Million Kwacha (K76, 000,000) had been set aside for the procurement and distribution of school furniture. The total number of desks to be procured was 112,330 with each province getting an average of more than 10,000 desks. The average number of desks to be distributed to each school would be determined by the provincial education authorities.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a further update on the procurement and distribution of desks to the fifty-five (55) secondary schools.

## **LOCAL TOURS**

### **Mumbwa**

#### **Mumbwa Secondary School- rehabilitation of the dining hall and administration block**

**24.0** Your previous Committee had requested a progress report on the rehabilitation or replacement of infrastructure, particularly the dining hall and administration block at Mumbwa Secondary School.

#### **Executive's Response**

Your Committee was informed that the Ministry of General Education was awaiting funds from the Ministry of Finance for the rehabilitation of the dining hall and administration block at Mumbwa Secondary School.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a further update on the matter.

### **Kaoma**

#### **Kaoma Secondary School- construction of specialised rooms**

**25.0** Your previous Committee had requested an update on the construction of specialised rooms at Kaoma Secondary School for the new subjects such as Art and Design Technology in the new curriculum.

#### **Executive's Response**

Your Committee was informed that funds for the rehabilitation of specialised rooms at Kaoma Secondary school were still being awaited.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a further update on the matter.

### **Lukulu**

#### **Phelim-O'shea School**

**26.0** Your previous Committee had requested an update on the construction of classrooms and upgrading of equipping of the laboratories and acquisition of teaching and learning materials at Phelim-O'shea School.

#### **Executive's Response**

It was reported in the Action-Taken Report that the Ministry of General Education was still awaiting the release of funds to undertake the project.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a further update on the matter.

## **Zambezi**

### **Use of Lunda and Luvale as media of instruction**

**27.0** Your previous Committee had requested an update on the recommendation that in order to avert conflict, the Government should quickly resolve the impasse surrounding the use of Lunda and Luvale as media of instruction in Zambezi District schools.

#### **Executive's Response**

Your Committee was informed that the three schools were still using English as the medium of instruction for the lower grades while books in Lunda and Luvale had not yet been distributed to schools. Teaching and learning was going on using Luvale in the West Bank and Lunda in the rest of the schools in the East Bank except for the three schools.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a further update on the matter.

### **Upgrading of Dipalata Secondary School**

**28.0** Your previous Committee had requested a progress report on the release of the remaining funds allocated to the upgrading of Dipalata Secondary School.

#### **Executive's Response**

It was reported in the Action-Taken Report that the construction of a 1x3 classroom block and one teacher's house had been completed. However, the Ministry was awaiting the release of additional funds to complete the construction of two teacher's staff houses, one toilet block and a 1X3 classroom.

#### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a further update on the matter.

## **CONSIDERATION OF OUTSTANDING ISSUES FROM THE ACTION-TAKEN REPORT ON THE COMMITTEE'S REPORT FOR THE SECOND SESSION OF THE ELEVENTH NATIONAL ASSEMBLY**

### **Paul Mushindo University and Robert Kapasa Makasa University**

**29.0** Your previous Committee had requested an update on the placing of Paul Mushindo University and Robert Kapasa Makasa University under already existing Universities such as Copperbelt University (CBU) or University of Zambia (UNZA).

#### **Executive's Response**

Your Committee was informed that the Ministry of Higher Education had since reviewed the two submissions from UNZA and CBU and awarded Robert Kapasa Makasa University to CBU. The decision on Paul Mushindo University would be made when the University was near completion as it was still in its preliminary construction stage.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests a further update on the placing of Paul Mushindo University upon completion.

### **NORTEC- Procurement of state-of-the-art equipment**

**30.0** Your previous Committee had requested an update on the completion of the procurement process for the equipment.

### **Executive's Response**

Your Committee was informed that the Chinese Government delivered the second batch of equipment. This equipment had since been commissioned and sent to the respective TEVET institutions. The equipment so far received was valued at slightly over K16 Million Kwacha. It was envisaged that the third batch of equipment would arrive in the country before the close of the year.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on the matter.

### **Evelyn Hone- Radio and Television Licences**

**31.0** Your previous Committee had requested an update on its recommendation to allow Evelyn Hone College to hold two licences, for radio and television.

### **Executive's Response**

Your Committee was informed that the Ministry of Higher Education had engaged the Ministry responsible for Communication which was the licensing Ministry for this waiver. It was hoped that this matter would come to a close before the end of the year.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on the matter.

## **CONSIDERATION OF THE ACTION-TAKEN REPORT ON THE REPORT OF THE COMMITTEE ON THE REPORT OF THE AUDITOR-GENERAL ON THE DEPLOYMENT OF TEACHERS IN BASIC SCHOOLS FOR THE FOURTH SESSION OF THE ELEVENTH NATIONAL ASSEMBLY**

### **Ministry of General Education- institutional assessment**

**32.0** Your previous Committee had requested a progress report on the institutional assessment the Ministry was undertaking.

### **Executive's Response**

It was reported in the Action-Taken Report that the Ministry attached great importance to the transfer management within the education sector in view of the fact that it had a big establishment compared to other ministries. To this effect, payroll responsive management systems had been put in place by assigning three officers who would be dedicated to perform human resources planning functions within the Directorate of Human Resource and Administration. Among other functions, these officers would

monitor, manage and audit the payroll. Your Committee was informed that this undertaking was inextricably linked to staff assignment on the payroll and therefore no transfers could be effected without following the due process as stipulated in the transfer guidelines.

Further, the Ministry Headquarters, Province and District were not authorised to effect transfers without an identified payroll vacancy ID for which the transfers could be held against. These guidelines had been cascaded at all levels to ensure prudent payroll management. To further strengthen this activity, Public Service Management Division had attached a Payroll Auditor to assist in the monitoring.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on the matter.

### **Rural and remote hardship allowances**

**33.0** Your previous Committee had requested a progress report on the recommendation to adjust upwards, rural and remote hardship allowances for Teachers from the current 25 percent to 40 percent.

### **Executive's Response**

Your Committee was informed that an upward adjustment of these conditions of service could only be effected through negotiations between the Government and the teacher unions. Further, the rural and remote hardship allowances were a percentage of the basic salary and therefore, any increment effected to the salary would automatically adjust the allowance upwards.

### **Committee's Observations and Recommendations**

Your Committee notes the response and requests an update on the matter.

### **34.0 CONCLUSION**

Your Committee expresses its gratitude to you Mr Speaker and the Clerk for the guidance and services rendered to it throughout its deliberations. Gratitude also goes to the stakeholders for their oral and written submissions. It is your Committee's hope that its objectives and recommendations will contribute to the development of the education, science and technology sector in the country.

**P C Mwashingwele, MP**  
**CHAIRPERSON**

**June, 2017**  
**LUSAKA**

## **APPENDIX I**

### **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 EMZ Banda, Committee Clerk

Ms P S Bwalya, Typist

Mr C Bulaya, Committee Assistant

Mr M Chikome, Parliamentary Messenger

Mr D Lupiya, Parliamentary Messenger