



MINISTRY OF AGRICULTURE, WATER AND FORESTRY

VOTE 20

TECHNICAL PAPER OF THE BUDGET MOTIVATION 2017/2018

PRESENTED BY:

**HONOURABLE JOHN MUTORWA, MP
MINISTER OF AGRICULTURE, WATER AND FORESTRY**

THEME:

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TECHNICAL PAPER IN SUPPORT OF THE MOTIVATION STATEMENT OF MAWF BUDGET

The purpose of the Technical Paper is to provide detailed information in addition to the Ministry of Agriculture, Water and Forestry's Budget Motivation Speech.

The MAWF's (Vote 20) total budget is **N\$ 2 186 404 000** of which **N\$ 880 411 000** (40.3%) is earmarked for the Development Budget and **N\$ 1 305 993 000** (59.7%) represents the operational budget.

1. MAIN DIVISION 01	: OFFICE OF THE MINISTER
RECURRENT BUDGET	: N\$ 6 152 000

A total of **N\$ 6 167 000** is required for the Main Division 01, the Office of the Minister, for running activities of the office.

2. MAIN DIVISION 02 : ADMINISTRATION

RECURRENT BUDGET : N\$ 473 989 000

CAPITAL/DEVELOPMENT BUDGET : N\$ 40 211 000

2.1 OBJECTIVE

The main objective of the Directorate of General Services is to provide corporate support services to the other Directorates of the Ministry.

The specific objectives are to:

- Ensure effective Ministerial Financial Management.
- Ensure efficient Internal Audit Services.
- Ensure efficient provision of Auxiliary Services.
- Administer Human Resources efficiently and effectively.
- Ensure efficient Ministerial Information Communication Technology Services.
- Efficiently mainstream of Gender, Employee Wellness and HIV & AIDS.
- Ensure efficient ministerial Plant and Fleet Management

2.2 RECURRENT ACTIVITIES

2.2.1 MAJOR ACHIEVEMENTS FOR 2016/2017

2.2.1.1 FINANCE

- EFT (Electronic Funds Transfer) of Daily Subsistence and Travelling Allowance (DSA), Accounts Payable and Payroll payments facilitated.
- Ministerial Accountability and Audit reports submitted.
- The overall preliminary budget expenditure rates are 96.72% for the operational budget and 94.15% for the capital budget for the 2016/17 financial year.

2.2.1.2 INTERNAL AUDIT

- Conducted eighty-two (82) financial inspections in eleven (11) regions: Oshana, Omusati, Karas, Hardap, Ohangwena, Otjozondjupa, Omaheke, Oshikoto, Zambezi and Kunene.
- Conducted transport system audits in Kavango and Hardap for directorates DWSSC, DAPEES and DoF.
- Conducted Revenue Inspections for fifteen (15) offices in Kunene region.
- Implemented Risk Based Internal Audit program and facilitated completion of eight risk registers for all Directorates.
- Completed three (3) investigations during 2016/17.

2.2.1.3 HUMAN RESOURCE (HR)

- Administered the conditions of service which include; remuneration system, leaves, retirement and GIPF claims of deceased staff members.
- Filled 76% of the budgeted vacancies.

- Placement of staff on new restructuring program completed.
- Submitted the 3-year Ministerial Affirmative Action plan, in compliance with the Affirmative Action Act to the Employment Equity Commission (EEC) report. Affirmative Action Sensitization staff meetings were conducted for the Kavango East & West region, Rundu.

2.2.1.4 AUXILIARY SERVICES

- Rendered utility services to Ministerial outlets in all the 14 regions.
- Provided security services at MAWF outlets country-wide.
- Facilitated tenders approval through Tender Board to procure goods and services for the Ministry.
- Published Quarterly Ministerial News Letters and the Annual Report.
- Responded to media on Ministerial related issues and provided press releases.
- Livestock stock-taking was conducted at all 13 research stations that keep livestock as well as stock taking at all ministerial outlets in the 14 regions.

2.2.1.5 INFORMATION COMMUNICATION TECHNOLOGY (ICT)

- Provided Regional Offices with computer network infrastructure to enable access to Ministerial Internet and intranet system.
- Acquired new computer software licenses.
- Maintained and updated the Ministerial ICT systems.
- Provided support services on ICT to staff members.
- Maintained and populated the Ministerial website.

2.2.1.6 EMPLOYEE WELLNESS & HIV/AIDS PROGRAMME

- Information, Education & Communication (IEC) materials and condoms distributed to regional offices quarterly.
- Conduct quarterly awareness creation sessions on HIV/AIDS and wellness issues (Cancer, Blood pressure, Cholesterol and Diabetics as well as Facilitation of complete health diagnostic with computer at work).

2.2.1.7 PLANT AND FLEET MANAGEMENT

- Provide transport services to the ministry. Provision of fuel, licensing and repairs and maintenance to a fleet of 1600 vehicles and trucks.

2.2.2 CHALLENGES EXPERIENCED IN 2016/2017

2.2.2.1 FINANCE

- Delay in acquisition of supplier codes for EFT payments to suppliers for goods and services delivered.
- Budgetary constraints to pay service providers that resulted into discontinuation of electricity at offices in the region for more than five (5) months.

2.2.2.2 INTERNAL AUDIT

- Delays in completion of legal cases.

2.2.2.3 HUMAN RESOURCE (HR)

- Difficulty to recruit staff members/persons to fill posts in the scarce job categories and OPM delays.
- Challenge on the implementation of Performance Agreements at all levels.
- Budget cuts that resulted into the moratorium of filing of vacancies.

2.2.2.4 AUXILIARY SERVICES

- The tariff adjustment of the Local Authorities does not coincide with the budget period and the increases are higher than the budgeted increase.
- Unexpected statutory tariff adjustment of the security services.

2.2.2.5 INFORMATION COMMUNICATION TECHNOLOGY (ICT)

- Delays from Service providers to install the trunking (networking infrastructure) timeously.

2.2.2.6 PLANT AND FLEET MANAGEMENT

- Inability to update fleet management system due to funding.
- Long repair down-time due to payment delays.

2.2.3 PLANNED ACTIVITIES FOR 2017/2018

2.2.3.1 FINANCE

- Maintain Ministerial Financial Administration.
- Regular consultation with MoF on all modules for smoother operations.
- Training of staff members on finance issues.

2.2.3.2 INTERNAL AUDIT

- Implementation of Risk Based Internal Audit program.
- Improve follow-up on audit recommendation.
- Implementation of investigation program.

2.2.3.3 HUMAN RESOURCES (HR)

- Train supervisors in MAWF on HR matters.
- Facilitate implement Public Reforms through the Electronic Record Management System (EDRMS), Performance Management System and Business re-engineering.
- Fill vacant budgeted posts in the Ministry.
- Continue to administrate staff conditions of service, disciplinary and grievances.

- Facilitate implementation of new approved Ministerial structure.

2.2.3.4 AUXILIARY SERVICES

- Continues provision of office support services
- Implement a stock taking program
- Maintain Ministerial Asset Management
- Maintain administration of Ministerial procurement
- Develop Comprehensive Fleet Management System
- Train staff on new system to improve service to clients (MAWF)
- Conduct auctions for redundant and obsolete assets
- Update the Ministerial asset registers
- Print Ministerial newsletters and Annual Reports
- Facilitate Ministerial press releases and respond to media queries

2.2.3.5 INFORMATION COMMUNICATION TECHNOLOGY (ICT)

- Maintain and update the Ministerial ICT systems
- Provide support services on ICT to staff members
- Maintain and populate the Ministerial website
- Facilitate implementation of the Electronic Record Management System (EDRMS).

2.2.3.6 EMPLOYEE WELLNESS & HIV/AIDS PROGRAMME

- Co-ordinate Employee Wellness and HIV/AIDS Mainstreaming and prevention activities.
- Provide care/support for affected/infected staff members.
- Distribute condoms, Information and education material to staff members.
- Co-ordinate Sector response on HIV/AIDS for the Agriculture, Water and Forestry sector.

2.2.3.7 PLANT AND FLEET MANAGEMENT

- Provide transport services to the ministry.
- Provision of fuel, licensing and repairs and maintenance to a fleet of 1600 vehicles and trucks.
- Review of the comprehensive fleet management system

2.3 CAPITAL PROJECTS

2.3.1 RENOVATION OF MAWF BUILDINGS

2.3.1.1 ACHIEVEMENTS FOR 2016/2017

- Ministerial staff houses were renovated (1–Oshana Region, Ongwediva and 1 – Khomas Region, Windhoek).
- Renovation of Offices and main stores at Okahandja in the Otjozundjupa South Region.

2.3.1.2 PLANNED ACTIVITIES FOR 2017/2018

- Replacement of existing lifts at MAWF Head Office
- Renovate and upgrade Ministerial properties

2.3.2 CONSTRUCTION OF REGIONAL HEAD QUARTERS

2.3.2.1 ACHIEVEMENTS FOR 2016/2017

- Regional Head Quarters in the Kavango Region, Rundu and Zambezi region, Katima Mulilo has been completed and inaugurated.
- Construction of Regional Head Quarters in Ohangwena Region, Eenhana is 75% complete and the East Wing in Khomas, Windhoek (GOP) is 50% completed.

2.3.2.2 PLANNED ACTIVITIES FOR 2017/2018

- Completion of the construction of the Eenhana, Ohangwena and East Wing in Khomas, Windhoek Regional Head Quarters.

2.3.3 CONSTRUCTION OF WAREHOUSES

This project has been discontinued due to the moratorium of Ministry of Finance.

2.3.4 EXPANSION OF INTRANET AND IMPLEMENTATION OF E-GOVERNANCE FOR MAWF

2.3.4.1 ACHIEVEMENTS FOR 2016/2017

- The following offices were connected onto the MAWF network: Okaukamasheshe ADC, Gobabis Forestry Office, Okahandja DAPEES, Rundu Regional Office, Engombe ADC, Onamishu ADC, Gibeon Rural Water and Manheim Research.
- Structure cabling and trunking was completed at the following offices: Okashana Research Station, Katima Forestry, Omafo (DAPEES and DWSSC) new additional offices and Onayena ADC.

2.3.4.2 PLANNED ACTIVITIES FOR 2017/2018

- Install structural cables and trunks at Oshifo DVS office, Okalongo,
- Connect the following offices to the MAWF network: Katima Regional Office, Omafo (DAPEES and DWSSC), Kamanjab (DVS), Erwee ADC, Onayena ADC, Okashana Research Station.

3. MAIN DIVISION 03

: VETERINARY SERVICES

RECURRENT BUDGET

: N\$ 199 714 000

CAPITAL BUDGET

: N\$ 67 724 000

3.1 OBJECTIVES

The objective of the Directorate of Veterinary Services (DVS) is to maintain and promote optimal animal health, production and reproduction and assure the safe and orderly marketing of animals and animal products through animal disease control, epidemiology and extension, diagnostic services and veterinary public health services.

3.2 MAIN FUNCTIONS:

- Implement both development and regulatory activities in accordance with legislation and directives related to the animal industry;
- Develop structures and physical infrastructures necessary to bring veterinary services to all parts of the country, maintain integrity that the Namibian Veterinary Services enjoys, ensuring continued exports of animals and animal products, as well as regional and international cooperation;
- Ensure that good cooperation with the farming community is maintained so as to benefit the health of the nation's livestock;
- Maintain and improve the diagnostic and supportive role of the Central Veterinary Laboratory.

3.3. RECURRENT ACTIVITIES

3.3.1 MAJOR ACHIEVEMENTS IN 2016/2017

3.3.1.1 Disease Surveillance and Control

Animal disease surveillance is a major activity of DVS. Routine active and passive surveillance activities such as farm inspections, community visits, ante- and post-mortem inspections at abattoirs, supervision of livestock auctions, export certification and inspection of imported animals and animal products were carried out during the year with relatively favorable results as no major events were observed.

Disease surveillance is done in order to provide evidence of the country's animal health status that is constantly under threat from animal diseases that have the potential to disrupt Namibia's access to local, regional and international markets. Animal disease surveillance program ensures that diseases or conditions that may precipitate disease outbreaks are mitigated and that systems are in place for early detection and early effective response.

Animals slaughtered under veterinary supervision:

- One hundred and twenty-four thousand, one hundred and forty (124 140) cattle;
- Two hundred and ninety-three thousand, two hundred and seventeen (293 217) sheep; and
- Three hundred and eight springboks were slaughtered.

Number of farms and animals inspected:

- Livestock at 3 975 farms were inspected routinely;
- Three hundred and eleven thousand, six hundred and ninety-seven (311 697) cattle inspected at auctions;
- One hundred and sixty-three thousand, one hundred and eighty-six (163 186) sheep were inspected at auctions;
- One hundred and fifty-nine thousand, two hundred and forty-one (159 241) goats were inspected at auctions;
- One hundred and six thousand, two hundred and forty-seven (106 247) cattle were inspected before export;
- Two hundred and twenty-seven thousand, and seven (227 007) sheep were inspected before export; and
- One hundred and seven thousand, three hundred and thirty-four (107 334) goats were inspected before export.

Ongoing programmes include:

- During 2016, 3 274 community visits were done and 3 975 farms inspected. Mass vaccinations of animals against diseases such as Foot and Mouth Disease, Lungsickness and Rabies were carried out during the year. A total of 897 192 cattle were vaccinated against FMD in the infected zone and protection zone with coverage of 81.86%. Meanwhile 981 042 cattle were vaccinated in the NCA against Lungsickness with coverage of 77.07%.
- The Namibian Livestock Identification and Traceability System (NamLITS), which is the backbone of animal disease surveillance, has now been extended to cover the whole country. This system enables government to keep accurate records of animal disease surveillance, animal movements and vaccinations. It also allows for monitoring of breeding programs as well as population dynamics and future projections. In the 2016/17 financial year 197 186 additional cattle were tagged in the NCA.

The NamLITS team conducted trainings on livestock identification and traceability both in the NCA and sVCF. A total of 65 staff drawn from DVS was trained.

- Livestock identification and traceability, import/export control, extension and regulatory inspections at community level, farms, livestock auctions and abattoirs were carried out.
- Maintenance of veterinary infrastructures such as veterinary clinics, crush pens, quarantine farms, veterinary cordon fences some of which required extensive repair due to old age. Electrification of parts of the border and Veterinary Cordon Fence improved the zoo-sanitary controls of the country.

3.3.1.2 Export markets

- Namibia continues to access foreign markets for its animals and animal products. The traditional markets are mainly: Norway, the EU, Angola and South Africa.
- During 2016 Namibia managed to gain acceptance into China, Hong Kong, United States and Russia.
- Namibia has since exported one consignment of beef to Hong Kong and has passed tests in that country.

- The United States government finally approved the Inspection Health Certificate for export of deboned beef from Meatco Windhoek abattoir.
- Namibia has been approved to export beef and lamb to the Russian Federation. Approved model export certificates with special security features were delivered to the Russian Federation for distribution to ports of entry and exports will commence soon.

3.3.1.3 Animal Health Status

Namibia achieved the following animal health status as granted by the World Organisation for Animal Health (OIE) World Assembly of Delegates in May 2016.

- Freedom from Lungsickness (CBPP) to the area south of the Veterinary Cordon Fence (VCF)
- Negligible Risk Status for Mad Cow Disease (BSE) for the whole country

Namibia continued implementing the Foot and Mouth Disease and Lungsickness Endorsed Control Programmes which are road maps for achieving FMD freedom in the protection zone and CBPP freedom in the entire Northern Communal Areas (NCA).

The country remained free from Foot and Mouth Disease and Lungsickness (CBPP) during the reporting period.

A Rabies Control Pilot Project was launched in March 2016 in the Oshana Region, in the NCA. The following activities were implemented: pet vaccination (two campaigns 6 months apart), surveillance, community education, Knowledge Attitude and Practices (KAP) study. The project has seen a major improvement in pet rabies vaccination coverage. In fact the number of pets vaccinated increased to 25 800 which was an increase of five times on previous figures, while rabies cases have declined significantly.

3.3.1.4 Hosting of OIE Conference

- Namibia successfully hosted the 22nd Conference of the OIE Regional Commission for Africa from 20th to 24th February 2017 at Swakopmund. The Minister of Agriculture, Water and Forestry, Honourable John Mutorwa officially opened the Conference after welcome address by The Governor of Erongo Region, Honourable, Cleophas Mutjavikua. The Conference was attended by over 100 delegates from the African Continent and OIE Headquarters in Paris, France. Some of the key dignitaries who attended included the following: OIE Director General, Dr Monique Eloit, President of the World Assembly of Delegates, Dr Michael Modisane, Vice President of the World Assembly of Delegates, Dr. Mark Schipp, President of the Regional Commission for Africa, Dr Komla, Batasse Batawui and OIE Regional Representative for Africa, Dr Karim Tounkara. The Conference focused on animal health matters affecting the African Region.

3.3.2 PLANNED ACTIVITIES FOR (2017/2018)

3.3.2.1 *Improvement of Animal Health Status and Marketing in the Northern Communal Areas*

- The MAWF will continue to implement the policy aimed at creating conditions which will allow farmers in the Northern Communal Area (NCA) to access local, regional and international markets for their animals and animal products. The Ministry with the financial assistance of the MCA-Namibia developed the Strategy and Implementation plan of for achieving Foot and Mouth Disease (FMD) and Lungsickness freedom in the NCA;
- MAWF will continue to implement the OIE endorsed Official Control Programme for Foot and Mouth Disease and Lungsickness for the Northern Communal Areas for eventual eradication of FMD from Protection Zone and Lungsickness from the entire NCA;
- Increase the number of Veterinary Offices in the Northern Communal Areas to reduce the distance that farmers have to travel to seek veterinary services;
- Complete construction of veterinary infrastructure at Mahenene, Wenela, Kawitwi, Dobe, Swartbooi Drift and Oronditi to improve import and export control of animals and animal products;
- Develop and implement protocols to facilitate the local marketing of meat by small abattoirs in the Northern Communal Areas;
- Hold border harmonization meetings with neighboring countries particularly Angola;
- Implement the Angola-Namibia MOU on cooperation in the control, prevention and eradication of Foot and Mouth Disease and Lungsickness; and
- Engage and continue in trade negotiation on sanitary measures for acquiring new markets for animals and animal products.

