





INDIGENOUS FOOD CROPS: OUR COMMON HERITAGE, OUR FUTURE



**SYMPOSIUM ON THE WATER USE AND NUTRITIONAL VALUE OF
INDIGENOUS AND TRADITIONAL SOUTH AFRICAN UNDERUTILISED
FOOD CROPS FOR IMPROVED LIVELIHOODS**

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SCOPE

- Introduction
- Overview of Crop Production Sector in S.A
- Food Security Challenges
- Challenges Facing the Sector
- Proposed Solutions
- Regulatory Framework
- Conclusions



INTRODUCTION

- The relationship between food crops and humankind goes back a long way back. It is said that about 12 000 years ago people began to make the transition from being hunters and gatherers to being farmers. They began to plant and care for the food they once gathered.
 - The domestication of food crops was also followed by the commercialisation of these crops.
 - In the process some of the crops were unfortunately left out and remained on the fringes of the food market. Many of the indigenous crops form part of this category.
 - The reality of the matter is that rural communities had continued the production of these crops.
 - Indigenous crops refer to crops that have their origin in South Africa or Africa.
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OVERVIEW OF SA'S CROP PRODUCTION SECTOR

- South Africa has a total land mass of 123 million hectare
- About 14% of South Africa is arable
- Only 1.35 million hectares is under irrigation.
- Plant production sector is the cornerstone of economic development and people's livelihoods.
- Major roles of the plant production sector:
 - ❑ Food production to ensure both national and household food security
 - ❑ Raw materials for the manufacturing sector
 - ❑ Fibre
 - ❑ Animal feeds
 - ❑ Earner of foreign exchange
 - ❑ Biggest employer
 - ❑ Major economic activity in rural areas
- Major commodities
 - ❑ Grains
 - ❑ Fruits
 - ❑ Vegetables
 - ❑ Industrial crops
 - ❑ Flowers and Ornamental plants
 - ❑ Indigenous food crops

CATEGORIES OF INDIGENOUS FOOD CROPS

The indigenous food crop categories:

- **Grains**
 - **Cereals:** pearl millet and sorghum
 - **Pulses:** cowpea, bambara groundnut, mung beans
- **Vegetables**
 - **Leaves:** amaranth, cleome, pumpkin, Chinese spinach, Jews mallow
 - **Tubers:** cassava, amadumbe, Livingstone potato, marama bean
- **Fruits** → marula, Kei-apple, wild medlar, monkey orange, num-num, mobola plum