3.3.2.2 *Construction of new veterinary infrastructure*

- Construction of new veterinary offices, accommodation and crush pens;
- Construction of animal and plant health inspection centres at border entry points;
- Rehabilitate three government owned abattoirs in the NCA to promote livestock marketing, enhance surveillance and food safety standards in the area;
- Construction of the new research laboratory at Eenhana which will focus on the major trans-boundary animal diseases;

3.4 CAPITAL PROJECTS

3.4.1 DEVELOPMENT OF ANIMAL AND PLANT INSPECTION CENTRES AT BORDER ENTRY POINTS

3.4.1.1 MAJOR ACHIEVEMENTS FOR 2016/2017 (N\$ 30 290 000)

- The infrastructure development for sanitary and phyto-sanitary import/export control to prevent the introduction of exotic plant and animal diseases in Namibia is underway at Mahenene, Wenela, Kawitwi, Dobe, Swartbooi Drift and Oronditi.
- Construction of sanitary and phyto-sanitary import/export control point at Kasamane was completed and handed over.

- Construction of sanitary and phyto-sanitary import/export control points at Oronditi (80 % complete), Swartbooidrift (80 % complete), Katwitwi (90 % complete), Mahenene (65 % complete), Wenela (90 % complete) and Dobe (30 % complete).

3.4.1.2 PLANNED ACTIVITIES FOR 2017/2018 (N\$16 396 000)

- Continue construction veterinary infrastructure at Oronditi, Swartbooidrift, Katwitwi, Mahenene, Wenela and Dobe border posts.

3.4.2 CONSTRUCTION OF VETERINARY CLINICS, OFFICES AND ACCOMMODATION

3.4.2.1 MAJOR ACHIEVEMENTS FOR 2016/2017 (N\$62 162 000)

- In order to improve access to veterinary services the Ministry continued the construction of offices, accommodation facilities and other infrastructure in various parts of the country such as at Ondangwa, Ndiyona, Ncaute, Omundaungilo, Epembe, Ruacana as well as Okalongo.
- Staff houses at Epembe and Omundaungilo Rural Veterinary Extension Centres in Ohangwena Region were completed.
- Drive through disinfection facilities at Oshivelo Gate in Oshikoto Region, Mururani Gate in Otjozondjupa Region, Tsintsabis Gate in Kavango West Region and Werda Gate in Kunene Region were completed.

3.4.2.2 PLANNED ACTIVITIES FOR 2017/2018 (N\$5 073 000)

- Construction of Traceability Office, Chief Veterinarian Office for Central Regions in Windhoek, Veterinary Clinic at Ondangwa, offices and accommodation at Tses in the //Kharas Region and offices;
- Completion of accommodation facilities and gate canopies at veterinary control gates at Tsintsabis, Oshivelo, Roodag and Werda;
- Completion of veterinary clinics and staff houses at Okalongo, Ruacana, Sangwali, and Okahao;
- Constructed a state vet house at Kamanjab state vet office; and
- Renovate Walvis Bay State Veterinary Office.

3.4.3 EXTENSION OF THE CENTRAL VETERINARY LABORATORY

3.4.3.1 MAJOR ACHIEVEMENT FOR 2016/2017

- Construction of the Ondangwa Regional veterinary laboratory started with new a Contractor.

3.4.3.2 PLANNED ACTIVITIES FOR 2017/2018

- There will be no activity since there is no budget allocation.

3.4.4 IMPROVEMENT OF ANIMAL HEALTH AND MARKETING SERVICES IN NORTHERN COMMUNAL AREAS

3.4.4.1 MAJOR ACHIEVEMENTS 2016/2017 (N\$ 13 351 520)

- Bilateral meetings were held with Angola, in fulfillment of the MOU signed in 2014, during the period under review;
- There were no outbreaks of either Foot and Mouth Disease or Lung-sickness; and
- Implementation of the OIE Endorsed Control Programme for eventual eradication of Foot and Mouth Disease and Lungsickness continued.

3.4.4.2 PLANNED ACTIVITIES 2017/2018 (N\$14 772 000)

- Intensification of clinical and serological surveillance will be effected for the Northern Communal Areas;
- The electrification of part of the high-risk area of the Veterinary Cordon Fence (VCF) and the Namibia-Botswana international border fence commenced in 2013 and is expected to be completed this year;
- Prophylactic vaccinations against Foot and Mouth Disease and Lungsickness will continue in the 2017/2018 financial year;
- Livestock identification and traceability activities will continue throughout the country in order to support animal disease surveillance and marketing of livestock and their products;
- Recruit personnel as per the approved structure;
- Erection of a border fence between Namibia and Angola and relocation of livestock relying on grazing in Angola to identified grazing areas within Namibia as per the approved Strategy for the eradication of trans-boundary animal diseases in the NCA.

3.4.5 BEEF VALUE CHAIN DEVELOPMENT IN THE NORTHERN COMMUNAL AREAS

3.4.5.1 MAJOR ACHIEVEMENTS 2016/2017 (N\$ 33 920 000)

The objective of the project is to ensure improved marketing of livestock in the NCA and production of value added meat and meat products in order to compete at local, regional and international markets. Cattle and goats in the NCA have limited marketing channels and almost no access to lucrative markets. Appropriate, well-situated slaughter facilities, in the form of abattoirs that conform to best practice standards are therefore needed. The achievements are:

- The Eenhana and Outapi abattoirs were upgraded.
- Construction of Rundu abattoir and cold storage continued.
- The Zambezi Regional Council availed land to MAWF near Bukalo to erect an abattoir, cold storage and a meat processing/cooking facility for value added products. The project has since been handed over to the Meat Board of Namibia for implementation.
- Construction of Cold storage facility and meat processing at Ongwediva Fresh Produce Hub has commenced.

3.4.5.2 PLANNED ACTIVITIES 2017/2018 (N\$31 483 000)

- In the Zambezi Region, an abattoir, cold storage and a cooking facility will be set up to improve value addition as well as take advantage of OIE's FMD chapter on commodity-based trade to ensure continuous marketing of meat and meat products from an FMD

high risk area such as canned beef, cooked meat, biltong and other heat treated meat products;

- Continue with the construction of Rundu abattoir;
- Continue with construction of the Meat Processing facility at Ongwediva Fresh Produce Hub

4. MAIN DIVISION 04 : AGRICULTURAL RESEARCH

RECURRENT BUDGET : N\$ 66 266 000

CAPITAL BUDGET : N\$ 34 727 000

4.1 OBJECTIVES

- To conduct agricultural research through need-driven, basic, adaptive and strategic research in the communal and commercial farming areas of Namibia.
- To develop and conserve crop and livestock genetic material for current and future use.

4.2 MAIN FUNCTIONS

- Conduct crop and livestock research
- Conserve and preserve plant and animal genetic material
- Conduct rangeland and pasture research
- Provide livestock performance support services

4.3 RECURRENT ACTIVITIES

4.3.1 ACHIEVEMENTS FOR 2016/17

4.3.1.1 Crop Research and Production

- Undertaken through the International Atomic Energy Agency and the United Nations Food and Agriculture Organisation, IAEA/FAO Joint Project a mutation breeding programme that involved 150 cowpea, 50 pearl millet and 50 sorghum mutant lines which has resulted in the selection of promising 21 cowpea, 18 pearl millet and 18 sorghum drought tolerant, high yielding and early maturing mutant lines, which are currently under field screening and evaluation. Out of these minimum of three (3) per crop variety were selected by farmers for potential release as new varieties in 2017/2018 financial year;
- The Ministry through the Division of Crop Research and Production produced 165 tons of certified seed produced 68 tons foundation seed and 141 tons of certified seed of strategic staple grain and legume crops (Cowpea, Pearl millet, Sorghum and Maize). The certified seed were distributed to farmers in cropping producing areas through subsidy while tons certified were distributed as free seed. However, low rainfall during the last cultivation season resulted in low quantity seed;
- Conducted Food loss and waste reduction assessment in maize and mahangu sub-sectors within the framework of AU and Global food security initiative;
- Published three (5) articles in international journals on:
 - “Radio-sensitivity of selected cowpea (*Vigna unguiculata*) genotypes to varying gamma irradiation doses”,”Participatory appraisal of production constraints, preferred traits and farming system of cowpea in the northern Namibia: implications for breeding” and “Selection of novel Cowpea Genotypes Derived through Gamma Irradiation”
- Submitted two (2) articles for publication in international journals on “Participatory varietal selection among elite Cowpea genotypes in northern Namibia”; and “Genotype by environment interaction of elite varieties of cowpea derived through mutagenesis”;

- Submitted two (2) articles for publication in MAWF Scientific *Journal Agricola*
- Conducted eighteen (18) research projects on crop improvement, soil fertility improvement, crop diversification and variety evaluation;
- The Ministry and IAN SAU jointly successfully hosted the first ever Asparagus harvesting day at the Omahenene Research Station, Omusati;
- In collaboration with FAO-Namibia, the Ministry hosted a field day at the Omahenene Research Station on disaster risk reduction/management to support agro-pastoral communities affected by recurrent drought and other natural disasters in southern Angola and Northern Namibia during which free seed of two (2) legumes that of *Vigna unguiculata* and *Lablab purpureus* as well as three (3) types of grasses viz: *Brachiata brizantha cv. Paiata*; *Brachiata brizantha cv. Marandu* and *Cenhrus ciliaris* as commonly known as blue buffalo grass were distributed to the participating farmers;
- In collaboration with University of Kiyoto, Research Institute for Human and Nature (RIHN), Japan, hosted a Symposium on Agriculture under variable environment in North Central Regions of Namibia during which three articles were presented;
- Installed an earth observation station for agricultural drought monitoring at MAWF Agro-climatology section; and
- Continued with conservation of crop genetic materials for breeding at research stations

4.3.1. Rangeland Management and Pasture Research

- Submitted three (3) research articles for publication in the MAWF Scientific *Journal Agricola*;
- Determined browsing capacity for 30 000 km² in the Kunene, Omusati, Kavango East and Kavango West Regions;
- Submitted a rangeland audit report to Namibia Agricultural Union as part of the implementation of the Namibia Rangeland Policy and Strategy;
- Established selected cultivated pastures species at Okapya Livestock Development Centre ;
- Completed study on Rangeland Dynamics at increasing distances from the Kavango River. Browsing and grazing capacity data for three selected areas (at Tondoro, Mashare and Divundu).

4.3.1.5 Large Stock Research

- Submitted two (2) research articles for publication in the MAWF *Journal Agricola*;
- completed DNA analysis of the collected hair samples from the indigenous cattle of Kavango East and Kavango West Regions;
- Completed the DNA Analysis of the Sanga cattle herd at Sonop Research Station;
- Completed collection of samples from the indigenous cattle found south of the Veterinary Cordon Fence (VCF); and
- Maintained the conservation and development of Sanga, Afrikaner, Bonsmara and Simmentaler cattle.

4.3.1.6 Small Stock Research

- Successfully established a recessive white Swakara and Dorper flocks for conservation;
- Submitted one (1) research article for publication in the MAWF Scientific *Journal Agricola*;
- Concluded the project on the “Breeding a Strain of Vital white Swakara Sheep”;
- Capacitated 31 Swakara farmers in Swakara sheep husbandry;

- Provided 160 Swakara Sheep (155 ewes and 5 rams) to 20 Erongo Region communal farmers through the office of the Regional Governor;
- Continued with conservation and development of the Namibia Indigenous goats, Gellapper sheep, Damara sheep, Swakara sheep, and Boer goats.

4.3.1.7 Livestock Support Services

- Submitted two (2) research articles for publication in the MAWF Scientific *Journal Agricola*;
- Published one (1) article on “Indigenous knowledge and identification of alternative local feed resources as potential feed for goats in the communal farming areas of Namibia” in *Livestock Research for Rural Development Journal*;
- The Ministry through public auctions and specialized schemes distributed 505 registered breeding livestock of which 78 were bulls, 125 cows, 58 rams, 66 ewes, 138 does and 40 goat bucks
- Revised Specialised Livestock Improvement Scheme entitled “Provision of Livestock Breeding Material Directly to Communal Farmers”.
- Tested 618 young bulls from 10 stud breeders, including stud animals from five (5) Livestock Research Stations under Phase D performance testing scheme;
- Tested 11 bulls from Livestock Research Stations under Phase C conditions;
- Data of 111 animals of emerging commercial livestock farmer were recorded and analysed through performance testing scheme; and
- Secured nine (9) scientific articles for publication in MAWF Scientific Journal (*Agricola*).

4.3.2 PLANNED ACTIVITIES FOR 2017/18

- Maintenance of released crop varieties of pearl millet, sorghum, cowpea and other crops continued;
- Continue with 11 crop research projects on crop improvement, soil fertility improvement, crop diversification and variety evaluation;
- The Division planned to host farmers’ field days at Bagani, Mannheim and Omahenene on assessment of new crop varieties to be released as a result of mutation breeding;
- Secure at least 5 research articles for publication in the *MAWF Scientific Journal Agricola*;
- Continue with conservation of hardy and strategic livestock breeds/ecotypes on research stations.
- Publish the research project on “Evaluation of the Development of the Gellapper Sheep at Kalahari Research Station”
- Re-implement the revised Specialised Livestock Improvement Scheme entitled “Provision of Livestock Breeding Material Directly to Communal Farmers”.
- Continue to render services to stud breeders participating in the Performance Testing Scheme.
- Commence with Phase 3 of the bush encroachment mapping project in Northern Namibia.
- Continue surveys to test the influence of the fodder bank grazing system on the herbaceous biomass as well as the botanical composition of the Camelthorn Savanna (at Sandveld Research Station).
- Establish a tested and accepted methodology of local biomass assessment in collaboration with the University of the Free State.
- Gather data on planted cultivated pasture at Okapya Livestock Development Centre.

- Assist the Namibia Agricultural Union with a National Rangeland Audit as part of the Namibia Rangeland Policy and Strategy implementation strategy.
- Continue with research projects on Simmentaler cattle, Bush to Feed, Meat and carcass characterization on indigenous goats, Reproduction performance of the Damara sheep lines and DNA analysis of Namibia indigenous cattle.
- Continue with the multiplication of the Gellaper and the provision of improved animal genetic materials to the farming community through public auctions and Specialised Schemes.

4.4 CAPITAL PROJECTS

4.4.1 UPGRADING OF FARM INFRASTRUCTURE AND IMPROVEMENT OF IRRIGATION SYSTEMS AT TRAINING INSTITUTIONS AND RESEARCH STATIONS

MAJOR ACHIEVEMENTS FOR 2016/2017 (N\$16 250 000)

National Research Botanical Institute:

- Completed feasibility study for the expansion of the NBRI and bulk earthworks.

Kalahari Research Station:

- Completed the upgrading of oxidation ponds.

Bagani Research Station:

- Continued with the construction for the expansion of the office Block;

Planned activities for 2017/18

- Upgrade/alteration of slaughter house/abattoir, piggery, poultry unit and animal handling facilities at MADI.
- Commence with construction of expansion of NBRI facilities.
- Fence off the upgraded oxidation ponds at Kalahari research.

4.4.2 DEVELOPMENT OF LIVESTOCK BREEDING AND MARKETING INFRASTRUCTURE FOR COMMUNAL AREAS

Achievements for 2016/17 (N\$ 10 075 000)

- Constructed one (1) auction kraal at Ompundja in the Omusati Region

Planned activities for 2017/18

- Construction of new auction kraals at Anker in the Kunene Region.

4.4.3 SEED PRODUCTION AT RESEARCH STATIONS

Achievements for 2016/17 (N\$ 5 228 000)

- Commence with multiplication of certified seed.

Planned activities for 2017/18

- Levelling of the land and installation of 1 Center Pivot; and
- Continue with the production of foundation and certified seed.

5. MAIN DIVISION 05 : AGRICULTURAL PRODUCTION EXTENSION SERVICES

RECURRENT BUDGET : N\$ 189 515 000

CAPITAL BUDGET : N\$ 24 638 000

5.1 OBJECTIVES

- To contribute to increased food production and household food security.
- To provide extension services in the form of information, advice and training to farmers, agro-based industries and other stakeholders.
- To promote technology development, adaptation and adoption.
- To formulate and implement regulations and policies for the agriculture sector.

5.2 MAIN FUNCTIONS

- Provide Agricultural Extension Services in the form of advice and training to farmers and stakeholders.
- Promote technology development, adaptation, and adoption and information dissemination in the agricultural sector.
- Identify and implement technological needs and requirements in the areas of agronomy, mechanization, animal husbandry, soil conservation and agricultural structures.
- Ensure conformity to regulations and policies on plant health and agro-chemicals quality and safety for the agriculture sector.
- Register agro-chemicals and farm feeds.

5.3 RECURRENT ACTIVITIES

5.3.1 ACHIEVEMENTS FOR 2016/2017

The Ministry provided extension services to the agricultural sector in the form of information dissemination, training, communications, and advice throughout the country using a participatory approach that places responsibilities of the development process in the hands of rural communities.

5.3.1.1 Rain Fed Crop Production Programme

The Dry Land Crop Production Programme was implemented in the following regions: Kavango East and Kavango West, Zambezi, Oshikoto, Oshana, Ohangwena, Omusati, Kunene North and partly in Otjozondjupa and Omahake to increase food production. Through this programme farmers were assisted with subsidized farm inputs (fertilizers and improved seeds) and agricultural services (ploughing and weeding services).

5.3.1.1.1 Fertilizers Distribution

- A total of one hundred and ninety five (195) tons of different type of fertilizers [NPK 2:3:2 (37%), MAP (0.7% Zinc), Ammonium Sulphate (21%nitrogen), LAN (28%Nitrogen), UREA (46%), Superphosphate (18-21% Ca)] were acquired by MAWF and distributed in the crop growing regions as part of Government subsidy during the 2016/2017 cropping season.

- During the current cropping season (2016/17), a total of one thousand seven hundred and fifty seven (1 757), (756 male & 1001 female) farmers benefited from the fertilizer subsidy.

5.3.1.1.2 Seed Distribution

- During the 2016/2017 cropping season subsidized seeds were distributed to farmers in Kavango East, Kavango West, Zambezi, Omusati, Oshikoto, Oshana, Ohangwena, Kunene North, Omaheke and Otjozondjupa regions. In this regard, one hundred and thirty one (131) tons of Pearl Millet and 30 tons were distributed to sixteen thousand five hundred and sixty nine (16,569) farmers during this period.

5.3.1.1.3 Ploughing Services

- During the 2016/17 cropping season, twenty thousand one hundred (20 100) ha was ploughed through Government-subsidized services.
- A total of twelve thousand eight hundred and eight (12 808), (5 959 male & 6 849 female) farmers benefited from the subsidized ploughing services.
- One hundred and sixty four (164) contractual tractor drivers and thirty one (31) Ministerial staff members (operator drivers and extension field staff) were trained in basic tractor and implement operations, mechanics, implement repair and maintenance, field measurement, recording of data and filling of log books, at Uvhungu Vhungu Irrigation Project, Etunda Irrigation Scheme and Zambezi Rice Project during the period under review.
- A total of five hundred (500) temporary jobs were created through the employment of private tractor and draught animal power owners and Government contractual tractor drivers who rendered ploughing services to farmers through Government subsidy alongside Government tractors.

5.3.1.1.4 Weeding Services

- During the 2016/2017 cropping season a total number of two thousand two hundred and eighty eight (2 288), (951 male & 1 337 female) farmers benefited from the weeding services.
- In total, four thousand hectares (4 000 ha) of farmers fields were weeded across the target regions. Through the provision of weeding services to farmers, MAWF created one thousand eight hundred and five (1 805) (male 801 and female 1004) temporary jobs for unemployed youth.

5.3.1.1.5 Conservation Agriculture Achievements

- Successfully mobilized external resources amounting to (N\$45mil) from GIZ, SCORE, NAFOLA, FAO and CAN to support MAWF in the implementation of CA;
- Established 7 additional Regional CA Forums in Kunene, Omusati, Otjozondjupa, Omaheke, Ohangwena, Oshana, Oshikoto;
- Successfully hosted CA Regional Forums in 10 Regions for planning, implementation and monitoring of CA activities;
- Lead farmer approach adopted and document developed.
- 227 Lead farmers were identified and capacitated;

- A total of 398 farmers were trained in CA practices through workshops, demonstration and field days;
- A total of 70 farmers are practicing CA;
- Commenced with the development of a CA training manual for farmers and staff members;
- Developed standards and guidelines for CA Monitoring and Evaluation initiated based on international FAO guidelines;
- Procured a variety of CA equipment, including tractors, implements and tools;
- Secured and conducted on-farm and on-station demonstration and field days on CA practices.

5.3.1.1.6 South-South Cooperation between Namibia and Peoples Republic of China

- During the South-South Cooperation between Namibia and China phase 1 good progress was reported. Various training and practical demonstrations in horticulture production and compost making were undertaken at Etunda Irrigation Project. At Testing for the 15 rice varieties acquired from China is currently being conducted at Kalimbeza Irrigation Project; A Horticulture Production Manual was developed and shared with MAWF staff and farmers. In addition MAWF, Agribusdev and farmers were also trained through this cooperation. The South-South Cooperation between Namibia and China phase 1 has ended.

5.3.1.2 Horticulture Production

5.3.1.2.1 Support to Urban and Peri-urban Horticulture

- In the quest to contribute to increased food production, improve household food security and employment creation, MAWF continued to support the existing gardens and the newly established gardens by providing training and technical advice to farmers and communities in the regions. This extension support is very important to encourage farmers and communities at large to produce food for their own consumption and also for the generation of income from surplus production. In that regard, four hundred and sixty eight (468) existing backyard and community gardens were visited to assess progress and to provide information and training regarding crop husbandry, horticultural production and marketing. Two (2) new gardens were established at Da Palm Senior Secondary School in Erongo and EHW Braard Primary School in Noordoewer //Karas.

5.3.1.3 Migrant Pest Management

- There was an outbreak of Fall Armyworms, American Bollworms and Stock Borer in the NCA's and parts of maize triangle in Otjozondjupa region. A total of twenty one thousand six hundred and seventy two (21 672) ha under maize production were affected. In addition, a total of thirteen thousand four hundred (13 400) ha under Mahangu production were affected. The Ministry distributed pesticides to various affected regions in order to contain the pest outbreak.

5.3.1.4 Cereal Production

5.3.1.4.1 Mahangu Championship

- Due to the drought no Mahangu championship was held, however the National Mahangu Consultative Forum was held at Tsintsabis in Oshikoto Region on 23 August 2016. Several farmers were recognized for their outstanding production of Mahangu from Kavango West (2) Ohangwena (2) Oshana (1) Otjikoto (2) Omusati (2) and Otjozondjupa (2) regions at the Forum.

5.3.1.5 Livestock Production

5.3.1.5.1 MAWF Ram and Bull Support Scheme

- The scheme was not implemented during the period under review because of lack of livestock due to drought.

5.3.1.5.2 Swakara Scheme

- The scheme was not implemented during the period under review because of lack of livestock due to drought. However, commercial breeders submitted their pedigrees at DAPEES offices in //Karas to facilitate selling of quality breeding rams to farmers. Ten (10) farmers were assisted in selection of suitable breeding rams from fifteen (15) pedigrees that were received from four (4) different suppliers/breeders.

5.3.1.5.3 Poultry distribution and development of small scale farmers

- A total of four thousand nine hundred and thirty six (4 936) day-old chicks were distributed to 250 beneficiaries in Omusati, Omaheke, Hardap and //Karas regions in order to improve household food security.

5.3.1.5.4 Livestock Marketing

5.3.1.5.4.1 Auction Events

- One hundred and fifty one (151) livestock auctions took place countrywide, whereby on average four thousand seven hundred and ninety four (4 794) cattle and nine thousand nine hundred and thirty seven (9 937) small stock unit were sold with a turnover of more than N\$21 593 692 per auction for both Large and Small Stock.

5.3.1.5.4.2 Drought marketing incentives schemes for both large stock and small stock

- The scheme was not implemented during the current financial year due to budgetary constraints.

5.3.1.6 Farmers Advice and Training

- Continuous provision of training and advice to farmers is aimed at enhancing farmer's capacities to better equip them to produce more and healthier livestock and crops in order to reduce food imports and also ensure food security. In this regard, a total of six thousand eight hundred and thirty one (6 831) farmers received training by field

extension staff in collaboration with other stakeholders in the regions. Farmers were trained in various topics with regards to best agricultural practice in crop and animal husbandry, pest control, horticulture production, land preparation, soil fertility, draught animal power, rangeland management, rabies vaccination, supplementary feeding, drought mitigation strategies, bush encroachment, record keeping, SWAKARA beginners course, cooperative concepts, chicks handling and routine management, livestock marketing, and livestock management calendar technique amongst others.

5.3.1.7 Training of Directorate of Agriculture Production Extension and Engineering Services (DAPEES) staff in technical and managerial fields

- DAPEES staff members received in-service training courses nationally and abroad to equip themselves with the necessary skills and knowledge to be able to address the need of the farmers effectively. These training further seek to ensure a well-trained and competent team of field extension staff in the country.
- A total of eighty nine (89) extension staff received training on extensive chicken production and management, Livestock Emergency guidelines and standards, Monitoring and Evaluation of projects, Drought livestock supplementary feeding, Conservation Agriculture, Rangeland management, Emerging trans-boundary pest, and Phytosanitary amongst others.

5.3.1.8 On-farm Trials and Demonstrations

- On-farm demonstrations for both livestock and crops serve as one of the most effective extension method to train and show farmers how to perform manipulative operations and getting them to learn by doing.
- In this regard, a total of one hundred and fifty nine (159) on-farm demonstrations for both livestock and crops were conducted in all regions in the country with five thousand two hundred and fifty three (5 253) farmers attending.
- The demonstrations focused on crop and livestock husbandry, land preparation, conservation agriculture, micro-drip and eden system, uterus prolapse, grazing plan, supplementary feeds and licks, weed control, horticulture production, fertilizer application amongst others.

5.3.1.9 Community Based Organizations

- Community Based Organizations (CBOs) play an important role in providing services at a local level and are also an integral part of Governments community service delivery system to improve the livelihood of communities. In this regard twenty four (24) CBOs, farmers associations and cooperatives, farmers unions, individual farmers and miners were supported with information on the establishment of a cooperative, organization of goat expo, project proposals, Annual marketing calendar development and livestock selection for show display. Hence, DAPEES assisted the Uis cooperative with the registration of their cooperative. In addition, a total of twenty one (21) of the existing CBOs were supported. The Sori-soris farmers association was assisted with drafting of a proposal to solicit drought assistance from Standard Bank, and they were assisted with 280 bags of pellets and 344 bales of grass.

5.3.1.10 Farm Visits

- The main purpose of these visits were to provide advisory services, disseminate information and monitor and assess progress on projects implementation and farming activities of the Resettled, Affirmative Action Loan Scheme farmers (AALS), communal and commercial farmers and villages in the region.
- A total of six hundred six (606) farms were visited by DAPEES field staff in the regions reaching a total number of two thousand seven hundred and eighty seven (2 787) farmers.
- Amongst others, information and advice was provided in the following subject matters; ram selection, poultry production, horticulture production, farm planning, grazing evaluation, animal and crop husbandry, marketing of livestock, drought coping mechanisms, conservation agriculture, drought relief incentive schemes, agricultural inputs and services, Agribank loan scheme, vaccination campaign, and record-keeping.

5.3.1.11 Farmer visits to Agricultural Development Centers

- Farmers in the regions took their own initiative to visit MAWF Agricultural Development Centers (ADCs) and our Agricultural Regional Offices to get information and advice as well as for the provision of agricultural inputs and services.
- A total of nineteen thousand nine hundred and seventy six (19 976) farmers including emerging and commercial farmers visited the Agricultural Development Centers (ADCs) seeking for information and services which were mainly on interventions on drought and crop production, application forms for Agricultural Land subdivision, agricultural inputs and services, phyto-sanitary certificates, livestock import permits, Agribank loan scheme, drought mitigation strategies, crop and animal husbandry, livestock disease treatment and prevention, livestock supplements, animal vaccination campaign, marketing of both crop, livestock and gardening.

5.3.1.12 Emerging Commercial Farmers

- Technical support and advice was rendered to twenty seven (27) resettled and emerging commercial farmers. The type of support rendered included; pest control methods, minimum tillage or conservation agriculture, farm planning, rangeland management, farm finances, selection of breeding animals, horticulture production and drought mitigation strategies.

5.3.1.13 Exposure Trips

- DAPEES, and DART staff members undertook an exposure trip to Germany during May 2016 to look at vocational training systems in the Bavaria State. The aim of the exposure trip was to acquaint MAWF staff member with knowledge on vocational training in order to implement it in Namibia.
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- Five (5) farmers from Fransfontein ward visited Bergvallei a commercial farm in Kamanjab district. The aim was to sensitize farmers on technology of producing animal feed by crushing shrubs and bushes. Farmers were also enlightened on small-stock management especially Boergoat, since the farm is well known for Boergoat stud. In

addition twenty seven (27) farmers undertook (2) exposure visits to the Windhoek Agriculture and Industrial Show, and to the Hardap Green Scheme project and Namib Dairies.

5.3.1.14 Mass and Print Media

- The DAPEES disseminated information through radio, agricultural newsletters, pamphlets and leaflets in the regions. The information disseminated to farmers was on the agricultural activities such as Dry Land Crop Production Programme, handling of vaccines, banned animal feeds, livestock marketing, effects of drought to livestock, rangeland management, and pest control measures.
- A total of sixteen (16) leaflets on goat mange, sheep scab, animal feed and nutrition were developed and distributed to 306 farmers.
- A total of two (2) newsletters were developed and distributed to farmers and various stakeholders.

5.3.1.15 Farmer's Information Days

- Eighty one (81) information days were organized by extension field staff in collaboration with other stakeholders to sensitize farmers on various agricultural practices in the regions.
- Two thousand six hundred and forty six (2 646) farmers attended these field days. The topics covered were on drought mitigation, rangeland monitoring, holistic herding, lick supplementation, livestock marketing, livestock diseases and control measures, valuation of crops and livestock products, Meatco operation and functions, farming diversification, and DCPD.

5.3.1.16 Phyto-sanitary Services

The Division carried out compliance inspections for agricultural inputs on retailers, farm storage facilities and distributors in order to establish if the agricultural inputs are registered and stored safely. Furthermore the Division also continued to carry out Phytosanitary inspections on farms that are exporting crops to ensure that production procedures are conforming to international standards.

- The Division carried out compliance inspections on retailers, farm storage facilities and distributors, in this regard 12 facilities for pesticides, 12 facilities for fertilizer and 12 for farm feeds were visited. The compliance inspections looked at whether the agricultural inputs are registered and if the storage and handling thereof is of the required standards. The Division has also introduced a permit system for all agricultural inputs. The purpose of the system is to ensure that the establishments selling and storing of inputs are licensed and fit to sell the products in question before importation is authorized. A database of registered and imported pesticides, fertilizer and farm feeds was compiled and updated for traceability purposes.
- Six hundred and sixty one (661) new registrations were done for fertilizers, farm feeds and agricultural remedies and three thousand one hundred and ninety four renewals

(3194). An amount of N\$ 1,721,900 was generated from registration and renewals in line with the Fertilizer, Farm Feeds and Agricultural Remedies Act (Act No.36 of 1947).

- Four thousand one hundred and sixty three (4 163) Phytosanitary certificates, two thousand eight hundred and sixty one (2861) imports permits and seven hundred and ninety seven (797) in-transit permits were issued for the exportation and importation of plant and plant products. An amount of one million one hundred and eighty four thousand, nine hundred and ten Namibia Dollars (N\$1,184,910) was generated from the issuance of Phytosanitary certificates, import and in-transit permits in line with the Plant Quarantine Act 7 of 2008.
 - The division continued to implement a project funded by FAO for African Solidarity Trust Fund (ASTF) on strengthening controls of food safety threats, plant and animal pest and diseases for agricultural productivity and trade in Southern Africa. The project covers five sectors namely; plant health, animal health, food safety, forestry and fisheries and aquaculture. Inspectors were trained in pest and diseases for National entry points. A Training of Training (ToT) was conducted with various stakeholders ranging from AMTA, Plant Health Inspectors, Customs, Small Scale Traders (Cross border traders), Extension and Foresters. The training aimed at general procedures of inspecting, duties/responsibilities of inspectors, linkages of stakeholders, familiarization of various permits, basic identification of pest and diseases and to build a national capacity in regard to compliance with SPS measures. Thirty nine (39) inspectors were trained.
 - Training of Trainers (ToT) workshop was conducted were thirty seven (37) participants attended. Participants were trained in surveillance, sustainable agricultural practice, management of pesticides and principles of systematic, identification, biology, and ecological and economic impact and management on identification of nematodes. A baseline study was conducted on plant health gaps and the report was submitted. Plant Health staff members capacitated through attending Sanitary and Phytosanitary (SPS) workshops fully funded Southern Africa Development Community Secretariat that took place in different African countries. The workshops focused on building capacity on effective implementation of SPS measure to facilitate the safe intra-regional and international trading among states.
- Detection surveys have been carried out throughout the country to determine the presence and distribution of the Asian Fruit Fly. To date the Division has deployed five hundred (500) serviced traps across the country as part of control measures against the pest and monitoring is ongoing every sixth weeks. As part of this project a Training/Workshop on Epizootic Ulcerative Syndrome (EUS): biology, pathology, diagnostics and design of an active surveillance programme was conducted in Lusaka, Zambia. In addition a regional training workshop on Phytosanitary Capacity Evaluation was held in Lusaka, Zambia and a staff member from the division participated in the Workshop. A National Project Technical Committee with various stakeholders (food safety, animal health, plant health and forestry) was established during the inception workshop. The committee is steering the activities of the project within the country. Phytosanitary Capacity Evaluation (PCE) was conducted whereby six modules were completed.

- Two hundred and forty (240) applications were received since April 2016 for the Sub-Division of Agricultural Land under the provision of Act 70 of 1970. A total of one hundred and eighty (180) applications were recommended for approval and sixty (60) applications were declined during the 2016/17 financial year.
- A total of one hundred and twenty (120) fruit fly surveillance visits were conducted in Otjozondjupa, Omusati, Oshikoto, Oshana, Zambezi, Kavango East & Kavango West, Hardap and //Karas regions.
- The Division has submitted a proposal which was approved by European Union under Trade Related Facility Project that will avail ninety three thousand Euros (EUR\$93 000). The allocated funds will assist the country in dealing with obsolete pesticides which are a problem to human and environmental health, facilitate the registration and maximum residues level surveillance as well as capacitate building on laboratory testing facilities for pesticides and other residues.

5.3.2 PLANNED ACTIVITIES FOR 2017/18

- As part of the Farming System Research and Extension approach, continue to implement the following activities: viable community action plans, income generating activities and agricultural technology development.
- Strengthen border control inspection capacity to ensure that all agricultural products entering and leaving the country are in conformity with the acceptable standards and are recorded.
- Procure additional tractors and implements to ensure effective and efficient service provision to farmers in crop growing areas
- Continue with the implementation and monitoring of the Dry Land Crop Production Programme (including the new components “Conservation Agriculture” and “Draft Animal Power” that were added to the DCCP in all crop growing regions).
- Continue to build capacity in various areas relevant to agricultural sector.
- Continue to disseminate information and advice to emerging, resettlement, and Affirmative Action Loan Scheme farmers.
- Continue to ensure that registers are kept at all points of entry to verify the origin and destination of registered products and genetic livestock material for traceability purpose.
- Continue to ensure that all farm feeds entering the country must be accompanied by veterinary import permit and official health certificate, which can verify that feeds are free from all prohibited substances that in turn cannot harm our meat industry.
- Continue to strengthen control measures to regulate agro-chemicals use as well as trading of pesticides and other remedies especially by street vendors, and concurrently

informing the public on the danger that is associated with illegal unlabeled and unregistered pesticides.

- Facilitate the process of setting up trade protocols concerning export of livestock and genetic material.
- Continue to encourage the establishment of community gardens in order to improve household food security.
- Continue to implement Fruit Fly Surveillance Programme funded by FAO through its technical cooperation programme.
- Continue to establish demonstration plots at the Agricultural Development Centers and other identified sites in order to carry out training.

5.4 CAPITAL PROJECTS

5.4.1 CONSTRUCTION OF AGRICULTURAL DEVELOPMENT CENTRES (ADCs)

5.4.1.1 ACHIEVEMENTS FOR 2016/17 (N\$ 10 620 000)

- Completed the Tubuses ADC in Kunene Region and Onamutayi ADC in Oshana Region. N\$ 4 million of the project funds was verimented to the construction of the Neckertal Dam.

5.4.1.2 PLANNED ACTIVITIES FOR 2017/18

- Construction of New ADC at Koes in //Kharas, Salem in Kavango East, Kavango west, Omusati, Oshana Region, Oshikoto Region, Hardap, Kavango East, Khomas, Omaheke and Otjozondjupa region.