GRAINS: CEREALS



GRAINS: PULSES



VEGETABLES: LEAVES



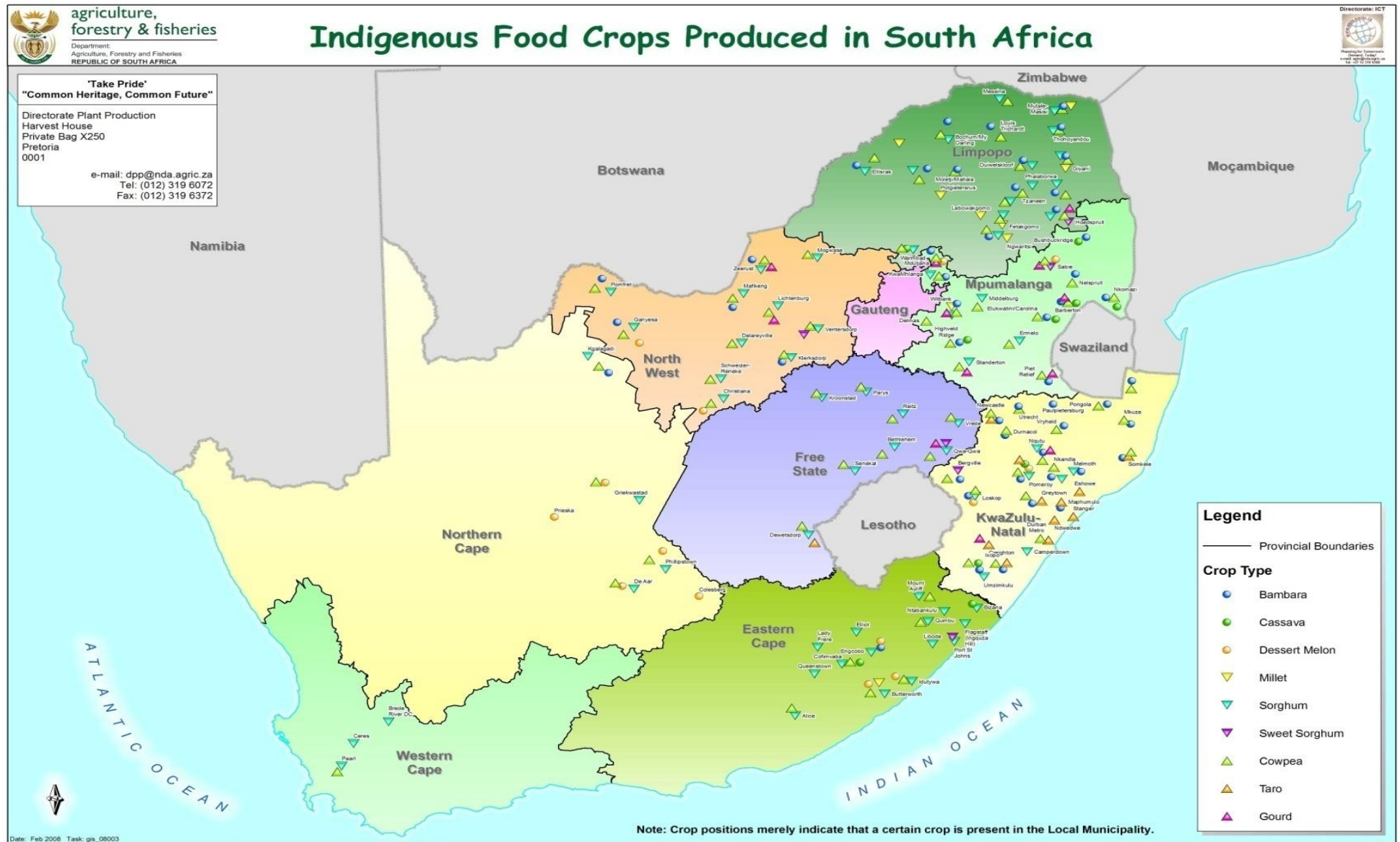
VEGETABLES: TUBERS/ROOTS



FRUITS



DISTRIBUTION OF CROPS THROUGHOUT SOUTH AFRICA



NATIONAL CHALLENGES

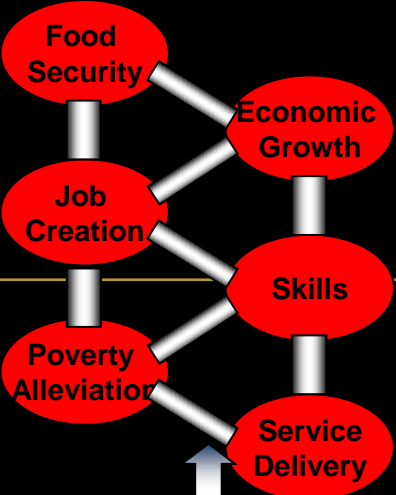
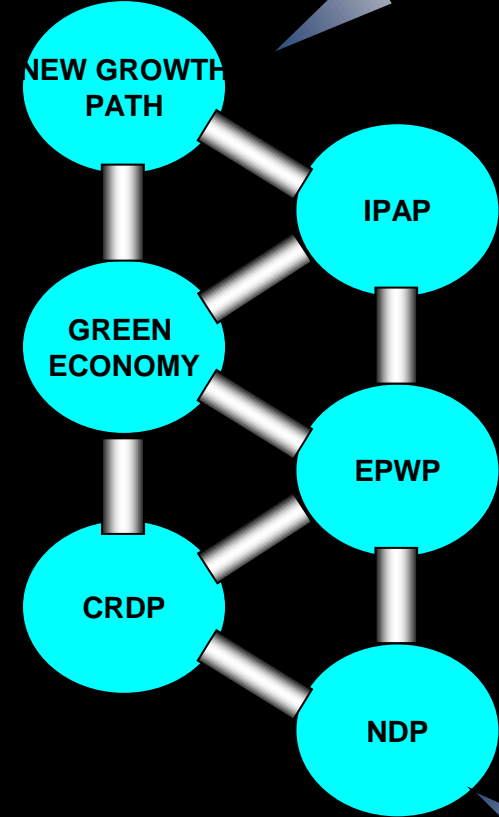
- **Poverty eradication**
- **Job creation**
- **Modernising the commercial farming sector**
- **Addressing the needs of subsistence and small-holder farmers**