5.4.2 THE SMALL STOCK DEVELOPMENT AND DISTRIBUTION IN COMMUNAL AREAS PROJECT (SSDDCAS)

5.4.2.1 ACHIEVEMENTS FOR 2016/17 (N\$ 8 640 000)

The Small Stock Development and Distribution in Communal Areas Project is a follow - up phase of the Small Stock and Bee Production Support Program (SSBPSP) that was implemented in the Southern Division.

- A total of 840 goats were distributed to 40 beneficiaries in Kunene and Oshana Region during June 2016. Only N\$ 696 000 was utilized for the project the rest of the funds was verimented to Neckertal Dam

5.4.2.2 PLANNED ACTIVITIES FOR 2016/17

- The Ministry will procure 1,260 goats and they will be distributed to 60 identified beneficiaries in Zambezi, Kavango East, and Ohangwena Regions.

5.4.3 DEVELOPMENT OF AGRICULTURAL TECHNOLOGY CENTRE

5.4.3.1 ACHIEVEMENTS FOR 2016/17 (N\$ 30 000 000)

- Construction of Agricultural Technology Centre at Ongwediva has been completed, while the installation of equipment's is still on going. Only N\$ 6 000 000 was utilized for the project the rest of the funds (N\$ 24 000 000) was verimented to Neckertal Dam.

5.4.3.2 PLANNED ACTIVITIES FOR 2017/18

- The project has been finalized and will no longer continue.

5.4.4 ESTABLISHMENT OF PLANT HEALTH AND BIOSECURITY LABORATORY

5.4.4.1 ACHIEVEMENTS FOR 2016/17 (N\$ 71 647 000)

- The bulk earthworks are 80% complete. The project was only left with N\$16 000 000 were the rest of the funds (N\$ 55 647 000) were verimented to the construction of Neckartal Dam.

5.4.4.2 PLANNED ACTIVITIES FOR 2017/18

- Construction of the project has been postponed to 2018/19 financial year due to financial constraints.

6. MAIN DIVISION 06 : AGRICULTURAL ENGINEERING

RECURRENT BUDGET : N\$ 10 512 000

DEVELOPMENT BUDGET : N\$ 144 100 000

6.1 OBJECTIVE

- To plan, design and develop agricultural, water and forestry infrastructure and equipment for the implementation of programs and projects on irrigation, livestock, agro-industry, rain-fed crop production, horticulture, marketing, and storage of agricultural products.

6.2 MAIN FUNCTIONS

- Plan, design and develop agricultural, water and forestry infrastructure and equipment for the implementation of the Green Scheme Program.
- Supervise the construction of irrigation projects.
- Provide technical advice on planning of farm dams, pipe lines and soil and water conservation structures to farmers.
- Provide technical advice to line Ministries, NGO's and private organizations on agricultural mechanization, farm buildings, grain storage facilities and agro-industries.

6.3 RECURRENT ACTIVITIES

6.3.1 ACHIEVEMENTS FOR 2016/17 (N\$ 33 820 000)

- Assisted with the management and operation of the Green Scheme Irrigation Projects, namely; Sikondo, Shadikongoro, Uvhungu-vhungu, Ndonga-Linena, Musese, Etunda, Hardap, Tandjieskoppe, Kalimbeza, and Orange River Irrigation Project (ORIP).
- Supervised the construction of milking parlour, water supply, new buildings, green houses and low and medium voltage electrical supply at the Uvhungu-Vhungu Irrigation and Dairy Project.
- Supervised the construction of irrigation system, bulk electricity and de-bushing at Mashare Irrigation Project.
- Completed the feasibility studies for Liselo Irrigation Project in the Zambezi Region.
- Supervised the construction of the Fresh Produce Marketing Hub in Windhoek as well as facilitating the planning, designing and tendering of the infrastructure on the Hub.
- Supervised the construction of the Agricultural Technology Centres at Ongwediva.
- Supervised the construction of the equipment and fertilizer sheds, guard house, fence, change room and chemical store at Kalimbeza Rice Project.
- Supervised the construction of accommodation units at the Orange River Irrigation Project (ORIP).

6.3.2 PLANNED ACTIVITIES FOR 2017/18

- Supervise the construction of the milk processing factory at Uvhungu-vhungu Dairy Section.
- Continue with supervision of the de-bushing and construction of the perimeter fence for Katima Farm/Liselo Irrigation Project.

- Supervise the construction of water treatment plant, chemical store, staff accommodation, and waste management facility and low and medium voltage electrical supply at the Uvhungu-Vhungu Dairy Project.
- Supervise the procurement of the mechanization equipment and machinery at Uvhungu-vhungu Dairy Section.
- Co-ordinate the procurement of the Cows/Heifer for the dairy Project.
- Identify suitable land for irrigation for the development of the Green Scheme Irrigation projects in the country.
- Facilitate feasibility studies and Environmental Impact Assessment (EIA) for Zone Agricultural Project in the Kavango West Region.
- Continue to upgrade irrigation infrastructures at the Green Scheme Projects.

6.4 CAPITAL PROJECTS

6.4.1. GREEN SCHEME

6.4.1.1 ACHIEVEMENTS FOR 2016/17

- Completed the construction of the pumpstation for phase 7 & 8 at Etunda Irrigation.
- Completed the construction of a pump station and irrigation systems at Musese Irrigation Project.
- Completed the construction of the irrigation system, bulk electricity and de-bushing at Mashare Irrigation Project.
- Completed the feasibility study and the Environmental Impact Assessment (EIA) for Liselo Irrigation Project in the Zambezi Region.
- Completed construction of a boundary fence at Uvhungu-vhungu Irrigation Project.
- Completed construction of a milking parlour, water supply, green houses, new buildings, low and medium voltage electrical supply at the Uvhungu-Vhungu Irrigation and Dairy Project.
- Completed construction of the equipment and fertilizer sheds, guard house, fence, change room and chemical store at Kalimbeza Rice Project.

6.4.1.2 PLANNED ACTIVITIES FOR 2017/18

- Continue with the de-bushing and construction of the perimeter fence for Katima Farm/Liselo Irrigation Project.
- Commence with the construction of water treatment plant, chemical store, staff accommodation, and waste management facility and low and medium voltage electrical supply at the Uvhungu-Vhungu Dairy Project.
- Commence with the construction of the milk-processing factory at Uvhungu-vhungu Dairy Section.
- Commence with the procurement of the mechanization equipment and machinery at Uvhungu-vhungu Dairy Section.
- Commence with the procurement of the Cows/Heifer for the dairy Project.
- Identify suitable land for irrigation for the development of the Green Scheme Irrigation projects in the country.
- Facilitate feasibility studies and Environmental Impact Assessment (EIA) for Zone Agricultural Project in the Kavango West Region.
- Continue to upgrade irrigation infrastructures at the Green Scheme Projects.

6.4.2 INTEGRATED GRAIN STORAGE

6.4.2.1 ACHIEVEMENTS FOR 2016/17

- The construction of the 4000 MT silos as well as housing and office facilities at Okongo were completed.

6.4.2.2 PLANNED ACTIVITIES FOR 2017/18

- Commence with the Construction of the milling plant at Tsandi Grain Storage Facilities.

6.4.3 NATIONAL HORTICULTURE DEVELOPMENT INITIATIVE

6.4.3.1 ACHIEVEMENTS FOR THE YEAR 2016/17

- The construction of the bulk earthworks for the Windhoek, Wanaheda Fresh Produce Hub is 80% completed.

6.4.3.2 PLANNED ACTIVITIES FOR THE YEAR 2017/18

- Continue with the construction of the bulk earthworks for the Windhoek, Wanaheda Fresh Produce Hub.

6.4.4 KALIMBEZA RICE IRRIGATION PROJECT

6.4.4.1 ACHIEVEMENTS FOR 2017/18

- The construction of the machinery shed, fertilizer shed, chemical store, fencing, gate house, interlocking paving, change room and tuck shop are completed.

6.4.4.2 PLANNED ACTIVITIES FOR 2017/18

- No planned activities in this financial year.

MAIN DIVISION 07

: PLANNING AND BUSINESS DEVELOPMENT

RECURRENT BUDGET

: N\$ 49 869 000

7.1 OBJECTIVES

- To provide strategic management support services to the Ministry and related Public Enterprises.
- To promote effective marketing and trade of Namibia's agricultural and processed agricultural products.
- To provide information and advice to decision makers on issues related to trade in agriculture produce and agro-industry development.
- To promote and regulate the development of cooperatives in the country.

7.2 MAIN FUNCTIONS

- Contribute to the creation of a conducive policy and legal environment for the agriculture, water, forestry sub-sectors through development and regular review of policies and legislation.
- Create conducive domestic market conditions for an increased market share of Namibia's primary and processed agricultural products.
- Secure new export markets and improve market access conditions for Namibia's primary and processed agricultural products by participating in bilateral, regional and multilateral trade negotiations.
- Create conducive conditions for value addition to Namibia's primary agricultural products
- Conduct project appraisals, monitoring and evaluation of the Ministry's programs as well as impact assessments.
- Maintain a database of agricultural production, processing and market data, and provide statistics and information on agriculture, water and forestry sectors to decision maker and other stakeholders.
- Promote international cooperation in the field of agriculture, water and forestry.
- Improve local communities' livelihoods by empowering them through the development of co-operatives and to facilitate rural development through introduction of income-generating activities, agro business development and value addition.

7.3 RECURRENT ACTIVITIES

7.3.1 ACHIEVEMENTS 2016/2017

7.3.1.1 Regulatory Framework and Policy Development for Agriculture Marketing and Trade

- The Agronomic Industry Amendment Bill is under consideration by the Legal Drafters. The promulgation of the Amendment Bill will provide for the establishment of the Agro Marketing and Trade Agency and Agricultural Business Development Agency as Statutory Agencies to implement the decisions taken by the Minister on advice of the Namibian Agronomic Board (NAB) on production, marketing, processing and trade of agronomic products. Under this law, the role of the Namibian Agronomic Board will solely be confined to the provision of advisory services.

- The Meat Company of Namibia Bill is under consideration by the Legal Drafters in consultation with the technical officials of the Ministry. The Meat Company Bill clarifies the mandate and shareholding structure of Meatco.
- The amendment to the Control of the Importation and Exportation of Dairy Products and Dairy Substitutes Act, 1986 (Act No. 5 of 1986) was discussed by the Cabinet Committee on Legislation and forwarded to the legal drafters for scrubbing.

7.3.1.2 Domestic Agro Industry and Agribusiness Development

- Provided budgetary and technical advice to the Meat Board of Namibia, Namibian Agronomic Board, Karakul Board of Namibia as well as AMTA and AGRIBUSDEV.
- Continued to implement the Southern African Customs Union (SACU) rebate quota facility through issuance of rebate permits for the duty-free importation of wheat, cheese, butter, skimmed and whole milk powder.
- Facilitated the allocation of the rebate quotas under the SADC - EU Economic Partnership Agreement on pork, pig fat, butter, cheese, wheat, barley, cereal based food preparations, ice cream and mortadella bologna.
- Facilitated the discussion on the transfer of functions regarding the domestic market development for livestock from the Meat Board of Namibia to the AMTA. The transfer of the domestic marketing function will improve and secure market access for local producers, processors and traders in livestock and livestock products.
- Facilitated the appointment of Operators for Oshakati and Katima Mulilo abattoirs, following the withdrawal of Meatco from operating in the said abattoirs on 4 March 2016.
- Facilitated the signing of the contract for the consultant to investigate the viability of a Hydroponic Project in //Kharas Region.
- Continued to support the implementation of the Market Share Promotion (MSP) initiative for horticulture produce. The MSP aims at increasing the domestic market share for locally produced horticultural products. However, the MSP could only be maintained at 44% during 2016 due to climatic and technical factors that affected production adversely.

7.3.1.3 Agriculture Trade Negotiations

- Provided the agriculture positions for the Southern African Development Community (SADC) Meetings, Southern African Customs Union (SACU) Meetings, SADC-Eastern African Community (EAC)-Common Market for Eastern and Southern Africa (COMESA) Tripartite Trade Negotiations as well as the SACU-European Free Trade Area (EFTA) meetings. The Tripartite Trade Negotiations are on-going between 26 Member States of the three Regional Economic Communities of SADC, EAC and COMESA.
- Participated in the discussions for the implementation of The Economic Partnership Agreement between the European Union and the SADC-EPA States.
- Participated at the review of the SACU - European Free Trade Area Agreement which was implemented in 2010.

7.3.1.4 Agricultural Trade Attaché Office (Counsellor – Agriculture), Brussels, Belgium

- The Counsellor (Agriculture) is currently stationed at the Embassy of Namibia in Brussels, on secondment from the Ministry of Agriculture, Water and Forestry. The Counsellor is primarily responsible for advancing Namibia's interests in agriculture, in

particular as it relates to agricultural trade, marketing, as well as Sanitary and Phytosanitary (SPS) measures. The office responsibilities thus include analysing or writing and advising on these matters, as well as representing Namibia in meetings or discussions on the same issues.

7.3.1.5 Agricultural Planning

- Coordinated and compiled the development budget for the 2017/18-2019/20 Medium Term and Expenditure Framework period;
- Coordinated the development and review of the 2016/17 MAWF annual work plan;
- Compiled and submitted the 2016/17 Budget Execution Plan and quarterly reports to the National Planning Commission (NPC) Secretariat;
- Coordinated the Formulation of the 2016/17 Annual Sectoral Execution Plans for both the Agriculture and Forestry & Water and Sanitation sectors;
- Compiled and submitted the 9th Bi-Annual NDP4 report to the NPC Secretariat;
- Assessed the implementation of Rain-Fed Crop Production Programme in all the crop growing regions;
- Conducted the monitoring and evaluation of 13 development projects of the Ministry;
- Coordinated the review of 2015/16 Annual Sectoral Execution Plans for both the Agriculture and Forestry & Water and Sanitation sectors;
- Coordinate the development of agriculture, water and forestry contributions to the fifth National Development Plan (NDP5).

7.3.1.6 Statistics and business information

- Conducted three agro-assessments in the seven communal crop growing regions of the country and monitor the food security and drought situation as well as availability of agricultural inputs at household and regional levels;
- Produced and disseminated the following publications:
 - 2015/16 Crop and Household Food Security and Drought Assessment Reports (two reports, i.e. preliminary in March 2016 and post-harvest in June 2016).
 - 2016 Agricultural Input and Household Food Security Report (December 2016).
 - Crop and Household Food Security Monitoring Assessment Report – March 2017
- Reviewed the Agricultural Management Information System (AMIS);
- AMIS portal populated with information on agriculture, water and forestry sectors;
- Trained MAWF staff members on AMIS;
- Coordinated and updated the 2017/18 Annual Agriculture, Water and Forestry survey questionnaire;
- Arranged and updated files in the DPBD Information room;
- Produced the Annual Statistics Bulletin;
- Produced the Price Watch Bulletin;

7.3.1.7 Co-operative Development and Regulation

- Continued to administer the Co-operatives Act, 1996 (No. 23 of 1996) and implement the National Co-operative Policy that creates the legal and enabling environment for co-operative development in Namibia;
- National Co-operative Policy reviewed and approved by Cabinet;
- Fully registered one (1) co-operative;

- Provisionally registered ten (10) new co-operatives;
- Co-operative Business Development Support Services;
- Reviewed business plans for nine (9) co-operatives namely; Nantu Likwafela Savings and Credit Co-operative Ltd., Aminus Farmers' Co-operative Ltd, Credo Co-operative Ltd., Ozongondjero Omahi Mahi Genetic Improvement Co-operative Ltd., Amarika Farmers' Co-operative Ltd, Atushe Multi-purpose Co-operative Ltd, Otji-young Farmers Multi-purpose Co-operative Ltd;
- Conducted the completion of books and audit sessions in the Kavango East, Omaheke, Khomas, Hardap, //Karas, Zambezi, Omusati, Oshana, Oshikoto and Ohangwena Regions;
- Conducted One (1) Co-operative Member Education course for co-operative members in the Erongo and Kunene Regions;
- Continued with the management of the Co-operative Loan Guarantee Fund. Two (2) agricultural co-operatives with a total membership of 119 members received guaranteed loans totaling N\$6 494 400.00 from the Agribank. The guarantee amount of N\$ 5 339 520.00 was provided through the fund;
- Conducted co-operative networking workshops in the //Karas, Zambezi, Erongo, Otjozondjupa and Oshana Regions;
- Celebrated the International Co-operatives Day in the Otjozondjupa Region, Otjiwarongo;

7.3.1.8 International Co-operation

- Facilitated the implementation of the first phase of the South-South Cooperation project with the Food and Agriculture Organisation and the People's Republic of China.
- Facilitated conclusion and signing of the Memorandum of Understanding between Namibia and Botswana on cooperation in forestry and fire management.

7.4 PLANNED ACTIVITIES 2017/18

- Complete the review of the National Drought Policy.
- Conduct Monitoring and Evaluation of Ministerial development projects and programmes.
- Compile the Ministry's Development Budget.
- Coordinate and facilitate the development of MAWF strategic plan 2017/18-2019/20.
- Coordinate the development of the 2017/18 Ministerial Annual Work Plan.
- Conduct three agro-production and assessments to monitor the crop and food security situation at household level;
- Continue to collect data on agriculture, water and forestry sectors and populate these on AMIS portal;
- Produce the Annual Statistics Bulletin;
- Produce the Price Watch Bulletin;
- Continue to train MAWF staff members on AMIS portal;
- Coordinate and participate in the Annual Agriculture, Water and Forestry sectors pilot study;
- Maintain the DPBD Information room;
- Continue to develop the Framework for the Domestic Agriculture Marketing System.
- Continue to develop the Framework for Agriculture Trade Negotiations.

- Revive the National Sanitary and Phyto-Sanitary Committee.
- Oversee the implementation of the 2015 Namibia Food Safety Policy.
- Oversee the implementation of the 2011 Namibian Agriculture Marketing and Trade Policy and Strategy.
- Continue to develop the Regulatory Framework for Animal and Animal Products.
- Continue to participate in agriculture trade negotiations.
- Continue to develop the Regulatory Framework for Plant and Agronomic Products.
- Continue to promote and support investment opportunities in the downstream agro-industries.
- Provide budgetary support to the implementation of the revised Livestock Marketing Incentive Scheme for the Northern Communal Areas (NCAs).
- Develop the domestic market for the livestock and livestock products originating from the NCAs.
- Continue to support the development of agro-business initiatives through feasibility studies and formulation of business plans.
- Commence preparation for the establishment of agro-processing facilities in all regions.
- Continue to liaise with the Agricultural Counsellor's Office in Brussels on trade matters.
- Continue to promote and enhance bilateral, regional and multilateral cooperation in agriculture, water and forestry sectors.
- Finalise the Memorandum of Understanding with Cuba, Senegal, Belarus in fields of Agriculture, Water and Forestry.
- Facilitate the implementation of the second phase of the South-South Cooperation project with the Food and Agriculture Organisation and the People's Republic of China.
- Finalize the Co-operative Communication Strategy;
- Conduct monitoring and data collection visits to co-operatives;
- Facilitate and assist selected co-operatives to participate at Co-operative Trade Expos, trade fairs and industrial shows;
- Continue to promote and provide business development support to co-operatives;
- Continue to administer the Co-operatives Act, 1996 (No. 23 of 1996);
- Review co-operatives business plans;
- Continue to provide information on the formation of co-operatives;
- Provide completion of books and audit services; and
- Conduct Co-operative College courses.

8. MAIN DIVISION 08 : PRODUCT DEVELOPMENT, TRAINING AND QUALITY ASSURANCE

RECURRENT BUDGET : N\$ 17 665 000

8.1 OBJECTIVE

- To support the development of adequate, well-trained human resources required for the sustainable development of the agricultural, water and forestry sectors in Namibia.

8.2 MAIN FUNCTIONS

- Improve managerial, professional and technical skills and competence of staff in delivering the results in line with the strategic plan through in-service training;
- Continue with provision of training to the farming communities through short courses;
- Continues with provision of analytical services;
- Continue with product development and value addition for indigenous plants and mahangu
- Continue with practical and skills oriented training in irrigation farming to potential small-scale irrigation farmers at the Mashare Irrigation training Centre (MITC);
- Support qualifying training to Ministerial staff and general public in fields critical to agricultural, water and forestry sectors;
- Provide career guidance in agriculture, water and forestry to secondary school learners.

8.3 RECURRENT ACTIVITIES

8.3.1 ACHIEVEMENTS FOR 2016/17

- MAWF funded 398 staff members and the general public for skills development while the ministry is funding 31 beneficiaries in qualifying training e.g. Veterinary medicine, Horticulture, Forestry, Engineering, Animal Physiology, Geo-hydrology, etc.
- Commenced with Vocational Education and Training (VET) program at TAZAC with first intake of 15 learners (5 Females; 10 Males) in line with Harambee Prosperity Plan (HPP).
- Resumed with the training of 32 trainees in Irrigation farming at Mashare Irrigation Training Centre (MITC) for possible placement at GRN irrigation projects.
- Due to budgetary constraints, the Ministry could not advertise bursaries to the public, but rather opted to continue supporting the current bursary holders and staff members to study in critical areas of the agricultural, water and forestry sectors.

Table 1: Field of Study and Status of Bursaries during 2016/17 Financial Year.

Name of Field	Number of Bursaries Holders	Level of Study	Status
Accounting and Finance	1	Bachelor Degree	In progress
Adult Education and Community Development	2	Diploma	Completed

Agriculture	2	Bachelor Degree	In progress
Animal Breeding	1	PhD	In progress
Applied Mathematics and Statistics	1	Bachelor degree	In progress
Biotechnology	1	Bachelor Degree: Hons	Discontinued
Business Administration: Management Strategy	1	Master	In progress
Business Management	2	Bachelor Degree: Hons	In progress
Civil Engineering	1	Diploma	Completed
Civil Engineering	2	Bachelor Degree: Hons	1 Completed, 1 in progress
Civil Engineering	3	Master	In progress
Environmental Health	3	Bachelor Degree	1 completed, 2 in progress
Environmental Management	1	Master	In progress
Financial Management	1	Bachelor Degree	In progress
Food Science	1	B. Honors	Completed
Food Science	1	Master	Completed
Forestry	2	Bachelor Degree	In progress
Forestry	1	Master	Completed
Horticulture,	1	Master	In progress
Human Resources Management	1	Diploma	In progress
Human Resources Management	1	Bachelor: Hons	In progress
Humanity and Social Studies	1	Bachelor degree	In progress
Industrial Biochemistry	3	Master	1 completed, 2 in progress
Information Technology and Business Computing	1	B. Honors	Completed
Integrated Water Resource	1	Master	In progress

Management			
Microbiology	1	Master	Completed
Natural Resources Management	1	Diploma	In progress
Office Management	2	Certificate	In progress
Office Management	2	Diploma	In progress
Total Quality Management	1	Master	In progress
Veterinary Medicine	11	Bachelor Degree	3 completed

The following new bursaries were awarded to MAWF staff members:

- 1 x Master of Science in Environmental Management
- 1 x Master of Science in Geography and Environmental Studies
- 2 x Master of Science in Rangeland Management Resources Management
- 1 x Master of Science in Food Safety and Quality Engineering
- 1 x Master of Science in Veterinary Biotechnology
- 1 x Master of Science in Environmental Studies
- 3 x Bachelor in Food Science
- 1 x Bachelor of Science in Environmental Health
- 1 x Bachelor in Logistic and Supply Chain Management
- 1 x Bachelor in Business Management
- 1 x Bachelor of Science in Veterinary Medicines
- 1 x 1 MSc in Agriculture Animal Science (Animal Physiology)
- 1 x BSc Honours Geohydrology
- 1 x Bachelor of Science in Crop Science
- 3 x Diploma in Human Resources Management

The following staff members have secured external sponsorship:

- 1 x MSc in Food Safety and Quality Engineering at Debrecen University, Hungary.
- 1 x MSc in International Law and Economics, World Trade Institute

The Ministry further continued to provide financial support to its staff members in order to upgrade their professional and technical skills in its quest for better and efficient service delivery. A total of 210 staff members attended short courses in various fields at the cost of N\$1 717 390 as detailed in table 2 below.

Table 2. List of In-service training

Courses Attended		No. of staff	Gender		Amount (N\$)
			Female	Male	
1.	Adaptation to Climate Change in Africa	2	2	0	37, 832
2.	Agricultural Land Management	18	7	11	279, 000
3.	Basic Breeding Techniques for Crop Improvement	1	1	0	3, 016
4.	Biological Analyses of Different Environment Media (Water-WasteWater-Air)	2	2	0	11, 733
5.	Contaminants and Residues in Food and the Environment	1	1	0	0
6.	Crop Seed Technology for Namibia	3	3	0	31, 614
7.	Defensive Driving	106	25	81	349, 800
8.	Feflow Modelling Software	13	10	3	399,388
9.	High Performance Liquid Chromatograph Software Installation & Method	3	2	1	7, 992
10.	International Federation of Consulting Engineers (FICIC)	6	0	6	71, 994
11.	ISO 9001:2015	1	1	0	27, 635
12.	Macroinvertebrates Response Assessment Index (MIRAI)	1	1	0	12, 050
13.	Mainstreaming Gender for Improved Agricultural Growth in Southern Africa	1	1	0	2, 676
14.	Market Oriented Agriculture Promotion for Africa	2	2	0	27, 375
15.	Method Validation	1	1	0	23, 650
16.	Molecular Characterization and Nutritional Composition of Mutant Germplasm Population	1	0	1	23, 912
17.	Monitoring Environment and Security in Africa (MESA) System Application	1	0	1	3,063
18.	Plant Tissue Culture Technology	1	1	0	1, 784
19.	Post-Harvest Technology	1	0	1	12, 038
20.	Refresher Course for Veterinary Hygiene Inspectors	33	7	26	334, 983
21.	Regional (AFRA) on Proper Sampling and Statistics for Food Safety Laboratory	1	1	0	2,379
22.	Regional (AFRA) Training Course on Application of Nuclear/Isotopic Technique in Testing Veterinary Drug Residues in Foods	1	0	1	3, 352
23.	Regional (AFRA) Training Course on Method Development and Validation including Statistical Application in Food Safety Laboratories	1	1	0	4,571
24.	Regional Training of Trainers for Monitoring of the Environment for Security in Africa (MESA) SADC THEMA Drought Services	2	1	1	9, 802
25.	Soil and Water Conservation & Dry Land Farming	3	0	3	15,276
26.	Soil and Water Management and Crop Nutrition	1	0	1	6,384
27.	Swakara Pelt Sorting	1	0	1	4,151
28.	Transboundary Animal Diseases Diagnosis: Early Detection and Characterization	1	0	1	0
29.	Water and Sanitation	1	1	0	9,940
	Total	210	71	139	1, 717, 390

In its quest to register the Mashare Agricultural Development Institute (MADI) and Tsumis Arid Zone Agricultural Centre (TAZAC) as training providers for the competence-based education and training (CBET) programme in agriculture, the Ministry, through the Division of Product Development, Training and Quality Assurance (DPDTQA) has accomplished the following:

- Completed the development of training materials for all the Unit Standards for the certificate in Livestock husbandry, Crop and Horticulture at NQF Level 2
- TAZAC has commenced VET programme in agriculture (Livestock Husbandry Level 2) with the first intake of 15 learners (10 Males and 5 Females)

4.3.1.2 Analytical Services and Product Development (ASPD)

- Developed a quality management manual draft according to ISO 17025 for laboratory quality assurance.
- Increased efficiency by reducing the number of days to analyse samples from 30 days to 15 days.
- Increased production of culturing of mushroom spawns to 1 760
- Developed four prototypes; Mahangu and Sorghum – Eembe muffins; Cowpeas and Red beans crackers.
- Developed juice and jam prototype from monkey orange (*Strychnos spinose*)

8.3.2 Planned Activities for 2017/2018

- Continue to promote and support the development of products from indigenous plants for value addition.
- Submit the business plans to NQA for TAZAC for accreditation as training providers.
- Continue with the CBET Certificate training programmes in Livestock and Crop Production at TAZAC and MADI.
- Complete the quality management manual documentation in line with ISO 17025 standards for the laboratory.
- Complete the training of 20 Small-scale Irrigation Farmers at MADI for the purpose of joining the Green Schemes.
- Commence with the training of the first intake (20) at MADI on the VET in Agriculture.
- Complete the training of 12 small-scale farmers in grape production at Orange River Irrigation Project.

9. MAIN DIVISION 09

: Emergency Relief

RECURRENT BUDGET

: N\$ 924 000

9.1 Achievements for 2016/17

- Funds allocated were spent on printing of drought assistance subsidy forms and voucher books.
- No drought subsidy on marketing, transport and grazing was implemented during the financial year due to financial constraints.

9.2 Planned Activities for 2017/18

- Assist farmers in emergency situations that might arise due to floods, drought, and pest outbreak in 2017/18.

MAIN DIVISION 10 : DIRECTORATE OF WATER RESOURCE MANAGEMENT

RECURRENT BUDGET : N\$ 39 670 000

DEVELOPMENT BUDGET : N\$ 7 355 000

10.1 OBJECTIVES

- Ensure sustainable development, management and optimal utilization of water resources.
- Ensure adequate readiness, warning, response, mitigation and prevention measures for impacts of natural disasters related to water.

10.2 MAIN FUNCTIONS

- Implement the national water policy and legislation for the management of the water resources.
- Co-ordinate, manage and monitor developments in the water sector.
- Develop regulations, procedures and practices to control the equitable allocation of water, the abstraction of water, water quality and other regulatory functions.
- Ensure equitable and reasonable access to the water from the shared perennial border rivers.
- Issue of various permits (abstraction, effluent disposal, sand mining, drilling of boreholes and building of dams) and do compliance monitoring inspections to ensure that permit conditions are adhere to.

10.3 RECURRENT ACTIVITIES

10.3.1 ACHIEVEMENTS FOR 2016/2017

10.3.1.1 WATER RESOURCES MANAGEMENT

10.3.1.1.1 Development & implementation of national water policies and legislation

- Compiled and reviewed regulations for the Water Resources Management Act of 2013
- Consultants appointed to draft regulations for Floods and dam safety, Water regulator and policy and guidelines for private laboratory requirements.

10.3.1.1.2 Administration of policies and legislation

- 67 Drilling Permits processed with 8 of them rejected, 33 Groundwater abstraction Permits processed, with 10 of them rejected and 70 renewal permits were approved.
- Assistance on drafting of artificial recharge regulations and guidelines.
- 21 Surface Water Abstraction permits processed, however 12 permits were referred back.
- Farm Dams Project not rolled out, however software for processing images was acquired.
- The following permits were officially issued in 2016/17: 5 Sand Abstraction, 47 Drilling, 32 Irrigation, 17 Industrial and sea water, 25 Effluent Disposal.
- Issued water use licenses.
- Carried out compliance monitoring investigations for Water abstraction, Sand mining, Wastewater discharge and borehole drilling.

10.3.1.1.3 National water planning and coordination (Ndina, Aune, Geraldine)

Implementation of National Integrated Water Resources Management (IWRM)

- A matrix to monitor and evaluate the implementation of the National IWRM Plan has been developed.
- Annual Wetlands and Water awareness raising campaign carried out through the commemoration of World Wetlands Day and World Water Day.
- National Water Saving Campaign to promote water use efficiency in public institutions (OMAS) commenced in Windhoek.

Flood management plans developed

- Namibia Water Sector Support Project: on the 22 August 2016 a Consultative Meeting with Dr. Abou Amani from UNESCO Paris office and key stakeholders were held. The Joint Management Committee (JMC) was officially announced and publicly Inaugurated on the 5 September 2016, in addition the Project Co-ordinator was appointed. The capacity building component is well developed and on track with the Master's Program at NUST that will kick-off in June 2017 and the development of the UNAM Curriculum completed for approval by Senate and implementation in 2018.
- Hardap Flood Study report were disseminated and presented to Hon. Minister. After the presentation a meeting was held with the DPS of DWAF, where the recommendations on the way forward for implementation was discussed and disseminated to stakeholders
- Flood risk mapping in Cuvelai Etosha Basin: Ministry of Lands are the custodian for Lidar Surveys and planned to commission the survey in 2016/17 financial year, Hydrology division submitted technical specification for consideration.

Basin Management Committees (BMCs) and other institutions established and operationalized

- Provided technical support to established Basin Management Committees of the Upper Swakop, Kuiseb, Okavango, Cuvelai-Etosha, Orange-Fish, Omaruru and Zambezi Basins.
- Stakeholder meetings were successfully held for Nossob-Auob, Zambezi, Okavango, Orange-Fish, Omaruru, Kuiseb Basins and Tsumeb sub-basin.
- Omaruru Basin IWRM Plan was developed and this will guide the strategic water resources management efforts in the basin.

10.3.1.1.4 Collection, management and dissemination of water resources data and information (ALL Divisions)

Water resource (groundwater, surface water, water quality) monitoring network is operational.

- An additional 20 CELO (fully integrated wireless data logger) Telemetry instrumentation and 10 sensors were acquired and only 3 were installed at Ngoma, Lake Liambezi & Nkurenkuru. Last year 20 Cellos were installed in the CEB. Zednet was setup to be able to receive data logged by the Cello instrument. More work is being done on ZedNet. Historical data from Hydstra is being formatted and uploaded on ZedNet so that it can be viewed on ZedNet.
- Staff members of Hydrology underwent field training and surveyed Monravia, Tses, Kongola and Altdorn. New/Upgraded ratings formulas were obtained from the survey and all ratings needs to be upgraded, however these ratings needs to be verified more than once after floods occurrence in order to approve and change it in the HYDSTRA database. Technical staff can confidently install and conduct Dumpy level and GPRS survey as well as analysis of data on the HECRAS model. More Field work for surveying

and flow gauging is required for data collection purposes that can be used in the rating analysis.

- Re-modeling and re-quantifying the Karst and Stampriet Aquifer's progressed well with identifying the method of modeling and drafting proposals and acquiring quotations for purchase of FeFlow groundwater modeling software, collecting and sorting the data updating and analysis done.
- Training on FeFlow groundwater modeling software conducted (Phase 1 and Phase 2 Advance Training) and during the training the existing Karst Model was evaluated.
- Carrying out groundwater investigations in Ohangwena 2 aquifer and establishment of Telemetric Monitoring Station in Ohangwena. This project has many successes with the Development of Numerical Model which is in its final stages of completion and where a draft document is available. The First WEAP (Water Evaluation and Planning) Model available and will be incorporated into the Decision Support System for the CEB. The Telemetry Monitoring Equipment has been procured, and awaiting delivery and to be installed
- Stampriet Transboundary Aquifer System (STAS) project has commenced with the Second Phase. The GGRETA project has been implemented and will have outcomes focused on improving on resources knowledge and monitoring based on recognition of the importance and vulnerability of transboundary groundwater resources. The Final Assessment report for Phase 1 was cleared by the member states and validation by high-level government representatives was held at the UNESCO Head office in Paris France during November 2016. Twenty Eight (28) technical reports were sent to Policy and Water Law Administration Division to issue Wastewater and Effluent Disposal Permits.
- Pollution Control and Compliance Monitoring was carried out at Oshikoto, Omusati, Oshana, Hardap, Karas, Kunene, Ohangwena, Otjozondjupa, Erongo and Zambezi regions
- Water resources data collection and database systems (Water Quality Information System WAQIS, HYDSTRA, and GROWAS) operational.
- Several service trips undertaken to collect and download data. HYDSTRA database administration and software license upgrade was done, more than 40 data requests were received and handled; 70% of station data edited and archived up to the latest hydrological season; annual training done and a total of 10 staff members were capacitated on the HYDSTRA database system through the Kisters RSA technical expert; sketches of the main dams were compiled and variables/component for dam balance models reviewed; NW Hydrology division data imported into the National database for surface water data; audit of the HYDSTRA database system and the GIS Lab were done and the firewall and internet were upgraded.
- GROWAS database has been upgraded to the new version of the database GROWASII. Master stations for groundwater level stations identified and correlation of Master station data within GROWASII to produce reports. Continue to develop templates for entering data into GROWASII and debugging the system. Two training activities were created where staff were trained on the use as well as the various models in the database
- WAQIS. The resolution of bugs identified on the system which prohibited its effective operation, continued. There are however still issues with the hardware which needs to be resolved internally
- Water accounts:- Data collected for the Central Areas of Namibia (CAN)

10.3.1.1.5 Feasibility studies and initiation of the development of water infrastructure

- Co-ordinate, supervise and manage the feasibility study for Noordoewer/Vioolsdrift Dam (the following has been completed: Water Resources Planning Model, Water Quality Modeling, Environmental Screening, Water Requirements Assessments, Sedimentation Assessment, Dam Design and Optimization, drilling for geotechnical assessment).

10.3.1.1.6 Promotion of Namibia's interest in Shared River Basins and International Organisations

- Coordinate the management of transboundary water management, organise and attend meetings [Okavango Commission (OKACOM), Orange-Sengou Commission (ORASECOM), Zambezi Commission (ZAMCOM), Cuvelai-Etосha Commission (CUVECOM), Permanent Joint Technical Committee on Kunene River Basin (PJTC), Permanent Water Commission on Lower Orange River Basin (PWC), African Minister Council on Water (AMCOW)], UNESCO-International Hydrology programme (IHP).
- **OKACOM** Annual meetings were held and attended in May 2016, in Gaborone, Botswana. OKACOM Ministerial Forum was also held and attended in Gaborone, Botswana back to back with the SADC Water Ministers meeting in June 2016. An OBSC meeting was held and attended in Gaborone, Botswana in November 2016. Payment contribution to the operations of the OKACOM Secretariat was made.
- **CUVECOM** office has been established at Oshakati and Ondjiva. A consultancy to carry out a rapid assessment for the water issues in the basin has started with funding from GIZ SADC Transboundary water project.
- **PWC** met twice in Windhoek and Pretoria to discuss water management issues of common interest by the two parties. The MoU on the principles of cooperation along the Lower Orange River has been submitted to the Government Lawyers for legal advice before signing by Minister. Final negotiations have started.
- **ORASECOM** Ministers meeting was held and attended in Johannesburg 8 December 2016. The Secretariat budget for the 2017/18 was approved and member contribution has been increased. The revised ORASECOM Agreement was renegotiated after legal advice from all parties. The second draft is presented to Attorney General Office for advice before signing by Ministers at the next forum of parties meeting. Payment contribution was made to the operation of the Secretariat.
- **ZAMCOM**. Namibia hosted the first ever Basin-Wide Stakeholders' Forum for the Zambezi Basin between 27 – 28 September, 2016, all eight riparian states were represented. The theme was Enhancing Transboundary Co-operation through Stakeholder Engagement in the Zambezi Basin. The ZAMCOM Regional Workshop on Procedures of Notifications on Planned Measures was held and attended in Johannesburg, South Africa from 29-30 September 2016. ZAMCOM Technical Committee (ZAMTEC) Extra ordinary meeting was held and attended in Maputo, Mozambique in December in preparation for the Ministers meeting which was scheduled for February 2017. The 4th ZAMCOM Council of Ministers meeting was held and

attended in Tete, Mozambique in February 2017. Payment Contribution was made to the operations of ZAMCOM Secretariat. ZAMWIS Country Consultation held on 13 June & Stakeholder meeting on 14 June 2016 @ Roof of Africa Hotel. Two (2) staff members of Hydrology attended the ZAMWIS Training Workshop and Presentation of the Final Report from 29 June – 01 July 2016 at Matola, Mozambique. Time series data was uploaded in ZAMWIS to be shared with the eight Member States. An Exchange file data was generated and send to ZAMSEC. ZAMWIS Decision Support System (DSS) Enhancement commenced with Stakeholder Consultation on 2-3 March 2017. Secondment of Staff from Geohydrology Division on 6-26 February 2017 on the formulation of the Zambezi watercourse Strategic Plan was done and staff also attended the Council of Ministers' meeting in Tete, Mozambique.

- **AMCOW** – Contribution to the Country report by DWSSC on M & E for Water and Sanitation was made. Payment Contribution was made to the operation of AMCOW Secretariat. The 6th African Water Week and AMCOW Technical Advisory Committee (TAC) and General Assembly meeting was attended in Dar es Salaam Tanzania from 15 – 22 July 2016. Payment contribution was made to the operations of AMCOW Secretariat.
- **The SADC Water Resources Technical Committee (WRTC) & Ministerial Meeting.** The SADC Water Resources Technical Committee (WRTC) was attended in Ezulwini, Swaziland from 17-19 May 2016. The SADC Water Ministers Meeting as well as the Joint Ministerial Workshop on Energy and Water was attended in Gaborone, Botswana from 16-26 June 2016
- **PJTC** – the joint Task Force Committee (TFC) and Committee on Baynes (CBA) met several times to develop draft operation rules and procedures of the Calueque Dam after rehabilitation. The Kunene Transboundary Water Supply Project is progressing well with funding from KfW. The Santa Clara and Namacunde/Omupanda distribution network is finalised; the Calueque Village water reticulation and sanitation, main pipe repair and canal off-takes formalization works has been awarded and project launched, in January 2017 and will continue for a year. The Calueque-Oshakati Feasibility has been completed and recommendation for detailed study of the selected scenario made.
- **AMCOW** – Contribution to the Country report by DWSSC on M & E for Water and Sanitation was made. Payment Contribution was made to the operation of AMCOW Secretariat.
- **PWC** held its regular meetings to discuss progress on the Noordoewer/Vioolsdrift Dam Feasibility Study. The project is expected to be completed in end of 2017. The MoU on the principles of cooperation along the Lower Orange River is expected to be signed by Ministers of Water in the next financial year, to pave the way for joint development and water sharing.
- BGR supported 2 staff members from the Geohydrology Division, who attended the 6th Water week on July 2016 in Dar es Salaam, Tanzania.

- **The Southern African Development Community Groundwater Management Institute (SADC-GMI)**, a regional centre for groundwater under the strategic guidance of the SADC Secretariat, Directorate of Infrastructure and Services – Water Division, in Gaborone, Botswana was launched on 21 September 2016. The roles of the SADC-GMI are: (i) to promote sustainable groundwater management and solutions to groundwater challenges in the SADC region through building capacity, providing training, advancing research, supporting infrastructure development, and enabling dialogue and exchange of groundwater information; and (ii) to conduct and support SADC Member States in groundwater research, and serve as a focal interlocutor with national, regional and international groundwater initiatives. The World Bank GEF is funding sustainable groundwater management project in SADC member states, whose members are steering the project.
- **International Co-operation Partners :UNESCO-IHP**
 - a. Two staff members attended the 12th KOVACS Colloquium and 22nd Session of IHP Intergovernmental Council Meeting from the 13 to 17 June 2016 UNESCO HQ, Paris, France. Namibia was elected as Chair of the International Hydrological Programme (IHP) Finance Committee.
 - b. Staff members participated in the Consultative Meeting on the establishment of a National Committee for UNESCO International Hydrological Programme (IHP) that was held on the 9 June 2016 at Namibia University of Science and Technology (NUST). The objective of the meeting was to inform stakeholders on the role of IHP and the importance of setting up a National IHP committee

10.3.1.1.7 Flood & Drought early warning/forecasting system

- The SADC MESA Project donated 2 stations for Agriculture/Drought and Flood Services Themes. Installation and transmission of satellite data was successful and staff members were capacitated on using the tools and products to assist in flood monitoring and disaster management. Hydrology staff member attended MESA System Application Workshop for Station users from 23-27 January 2017 in Nairobi Kenya. The objectives of the workshop were to understand the data processing principles, to be able to perform some basic and more advanced domain specific operations, to perform some basic customization, and how to use MESA systems for products service delivery.
- The African Member States that are parties to the UNCCD (United Nations Convention to Combat Desertification, Ministers, Heads of delegations and Experts attended the High Level Meeting of the first African Drought Conference (ADC) and adopted the Strategic Framework for Drought Risk Management and Enhancing Resilience in Africa, which proposed for a Drought Resilient and Prepared Africa (DRAPA) to be implemented at national level guided by the six principals/elements. The Windhoek Declaration for Enhancing Resilience to Drought in Africa as adopted by the end of the Conference. The importance of incorporating issues of Gender and Youth were also emphasized
- **Africa Drought Monitor for Southern Africa:** Two staff members attended the Regional Workshop from 9-11 October 2016 in Zimbabwe. The primary objective of the workshop was to have hands on practical tutorial on how the model depicts the information in regard to the monitoring, discuss the challenges hampering the WaterNet

project and how to improve the accessibility of the WaterNet website. Staff members wrote a validation report to validate the System for Namibia

- Climate change initiatives: National: A staff member was nominated from the Division of Hydrology to represent MAWF on the Climate Change Finance Readiness Committee (2014-2016) which aimed at integrating climate change into national planning and budgeting. National Stakeholder Coordination Committee (NASC) meeting for the Zambezi on 04 August 2016 at Protea Hotel, Katima Mulilo.
- Regional: Hydrology MAWF (through the staff member) participated at the workshop for “promoting climate-resilient development and enhanced adaptive capacity to withstand disaster risks in the Cunene province”, held in Luanda, Angola, in 24 November 2016 at the UNDP HQs.
- Revamping and upgrading of the Namibia Flood Dashboard <http://matsunamibiaflood.opensciencedatacloud.org/>, which is an on-going collaborative effort between the American National Aeronautics Space Agency (NASA) and Department of Water Affairs and Forestry (DWAF) - Hydrology Division continued

10.4 PLANNED ACTIVITIES FOR 2017/2018

10.4.1 INTEGRATED WATER RESOURCES MANAGEMENT (PROGRAM)

10.4.1.1 WATER RESOURCES MANAGEMENT (PROJECT)

OPERATIONAL

10.4.1.1 WATER GOVERNANCE (sub-project)

- ***Development & implementation of water policies and legislation (operational)***
 - (i) Gazetting of regulations
 - (ii) Commencement of the Act
 - (iii) Promotion and popularization of Water Act Regulations
 - (iv) Review National Water Policy White paper
- ***Administration of policies and legislation (operational)***
 - Issue permits per new WRMA Regulations
 - Conduct compliance monitoring of major (non-complying) users –(use existing GIS Labs for remote sensing)

10.4.1.2. WATER RESOURCES ASSESSMENT, PLANNING AND ANALYSIS (sub-project)

1. Water Resources Data Collection and Analysis (previously: Collection, management and dissemination of water resources data and information)

- Upgrade, maintain and expand surface monitoring network by acquiring and installing Real time monitoring equipment and stations (Telemetry CELO, HYCOS stations, Automatic Telemetric Rain gauges). Ongoing maintenance and servicing of monitoring stations will continue

Water resources data collection and database systems (WAQIS, HYDSTRA, and GROWAS) operational

- Continue with the administration and maintenance of databases, editing and analysis of data; dissemination of data upon request. In addition capacity will be developed in fieldwork, editing & analysis of data, basic surveying and updating/reviewing of rating formulas of key master stations.
- Continue with data collection for the Central Areas of Namibia (CAN) for the Water Accounts

2. National water planning and coordination

Implementation of National Integrated Water Resources Management (IWRM)

- Continue with the implementation of the National Integrated Water Resources Management
- Roll out the National Water Saving Campaign to the rest of the country
- Carry out wetlands and water resources awareness raising.
- Conduct water resources quality monitoring country-wide
- Carry out water quality and pollution compliance monitoring country-wide

Flood & Drought Management Plans:

- Flood risk mapping in Cuvelai Etosha Basin: Follow-up on results from Lidar Survey that Ministry of Lands commissioned
- Hardap Flood Study report: Follow-up on implementation of recommendations
- Namibia Water Sector Support Project: Continue with Joint Management Committee Meetings in order to implement project
 - Capacity Building Component will commence at NUST in June 2017, while the curriculum development at UNAM will be finalized to be implemented in 2018. Short courses will be developed and institutions will be identified for On-going professional training
 - Flood and Drought Management Plan Component: Stakeholder consultations to discuss the modalities around the project, Develop ToR for possible outsourcing, Commissioning of study & Development of Integrated Plan & Project. Project Steering Committee to be established and Program Manager appointed

Basin Management Plans

- Continued support (both technical and financial) towards the operations of the water basin management committees, mainly the implementation of their water resources management plans.
- ***International Water Planning and Co-ordination (previously: Promotion of Namibia's interest in shared river basins and international organizations)***

Contribute to transboundary water management through (OKACOM, ORASECOM PJTC, CUVECOM, PWC and ZAMCOM by reviewing and providing inputs into reports/documents, contribute to data and information sharing, contribute to the development and implementation of Strategic Action Plans, contribute to capacity building by hosting international conference and symposia.

- **OKACOM** – OKACOM week meetings will be attended in Windhoek/Swakopmund, Namibia where Technical Committees, Council of Commissioners will deliberate on issue pertaining to the management and reasonable utilization of water resources of the Okavango/Cubango River.
- **PWC** – Bilateral meetings between Namibia and South Africa on the on issues of common interest on the Lower Orange River will continue. Noordoewer/Vioolsdrift dam feasibility study will continue. Namibia will host PWC and Study Management Committee meetings.
- **ORASECOM – ORASECOM** – Technical Committees, Council and Ministers meetings will be held and attended in Gaborone, Botswana.
- **CUVECOM** – Bilateral meetings of Ministers between Namibia and Angola on the management and reasonable utilization of water resources of the Cuvelai and Kunene Rivers will continue. The CUVECOM will be institutionalized by establishing the Secretariat, and the rapid water resources assessment will be carried out.
- **ZAMCOM – ZAMCOM** – ZAMTEC and ZAMCOM Council of Ministers meetings comprising of eight Riparian States on the management and reasonable utilization of water resources of the Zambezi River will continue in 2017 and February 2018 in Namibia. ZAMWIS DSS Enhancement 3 with capacity building in 26-27 April 2017.
- Continue involvement in the Southern Africa Science Service Centre for Climate Change and Adaptive Land-Use (**SASSCAL**) task on Hydrology flood risk mapping in Zambezi and Cuvelai-Etoshia.
- The support for the project Flood Risk Assessment and Monitoring for the Cuvelai and Zambezi Basins will continue through German Federal Ministry of Education and Research (BMBF) funding.
- **UNESCO IHP**
- Participate in UNESCO IHP initiatives
- Set up National IHP committee in collaboration with National Commission for UNESCO (NATCOM).

- **AMCOW - AMCOW** - Contribution to the M & E Country Report by DWSSC on Water and Sanitation will continue. The 6th African Water Week and AMCOW Technical Advisory Committee (TAC) and General Assembly meeting will be attended.
- **Water Resource Technical Committee (WRTC)** Regular meetings will be held.
- **SADC** – The Multi Stakeholder Water Dialogue, RBOs Workshop and SADC Water Ministers meeting will be attended. SADC-GMI Board meeting, Project Steering meetings for the Sustainable groundwater management project in SADC member states project will be attended.
- **Flood & Drought early warning/forecasting system**
 - Capacity building through UNSPIDER
 - Maintain SADC-MESA early warning system
 - Maintain the operational TIGER NET Water information Observation System (WIOS - which forecast 7 days ahead of time) and keep up with the upgrades.-This is an on-going collaborative effort between European Space Agency (ESA) and DWAF Hydrology Division.
 - Keep improving the Namibia Flood Dashboard with NASA.
 - Strengthen research and investigations by extended field work especially through the SASSCAL project” flood risk monitoring and assessments
 - Continue with the generation and dissemination of daily flood and hydrological drought bulletins
 - Continue to participate in Climate and Disaster Risk Initiatives

10.5 CAPITAL PROJECTS

10.5.1 UPGRADING & EQUIPPING OF WATER ANALYSIS LABORATORY (CAPITAL 1)

ACHIEVEMENTS 2016/17

- The Water Analysis Laboratory was renovated
- Supervised the upgrading, installation and calibration of equipment
- ventilation system was installed Glassware inventory completed
- Laboratory cleaned and expired chemicals disposed of
- Argon gas installed
- Basic equipment purchased

PLANNED ACTIVITIES 2017/18

- Acquire Additional Equipment
- Operationalize the Laboratory

10.5.2 INVESTIGATIONS AND FEASIBILITY STUDIES AND INITIATION OF THE DEVELOPMENT OF WATER INFRASTRUCTURE (CAPITAL 2)

- Noordoewer/Vioolsdrift Dam feasibility study (capital 2.1)

ACHIEVEMENTS 2016/17

- With regards to the Noordoewer/Vioolsdrift Feasibility Study, The following tasks are completed:
 - Task 1: Inception Report
 - Task 2: Water Requirements
 - Task 4: Topographical survey and mapping
 - Task 11: Water quality assessment
 - Task 5: Geological and geotechnical investigations
 - Task 6 Flood studies

PLANNED ACTIVITIES 2017/18

Study will continue concentrating on the following Tasks:

- Task 10: Preliminary and feasibility design
- Task 16: Programing and cost estimates
- Task 17 Economic appraisal
- Task 18: Benefit analysis and report
- Task 19: Skill transfer and Capacity building (continuous)

10.5.3 QUANTIFICATION OF WATER RESOURCES OF NAMIBIA (CAPITAL 2.2)

ACHIEVEMENTS 2016/17 (N\$ 2 196 000)

- The selection and procurement of software (FeFlow groundwater modeling software) for the task of modeling was completed. The collection, sorting, updating and analysis the data was done.
- Capacity building for assessing and setting up Groundwater models has been done. Ten (10) Staff members (8 Geohydrology; 1 BGR and 1 DWSSC) were trained over two phases of training

PLANNED ACTIVITIES 2017/18

- Re-modeling and re-quantifying the Karst and Stampriet Aquifer's will continue in-house with **Karst Area A & B2** and **Stampriet High Production Area's** being prioritized and re-modeled

10.5.4 RECHARGE & QUANTIFICATION OF THE STAMPRIET ARTESIAN AQUIFER (CAPITAL)

ACHIEVEMENTS 2016/17

- Assessment Report of Phase 1 has been finalized and is available.
- Stampriet Transboundary Aquifer System (STAS) project has commenced with the Second Phase.

PLANNED ACTIVITIES 2017/18

- In partnership with UNESCO-IHP and the Swiss Agency for Development and Cooperation (SDC) the second phase of the GGRETA Project will continue. As following from the Phase 1, the objective for Phase 2 will be to:
 - Outcome 1 – Improved resource knowledge and monitoring based on recognition of the importance and vulnerability of transboundary groundwater resources.
 - Outcome 2 - Enhanced cross-border dialogue and cooperation based on development of shared management tools, and recommendations for governance reforms focused on improving livelihoods, economic development, gender equality and environmental sustainability.
 - Outcome 3 – Improved capacity in groundwater governance, hydro-diplomacy and gender, and effective communication aiming at replication of project experiences and approaches.

10.5.5 GEOHYDROLOGICAL INVESTIGATION IN THE CUVELAI ETOSHA BASIN (CAPITAL)

ACHIEVEMENTS 2016/17 (N\$ 1 584 000)

- Upgrading the monitoring network by installing the telemetry system in the Ohangwena monitoring network. The Telemetry Monitoring Equipment has been procured, and awaiting delivery and to be installed
- Carrying out groundwater investigations in Ohangwena 2 aquifer and establishment of Telemetric Monitoring Station in Ohangwena.
- The Development of Numerical Model which is in its final stages of completion and where a draft document is available.
- The First WEAP (Water Evaluation and Planning) Model for the area, will also be incorporated into the Decision Support System (DSS) for the CEB.

PLANNED ACTIVITIES 2017/18

- Scenarios projection for the DSS and these activities include the calibrations based on wellfield and results from the water production at Eenhana,
- BGR and DWAF needs to support NamWater in Drilling and implementation of production boreholes in order to obtain operational data for DSS system.
- Support the evaluation and procurement of the De-floridization Plat at Eenhana

10.5.6 ARTIFICIAL RECHARGE OF THE WINDHOEK AQUIFER (CAPITAL 2.5)

ACHIEVEMENTS 2016/17

- This project experienced some budget cuts and no funding was made available.
- Updates from the City of Windhoek (CoW) on the progress of the project was still periodically received and channels of communication on this project and others were reinstated

10.5.7 REVIEW AND UPGRADING OF THE NATIONAL WATER RESOURCES MONITORING SYSTEMS (CAPITAL 2.6)

ACHIEVEMENTS 2016/17

- Development of Groundwater Management Strategy Framework
- Oversee the management of groundwater monitoring system

PLANNED ACTIVITIES 2017/18

- Maintain and upgrade water resources monitoring network and database systems

11. MAIN DIVISION 11 : RURAL WATER SUPPLY & SANITATION CO-ORDINATION

RECURRENT BUDGET : N\$ 159 116 000

CAPITAL BUDGET : N\$ 475 393 000

11.1 OBJECTIVE

- To improve the quality of life of communities living in rural communal areas.
- To coordinate regionally and nationally all water supply and sanitation services

11.2 MAIN FUNCTIONS

- Provide access to potable rural water supply.
- Improve rural sanitation services.
- Coordinate urban and rural water supply and sanitation services.

11.3 RECURRENT BUDGET

11.3.1 ACHIEVEMENTS FOR 2016/2017 (N\$ 130 133 731)

- Supply Subsidy Policy and Community Based Management (CBM) Strategy, Stakeholder consultative workshop held in all the Clustered Regions.
- The maintenance and rehabilitation of the existing more than 5 000 communal water points were carried out countrywide.
- Convened National and Regional WATSAN meetings.
- Community awareness-raising on sanitation health and hygiene education was conducted to 3322 households.
- 16 Water Point Committees trained.

11.3.2 PLANNED ACTIVITIES FOR 2017/2018 (N\$ 159 115 995)

- Review and update the 5 year National Sanitation Strategy.
- Launching and implementation of the Open Defecation Free Namibia Communication Strategy Public awareness in terms of health and hygiene education through animations will continue to be broadcast on the National broadcaster and other media
- Capacity building for the Management and Staff of the Directorate of Water Supply and Sanitation Coordination will continue.
- Maintaining existing water supply infrastructure countrywide.
- Coordinate and convene National and Regional WATSAN meetings.
- Training of Water Point Committees
- Conduct awareness-raising on sanitation health and hygiene education in 13 regions and at National Level.
- Continue strengthening planning and coordination activities at National and at Regional Levels.

- Providing technical support to other programs, projects and Ministries on water supply and sanitation aspects to fulfil the advisory aspects of the national coordinating role of DWSSC mandated by Cabinet.

11.4 CAPITAL PROJECTS

11.4.1 RURAL WATER SUPPLY COVERAGE

The project aims at providing clean, piped water to rural communities living in areas where the groundwater quality is not suitable for human consumption. Pipe water schemes are playing a major role in contributing to achieve the Millennium Development Goals and the reduction of poverty.

11.4.1.1 ACHIEVEMENTS FOR 2016/2017 (N\$ 78 935 083)

- The construction of Katima Mulilo – Kongola Phase 2 Water Supply Scheme in Zambezi Region is 100% complete and the network handing over is process in progress.
- The construction of the litapa - Okeeholongongo Water Supply Scheme in Omusati Region is 85% complete.
- Extension of Ondangwa – Omuntele Pipeline in Oshikoto Region is 84% complete.

11.4.1.2 PLANNED ACTIVITIES FOR 2017/2018 (N\$ 46 915 000)

- Continue with the construction of the litapa - Okeeholongongo Water Supply Scheme Phase 1.
- Continue with the construction of Ondangwa – Omuntele Pipeline extension in Oshikoto Region
- Commence with the construction of the water reservoir for Katima Mulilo – Ngoma Phase 2
- Commence with the construction of the King Kauluma – Omutsegwonime Water Supply Scheme Phase 2
- Commence with the construction of the Ruacana South Water Supply Scheme Phase 1

11.4.2 IMPLEMENTATION OF COMMUNITY BASED MANAGEMENT

The overall objective of the project is to strive for all water points in the country to be in a working condition. The project will ensure that water points are upgraded to acceptable working standard so that they could be handed over for management and operation and maintenance to communities. The project is implemented with the full involvement of the communities who are expected to manage, operate and carry out minor maintenance on their water point infrastructure. A number of water points have been rehabilitated and new ones drilled as had been identified by all regions.

11.4.2.1 ACHIEVEMENTS FOR 2016/2017 (N\$ 26 742 953)

- 60 Water Points rehabilitated.
- 3 Boreholes drilled.
- 17 Boreholes Installed
- 28 Boreholes Cleaned
- 36 Short pipelines constructed
- 1713 Private Off Takes connected

11.4.2.2 PLANNED ACTIVITIES FOR 2017/2018 (N\$ 13 845 000)

- Water points installations and rehabilitation
- Drilling, installation and rehabilitation of boreholes.

11.4.3 IMPLEMENTATION OF DECENTRALISATION, CONSTITUENCY

OFFICE CONSTRUCTION

This project enhances the process of decentralizing the rural water supply functions to constituency level and creates a framework for efficient service provision even closer to the rural people. Although the project name covers decentralization, the focus is more on the construction of rural water supply and sanitation area/constituencies offices and staff accommodation.

11.4.3.1 ACHIEVEMENTS FOR 2016/2017 (N\$ 34 144 342)

- The construction of Tses Rural Water Extension Centre Completed.
- Feasibility Studies of the construction of Constituency Offices in Omaheke (Otjinene & Eiseb), Erongo (Tsubusis, Omatjete and Uis) and Otjozondjupa (Tsumkwe and Gam) are completed.

11.4.3.2 PLANNED ACTIVITIES FOR 2017/2018 (N\$ 0)

- Due to no budget allocation for this Financial Year nothing is planned.

11.4.4 CONSTRUCTION OF DAMS, TRADITIONAL WELLS AND PANS FOR LIVESTOCK DRINKING

This project aims to build traditional wells, pans and dams for livestock drinking. These new dams and pans infrastructure ensure that water is impounded during rainy seasons for continuous use during both the rainy and dry seasons.

ACHIEVEMENTS FOR 2016/2017 (N\$ 0)

- Nothing was planned and done due to zero budgetary allocation.

PLANNED ACTIVITIES FOR 2016/2017 (N\$ 0)

- Due to no budget allocation for this Financial Year nothing is planned.

11.4.5 CONSTRUCTION OF LARGE DAMS, DESALINATION AND PROVISION OF WATER TO LARGE SETTLEMENTS

The project ensures that adequate surface water is captured for water security to promote reliable water supply for human, industrial and agricultural use. Furthermore, the project aims to augment existing water resources with desalinated sea water or brackish ground water.

11.4.5.1 ACHIEVEMENTS FOR 2016/2017 (N\$ 580 089 004)

Engineering and construction at the Nerckartal Dam Project

These activities were achieved at the three main sections of the project, namely: the Main dam, Quarry, Abstraction Works and Pipeline.

MAIN DAM

- Completion of the two river diversion culverts.
- Reinforcement concrete in Inlet Outlet structure up to the elevation level 752.25m.
- Roller Compacted Concrete (RCC) placement for Block 8 – 16 up to 749.6m level completed.
RCC placement works for Block 17 & 18 completed up to 747.2m & 744.8m respectively.
- RCC Placement for Block 19-25 completed up to 742.4m.
- Hydro mechanical installation in Intake Tower in progress.
- Foundation preparation, Placement of No-Fines Concrete and drilling & cleaning of rock dowel holes for Spillway chutes in progress with 13 steps completed.
- Drilling & flushing of curtain grouting on primary holes in progress in the lower gallery.
- Conventional Vibrated Concrete (CVC) works for Turbine Room Foundation slab in progress.
- Installation of DN1600 pipes in Turbine Room (Items 19A & 19B)

PIPELINE AND BALANCING DAM

- 15 X PN40 Gate valves installed on Air Valve Chambers.
- 12 X PN40 Gate valves & 6 X Poly propylene pipes installed on Scour Valve Chambers
- 1 X PN40 Gate Valve installed on Surge Tank Chamber CH1200
- Bypass line installed on Isolating Valve Chamber CH3933

ABSTRACTION WORKS: SEDIMENT TRAP, WEIR & PUMP STATION

- CVC works for Pump station elevation in 47% completed.
- CVC Casting for Base Slab & Elevation at Sediment Trap in progress.
- RCC Placement at Abstraction Weir in progress.

LABORATORY

- ✓ Test on RCC Placement, fresh and hard CVC pours, aggregates in progress
- ✓ Test on Scour Chamber Trench bottom along the pipeline.

- ✓ Test on materials in Balancing Dam.
- ✓ Test on fresh and hard concrete and RCC
- ✓ Study of mix design

INSTALLATION / PLANTS:

- ✓ Crushing Plant, CVC & RCC Batching Plant in operation.
- ✓ RCC Conveyor Belt in operation.
- ✓ 2 Chiller Water units in operation.
- ✓ Electrical MV distribution in plant area in progress.
- ✓ Electrical Connections to Boreholes completed.
- ✓ Ice Plant Operational
- ✓ Installation of Tower Crane in Turbine Room in progress
- ✓ Electrical line to boreholes operational.

QUARRY

- a) Drilling for blasting (hard rock for crushing plant)
- b) Crushing of aggregates

11.4.5.2 PLANNED ACTIVITIES FOR 2017/2018 (N\$ 414 633 000)

Engineering and construction at the Neckartal Dam Project

The following activities are planned:

Main Dam

- Closure of the two (2) diversion culverts.
- Construction of the upper gallery and stairs.
- Continuation with operation of the Quarry.
- Assembling and installation of the following:
 - Electrical works
 - Control and monitoring instrumentation
 - Gantry cranes and hoist
 - Turbines
 - Maintenance gates and screens
 - Piping and valves
 - Pumps
- Commencement of RCC placement – 4th and 5th phase whole section from elevation level 750.0m to elevation level 784.45/786.9 and 6th phase left and right sections from level 784.4/786.8m to level 796.5m.
- Continuation of CVC placement for the following sections:
 - OGEE-Spillway – Left side, right side and dividing walls
 - Spillway chute – lateral wall and rip rap protection
 - Apron slabs – rip rap protection and baffle walls
 - Intake tower from level 752.25m to 796.5 and trash rack structures
 - Control room – 793.5m to 809.0m (top)
 - Stilling Basin – downstream wall and lateral walls
 - Sleeve Valve House – from level 735m up to 744.75m (roof level)
 - Turbine room – from level 735m to level 744.75

- Continuation with grouting curtains and drainage holes in the upper gallery, ogee level and top dam level 796.5m.
- Testing and commission of the hydro-mechanicals for intake and outlet and turbines.

Abstraction Works

The Contractor's work is progressing well and the following are planned at the Abstraction Works:

- Continuation with the construction of the Sediment trap
- Continuation with CVC placement for the following:
 - Sand trap
 - Gravel trap
 - Valve chamber
 - Fish ladder
- Weir elevation RCC and CVC placement - ogee spillway and rip rap placement.
- Installation of Hydro Mechanical equipment
- Continuation with construction of the Pump station
- Continuation with construction of the Weir
- Continuation with construction of the Flood protection berm
- Removal of the existing coffer dam

- Continuation with installation of the following:
 - Hydro-Mechanical equipment
 - Cranes
 - Electrical works
 - Gen sets

Bulk Feeder Pipeline

Construction at the Pipeline is in full production with the following activities planned:

- Continuation with erection of the two (2) surge tanks at Chainage 1+200 and 4+480.
- Continuation with installation of the Isolating chambers at Chainage 3+933 and 8+590.

Balancing dam

Continuation with the embankment, CVC works and lining works at the balancing dam.

11.4.6 RURAL AND URBAN SANITATION INFRASTRUCTURE DEVELOPMENT

The objective of this project is to develop sanitation infrastructure in rural areas and coordinate the implementation of sanitation policy in rural and urban areas.

11.4.6.1 ACHIEVEMENTS FOR 2016/2017 (N\$ 14 277 000)

- A total of 257 sanitation facilities were constructed as roll overs from the previous FY.

11.4.6.2 PLANNED ACTIVITIES FOR 2017/2018 (N\$ 0)

- Due to no budget allocation for this Financial Year nothing is planned.

11.4.7 DEVELOPMENT PARTNER FUNDED PROJECTS

11.4.7. 1 EUROPEAN COMMISSION

- **NAWASA** - The EU Support to Namibian Water Supply and Sanitation Sector Programme (NAWASA) has been funded under the 10th European Development Fund. A Financing Agreement between the Government of the Republic of Namibia and the European Union was signed in 2011. The end of the Operational Implementation Phase of the programme is in January 2017.

Total funding disbursed during the five year duration of the programme is € 32,013,126, subdivided into two main categories: € 31,550,000 as budget support and € 463,126 as technical cooperation. Compared to the amount originally committed to the programme, disbursements correspond to approximately 91% for budget support and 33% for technical assistance respectively. The main reasons for the partial use of the funds are:

a) for budget support, payments under the variable tranches were reduced, due to the inability to meet the targets for access to sanitation in rural areas, as indicated in the Joint Annual Report for the years 2012/13 and 2013/14.

b) for the technical assistance facility, the sector was unable to contract the required services with the 09-11-2015, which is the deadline for contracting indicated in the NAWASA Financing Agreement.

The last disbursement, amounting to a total of €7.84 million, of which € 5.5 million for the fixed tranche and of € 2.34 million for the variable tranche, was disbursed by the EU to in December 2016, following the request from the Government of Namibia in April 2016.

An Expert on Sanitation continued working within DWSSC until December 2016, as part of the technical assistance component of the programme. A new request for the extension of technical support is under preparation, to be financed outside the NAWASA programme, under the Technical Cooperation Facility.

- **Keetmanshoop Water Management project** - A total amount of € 250,000 was pledged by the EU in support to the Keetmanshoop Water Management project, under the Water Facility of the 10th European Development Fund.

Keetmanshoop Municipality is partnered with Kangasala and Lempäälä Municipalities and Tampere University of Technology, all from Finland, Polytechnic of Namibia and the Ministry of Urban and Rural Development. The purpose of the project is to reduce unaccounted-for-water from an estimate of 37% to less than 20% and to improve the operation of the water distribution network through better management practices.

To date, € 158,174 has been disbursed, corresponding to 63% of EU's total commitment. Low disbursement rate was mainly due to slow implementation capacity of the various actors involved in the project. It is estimated that 75% of the project operational objectives have been achieved to date.

11.4.7.2 UNITED NATIONS CHILDREN FUND

UNICEF has collaborated on a number of projects within the WATSAN Sector to include the following:

- UNICEF in partnership with Society for Family Health (SFH), 648 principals, teachers and cleaners were trained on WASH in schools. The established 100 School Health Clubs played a crucial role in hygiene promotion activities at school and community levels. Club members promote hand washing with soap, drama performances, conduct hygiene promotion sessions and clean-up the schools surroundings.
- The partnership with the Namibia Red Cross Society (NRCS) continued to support five triggered villages on community-led total sanitation (CLTS) and, in 2015-16, 280 toilets were constructed. Ondingwanyama, a village that achieved universal coverage on sanitation, sustained the adopted good hygiene practices; each household is having and uses a toilet with tippy tap and handwashing soap or ash close to the toilet, no human faeces in the surrounding as previously observed and the number of flies reduced.
- UNICEF supported a high level participation of government officials in the Sanitation Learning Workshop in Johannesburg in April. The workshop provided an opportunity for South-South cooperation and exposure experience from other countries and available sanitation tools.
- CLTS Foundation in collaboration with UNICEF Regional Office availed a consultant from Zambia to support CLTS activities through the review of previous CLTS implementation, training of 57 persons (55 government staff and 2 City of Windhoek) on CLTS and developed a CLTS program to be implemented by government. In addition UNICEF supported the drafting of ODF protocol for Namibia and is under discussion at national level and will guide the certification of ODF villages including Ondingwanyama.
- UNICEF supported the City of Windhoek (COW) hygiene promotion month activities in September and supported the celebration of the Global Hand Washing Day. Media events were hosted for both and used as advocacy platform to call for WASH improvement in Namibia.

11.4.7.3 NAMIBIA TRAINING AUTHORITY (NTA)

- The Sector Skills Plan developed by the NTA in 2014 concluded that there are significant skills supply and demand gaps within the water supply and sanitation sector. As such, the NTA in collaboration with the GIZ ProVET program, and in consultation with the industry and the Ministry for Agriculture, Water and Forestry (MAWF), embarked on the development of qualifications for future Vocational Education and Training (VET) in the sector. The sector is significant in terms of providing job opportunities for skilled personnel. Skilled persons would be working in water supply and sanitation goods and service provision, the mining and agriculture sectors, as well as in education and community mobilization, to mention only a few.
- Initial industry consultation to establish skills gaps, an occupational map and job profiles took place in August 2013. The initial development of the unit standards and qualifications was benchmarked against qualifications from South Africa, New Zealand, Australia and Scotland.

- The proposed qualifications were presented at a national consultation November 2014, the consultation resulted in stakeholders having major reservations on the completeness of the presented qualifications. Further industry engagement resulted in the Needs Assessment Report on Water and Sanitation. This was presented to 30 representatives from key stakeholders of the sector during a round table consultation meeting on the 10th September 2016 and the information used to prepare the final draft of the unit standards and qualifications. These have now been approved by the Industry Skills Committee.

The following four qualifications will be submitted in the coming month to the Namibia Qualifications Authority (NQA) for registration on the National Qualifications Framework (NQF):

- National Certificate in Water Supply and Sanitation at NQF Level 2
- National Certificate in Water Supply at NQF Level 3
- National Certificate in Sanitation at NQF Level 3
- National Certificate in Water Supply and Sanitation at NQF Level 4
 - Graduates from the level 2 courses may be employed as skilled operators, from level 3 as skilled artisans for either the water supply or the sanitation sub-sectors and level 4 graduates will find jobs as specialist technicians at plants or in education/public mobilization.
- In March 2017 the NTA will commence writing the training program (curriculum) for the qualifications and develop the assessment materials for training.
 - It is expected that Namwater, the Municipalities, The City of Windhoek and possibly the MAWF at its two training centres, may in the coming years be the main training providers for the qualifications.

12. MAIN DIVISION 12	:	FORESTRY
RECURRENT BUDGET	:	N\$ 92 601 000
CAPITAL BUDGET	:	N\$ 86 263 000

12.1 OBJECTIVE

- To practice and promote the sustainable and participatory management of forest resources and other woody vegetation, and to enhance socio-economic development and environmental stability.

12.2 MAIN FUNCTIONS

- Develop, maintain and improve forest resources including their contribution to global carbon cycles.
- Manage, maintain and enhance the productive and protective functions of forest and other wooded lands.
- Conserve and maintain the biological diversity of forests and other wooded lands.
- Maintain and enhance the socio-economic benefits of forests and other wooded lands.
- Utilize undesirable bushes for sustainable land-use management in order to restore the desirable rangeland and wildlife habitats.
- Improve and develop the wood industry.
- Develop and promote tree planting for a sustainable environment and economy.
- Conduct forest and botanical research and provide information to responsible decision-making in the forestry sector.

12.3 RECURRENT ACTIVITIES

12.3.1. ACHIEVEMENTS FOR 2016/17

12.3.1.1 FOREST POLICY, PLANNING, LEGISLATION AND INFORMATION

The intervention aims to develop or review Forestry Policy and Legislation and communicate key issues to the public, spearhead co-ordination in forestry development and enforce the laws.

- The Forest resource use have been regulated through issuing various forest permits to the public; namely harvesting, transporting, marketing, exporting, importing, Transit permits, totalling 14,561 permits.
- Illegally harvested forest produce were confiscated and auctioned in Kavango West, Kavango East, Kunene, Omusati, Oshikoto, Ohangwena and Oshana regions.
- Treasury authorization was granted to donate 25 000 seedlings to various stakeholders for planting purposes during the 2016-2017.
- Strategic planning for organizational management and operations is being implemented at both headquarters and regional level, and guidelines and other technical support are given to the field-based officials.
- Extension information were produced, printed and distributed: Arbor Day posters and pamphlets, Posters on fire prevention and how to fight fire and posters on how to plant tree and care of trees.

- Extension messages on fire prevention developed and broadcasted on the National Broadcasting Corporation in 9 local languages for two months in the radio.
- Information on the importance of forests disseminated to the public during the annual events such as Arbor Day, World Environment Day, World Food Day, and World Water Day.
- The implementation of Forestry key processes re-engineered, particularly the Permit issuing process. Instead of one to three months one took in the past to obtain a forestry permit, now one takes between one and two days to get his/her harvesting permit.

12.3.1.2 COMMUNITY-BASED FOREST MANAGEMENT

The intervention focuses on activities carried out in collaboration with rural based people and organisations on communal lands focusing on devolution of, and sustainable management and utilisation of forest resources in community forests to enable communities to generate income from those areas.

- Community members trained in community based forest inventory and GPS.
- As an effort to provide alternative building materials, two brickmaking machines purchased for Uukolonkadhi and Ongandjera community forests. The forest management committees start to make bricks in their respective areas. It is also regarded as a means for income generating activities.
- Three mobile sawmill machines were purchased for community forests namely for Ncumucara community forest (Kavango west), Okongo community forest (Ohangwena) and Onkumbula community forest (Oshikoto) for sawn timber processing and curios production.
- The Okongo community forest carpentry workshop was constructed at Omauni community centre.
- Forest inventory conducted at Ehi-rovipuka (Kunene), Epukiro community forests (Otjozondjupa) and Aminius Constituency (Omaheke). The inventory data entry were entered for the following community forests Okongo, Onkumbula, Oshaampula, Omundaungilo, Otjombinde, Africa Wilddog (near Okakarara), Ehi-rovipuka, Otjituuo and Epukiro, processed to generate/produce inventory reports that will be used in developing Integrated Forest Management Plans.
- Eight (8) Proposed Community Forests area, covering 1,917,334.88 ha have been worked on and ready for gazettment.

12.3.1.3 FOREST PROTECTION AND CONSERVATION

The intervention covers the priority functions of Directorate of Forestry to ensure that the Environmental and socio-economic values of forests are adequately protected and conserved both inside and outside of communal forest areas.

- The Ministry continue to engage local people and communities to clear firebreaks (fire cut lines) in fire prone areas, creating 2 216 temporary jobs (361 females and 1 855 males).
- 23 Community based forest fire management units established (6 in Hardap region; 3 in Tsumkwe; 10 in Kavango west; 2 in Kavango east; 2 in Zambezi region) trained on basic fire management and prevention.
- The precision forestry techniques (GIS/Remote Sensing) have enabled the electronic dispatch of daily fire bulletins, a service that has been welcomed by our stakeholders.

This tool further enables staff of the Ministry to detect and monitor the movement of fires and to act appropriately and effectively.

- The communities constructed **2011 km firebreak** in fire prone areas of Oshana, Omusati, Kunene, Otjozondjupa, Omaheke, Ohangwena, Kavango east, Kavango west and Zambezi regions, created job for 961 people (70 women and 891 men) at a cost of N\$3,458,060.

12.3.1.4 TREE PLANTING AND ORCHARD DEVELOPMENT

The intervention covers seedlings production and support tree planting and other on-farm forestry activities on private farms; on land allocated to individual households; in community forests; and woodlots and orchards on communal lands with the aim to increase forest cover and income-generating activities.

- Technical support provided to 200 farmers on tree planting and orchards development
- 438.6 Ha of orchard maintained through watering, pruning, applying manure and fertilizers, weeding and apply chemical for insects and disease.
- A total of 438 ha of orchards and woodlots were maintained and silviculture operations carried out, while 6,467 seedlings planted in 12.6 ha of orchards. The lower hectares planted is attributed to drought and dry spell the country has experienced.
- Training on nursery management conducted and 134 nursery staff attended the training.

12.3.1.5. WOOD INDUSTRY AND DEBUSHING

- De-bushing programme is currently being implemented in removing unwanted bushes from Government farms and Veterinary Cordon Fence with the aim to increase agricultural land productivity and accessibility to the Ministry's infrastructure and contribute to employment creation opportunities especially for the youth. A total of 4,872 ha cleared, costing N\$15,020,300 in government owned farms involving 1,113 people (123 female and 990 male).

The intervention aims at creating an enabling environment whereby wood based entrepreneurs can access wood resources for commercial purposes.

- The Ministry facilitated the harvesting of wood for the production of charcoal, poles, droppers, timber, roots, arts and craft and firewood through issuing of permits.
- The tender for leasing the wood marketing facilities was awarded.
- Completed Forestry Office buildings and staff accommodations at Khorixas and Okangwati (Kunene region), Mpungu (Kavango West region), Ndiyona, Hamoye and Mukwe (Kavango east region), Okatyali (Oshana region); Aminius, Ben-Hur, Otjinene and Epukiro (Omaheke region); Otjituuo and Otavi (Otjozondjupa region).
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12.3.1.6 FOREST AND BOTANICAL RESEARCH

The intervention aims to develop and implement forest research projects and provide technical/scientific services to the forestry sector.

- Two field-based research trials were established i.e. (a) A natural regeneration trial of indigenous tree species at Kanovlei. The aim of this study is to determine the potential of important indigenous woody species to regenerate in their natural environment. (b)

Thinning trial established at Kanovlei, Hamoye and Okongo. The aim of this trial is to determine the growth response of indigenous woody species when some of the existing woody individual plants are being removed.

- As part of the study requirements toward a Ph. D. (Botany) at the Swedish University of Agricultural Science, Ms Sonja Loots completed one scientific article that was published in the peer reviewed journal: South African Journal of Botany
- As part of the revision of the plant family Acanthaceae (plant family with the centre of endemism in Namibia) the following scientific articles are in first draft form and co-authored by staff from the National Herbarium of Namibia: The genus *Barleria* in Namibia and Angola, The genus *Rhinacanthus* in Namibia and Angola, The family Poaceae (grasses) of Namibia.
- Upgrading of wild fire service monitoring system. The service is primarily developed to receive real time data on wild fire for the purpose of monitoring and inform forestry regional staffs, farmers and other relevant stakeholder to take necessary actions to manage and control wild fire. The service is based on the MESA Wildfire Station, which features the AFIS Fire Terminal application developed by CSIR-Meraka institute in South Africa.
- Developed a training manual on Pre – Harvesting Inspection Using Technical Data (Google Earth) for DoF staff. The training focused on how to assess the forest resources availability in communal and commercial areas. This process is very well known as Pre-harvesting inspection that normally done in the field for the people who want to acquire harvesting permit of forestry resources. With this system the staffs can able to view the resources (tree/ bush) distribution in an areas remotely and able to do visual interpretation on cover percentage in terms of resources density distribution. In addition, tree species availability is important when issuing harvesting permit, since there is a need to know if the requested tree species is available in an areas and the range of abundance in an areas.

12.3.1.7. HUMAN RESOURCE DEVELOPMENT

The intervention focus on capacity build and support to the implementation of forestry programme and projects.

- Human resources management and services delivery has significant improved due to the appointment of staff at various levels namely Chief Forester –North East Forestry Regions, 3x Senior Forester – Nkurenkuru and NBRI, 2x Foresters at the National Remote Sensing Centre, Control Forestry Technician at Okahandja, Administrative Officer at Gobabis, 2 x Forest Rangers at Keetmanshoop, Forest Rangers at Katima Mulilo and Sibbinda, Forest Rangers at Onankali (1), Nkurenkuru (1), Outjo (1), Omaruru (1), Okangwati (1) and Otavi (2). The interviewee of 33 Forest Technician advertised positions conducted and 28 Forest technicians were appointed to various stations.
- 6 Staff members completed tertiary qualifications and posted at different duty stations.
- Training on Basic Stock Control offered by Ministry of Finance Asset Management for Administrative Officers.
- Nursery Management Techniques Training conducted and 160 DoF members especially those working in nurseries were trained on grafting and budding.
- Training on fire management and beekeeping conducted
- Training on forest inventory and GPS was conducted by National Forest Inventory and Remote Sensing Centre team.

- Staff members attended the International in-service training namely Training course on Tropical fruit and vegetable planting and processing technology for developing countries in 2015. The seminar on Environmental protection and management for officials from developing countries. Seminar on Trans-boundary Biodiversity Protection research and management for developing countries. The 2015 seminar on Green Economy and Environmental Protection for officials from Developing countries.
- World Forestry Congress held in Durban South Africa was attended by Forestry staff.
- Two staff members attended training on Capacity Building on adaptation climate change through Social Forestry, Nairobi, Kenya.
- Two staff members attended training on applying the ecosystem approach in integrated water resource management in Windhoek.

12.3.2. PLANNED ACTIVITIES FOR 2017/18

12.3.2.1 FOREST POLICY, PLANNING, LEGISLATION AND INFORMATION

The mission of the Directorate of Forestry is to practice and promote the sustainable and participatory management of forest resources and other woody vegetation, to enhance socio-economic development and environmental stability.

In order to achieve on the above, the following activities will be undertaken during the 2017/2018 Financial Year.

1. Development of Policy and Legislation

- Finalization the development and approval of the National Forest /Veld Fire Policy and Strategy

2. Community Forestry

- Complete the construction of community forests facilities at Ncumucara community forest, Katope community forest, Sikajabuka community forest, Nyae-nyae community forest and Ondjou community forest and equipped with appropriate equipment and tools for wood work.
- All the community forests with carpentry machine, and firewood machine will be supported to produce more and quality products and marketing thereof.

3. Tree Planting and orchard development

- Continue to maintain 438.6ha of existing orchard and woodlots across the country.
- Increase quality plant production for planting and sale to the public. Establishment of new fruit trees areas of 20ha in green scheme, while 30 ha expansion of Brandwagt orchards in Grootfontein. These areas will be fitted with irrigation system to reduce workload.
- In collaboration with Namibia University of Science and Technology in establishment of Moringa tree research plot at Siya Sub-section forestry station.

4. Forest Protection and Conservation

- Intensify awareness/information sharing/campaign on forest protection against fire and illegal forest operations by patrolling the forests and construct fire cut-lines to reduce the speed of forest fires.

5. De-bushing programme

- Implementation of the National Strategy on de-bushing
- Launching of Animal Feed production being implemented at Okondjatu in Okakarara Constituency Otjozondjupa region and Dordabis in Windhoek Rural Constituency, Khomas region

5. Infrastructure development

Inauguration of new Forestry Offices in the region

- Gobabis Forestry Offices – Omaheke region
- Aminius Forestry Office – Omaheke region
- Khorixas Forestry Office – Kunene region
- Ndiyona Forestry Office - Kavango East region
- Mpungu Forestry Office – Kavango West region
- Sibbinda Forestry Office - Zambezi region
- Okatyali Forestry Office – Oshana region
- Onankali Forestry Office – Oshikoto region
- Upgrade and equip tissue culture laboratory at Okahandja
- Start with the expansion of the NBRI building

6. The main activities for the Forest and Botanical Research program

- Establish research trials on value addition of non-wood forest products (Ximenia, marula and Aloe Zebrine)
- Assess and monitor land use and land cover change at national level
- Publish research findings on: 1. management of the mopane shrubland, 2. The use of earth observation on vegetation monitoring in all three state forests, 3. Taxonomic revision of Genera Barleria, Rhinacanthus, Thunbergia within the Acanthaceae family
- Revision of Flora of Namibia with emphasis on the following families Acanthaceae (herbs), Poaceae (Grasses), Asphodelaceae (Aloes)

12.4 CAPITAL PROJECTS

12.4.1 INTEGRATED FOREST RESOURCES MANAGEMENT AND DEBUSHING PROJECT

12.4.1.1 ACHIEVEMENTS FOR 2016/2017 (N\$ 129 600 000)

- Continue to maintain all field based research trials to ensure that crucial information is collected to assist with the management of forest resources.

- Fire bulletins were produced daily and monthly fire maps.
- Training on forest inventory techniques, GIS and Remote Sensing to staff and communities were conduct.
- Implemented and curate (NBRI) botanical garden, herbarium, National Plant Genetic Resources Centre (NPGRC), Economic Botany and threatened plants.
- Firefighting equipment and tools including fire beaters, high-pressure pumps, firebombs, drip torches, wind-driven knapsack sprayers and fire signboards to indicate fire-prone areas have been acquire. This equipment have been distributed to Constituency level in fire prone areas where local people will have easy access to this equipment.
- Local communities trained on how to use the firefighting equipment and tools.
- Forest fire awareness campaign will continue to make the people aware of fire management and clearing of fire cut-lines, extension messages will be developed in local languages and broadcasted through Namibia Broadcasting Cooperation during fire season.
- The Ministry continues to support farmers who want to farm with bees so as to diversify income-generating activities.
- Produce 150 000 seedlings from Government nursery for sale, donations, extension services, woodlots and orchard development.
- Plant 50 ha of orchard and woodlots with 50 000 seedlings.
- Maintain and management of 490 ha of woodlots and orchards.
- Support community on sustainable management and utilisation of forest resources through community forestry concept in the following regions: Otjozondjupa, Omaheke, Kunene, Omusati, Oshana, Oshikoto, Ohangwena, Kavango East and Kavango West and Zambezi region supported by Community Forest in Namibia phase II (CFN II) and Sustainable management of Namibia Forested Lands (NAFOLA) project.
- Firewood business, timber harvesting business, beekeeping, guinea fowls farming, wood carving and carpentry have been supported.
- The Ministry will continue to provide office spaces and accommodation at various locations for staff to be able to deliver services to the public. Staff accommodations and offices for new established offices as per new structure are; Epembe, Aranos, Kongola, Karibib. Omaruru and contribution to the construction of NBRI –SASCAL Centre.
- The Ministry finalise infrastructures at Onankali, Mukwe, Ndiyona, Mpungu, Khorixas, Karasburg, Okangwati, Ben-Hur, Aminius and Hamoye.

NOTE THAT N\$50 000 000 WAS TRANSFERRED TO OTHER CAPITAL PROJECTS SUCH AS NECKARTAL DAM PROJECT

12.4.2.1 PLANNED ACTIVITIES FOR 2017/2018 NEW

- The Ministry will continue with the implementation of different projects and programs.
 - Tree Nurseries management – install irrigation system in four (4) nurseries.
 - Establish eleven (9) tree nurseries at new forestry offices at Kongola, Ndiyona, Mpungu, Karibib, Epukiro, Ben-Hur, Aminius, Okatyali, Okangwati, Khorixas and Epembe.
- Raise 150,00 seedlings from government nursery for sale, donations for extension services,
- Propagate 50, 000 fruit trees (mangos, marula and citrus)
 - Plant 50 ha of woodlots and orchard development.
- Seed collection and processing
- Maintain and management of 490 ha of woodlots and orchards
- Carry out awareness campaigns on permits issuing, tree planting, fire management activities in various communities.
- Plant 20, 000 seedlings in 50 ha of orchard and woodlots country wide.
- Provide technical assistance to the Green scheme on the establishment of orchards
- Establish link with the AMTAs fresh hub for marketing of fruits from orchards
- Equip tissue culture laboratory and train staff and start operations of seedling production through tissue culture
- Prepare management plans for woodlots and orchards.
- Clear 3,500 km of old and maintain 1,500km new fire breaks
- De-bush 6,000 ha in commercial and communal areas.
- Conduct ten (10) forest inventory in community forests
- Declare eight (8) community forests
- Declare fire management areas
- Feasibility study for Omaruru Office including drawing and tendering
- Construct staff accommodation at Ongenga, Kongola, Epembe, Aranos, Karibib, Mariental
- Construct Offices: Aranos Forestry Office, Karibib Forestry Office
- Supervise and monitor the construction of 9 community facilities financially supported by KfW development partner
- Renovate and upgrade the current Eenhana Forestry office into a storeroom, Outapi bachelor flats and a house.
- Maintain research plots in all regions and collect research data as per set protocols.