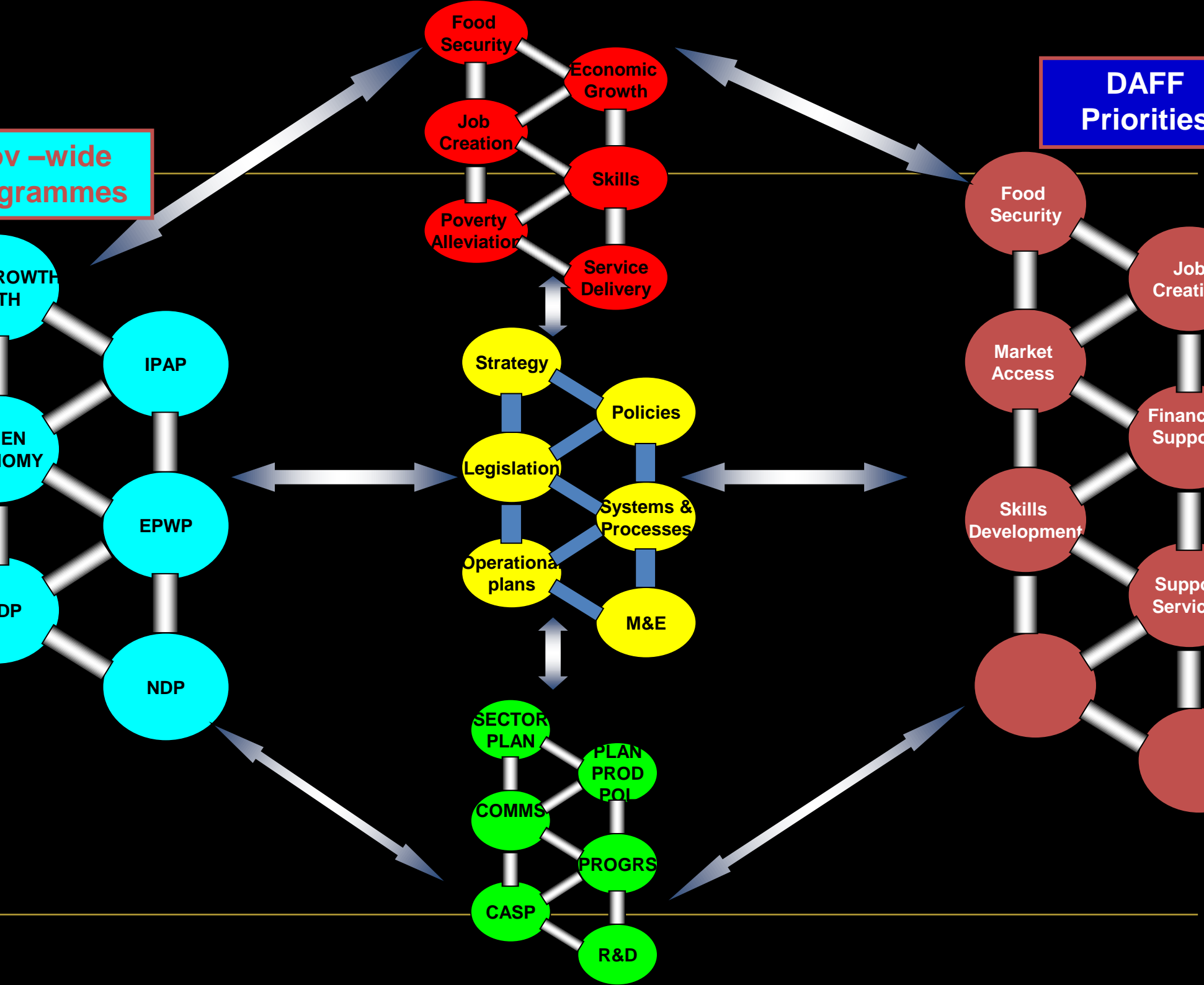
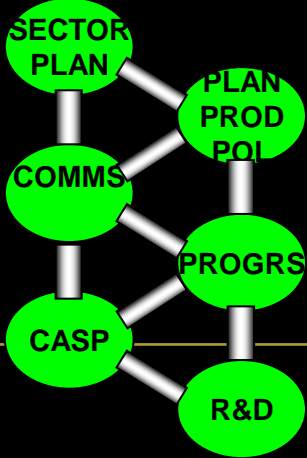
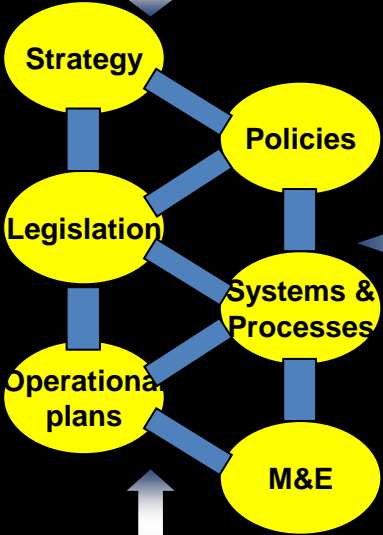
GOVERNMENT PRIORITY AREAS

- More inclusive economic growth, decent work and sustainable livelihoods
 - Economic and social infrastructure
 - Rural development, food security and land reform
 - Access to quality education
 - Improved health care
 - The fight against crime and corruption
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Gov-wide Programmes



DAFF Priorities



WHAT IS THE PROBLEM WITH SOUTH AFRICAN FOOD SECURITY SITUATION?

-  On a national scale South Africa produces enough food.
-  The country is also a net exporter of most food crops.
-  About 14 million people in South Africa are food insecure.
-  Food system based on few crops
-  Too much reliance on maize
-  Decline in household food production
-  Negative perception that indigenous food crops are for poor people

WHY INDIGENOUS FOOD CROPS ?

- South Africa has one of the greatest biodiversities in the world. South Africa has the third largest biodiversity in the world. These natural assets are located throughout South Africa and often abundant in the rural areas where poverty is most acute.
 - It is in these rural areas where indigenous foods form an integral part of rural livelihoods. People depend on indigenous foods to compliment diets and as a survival mechanism in times of hardship and drought. This reliance on indigenous foods brings with it a large indigenous knowledge base in the use and processing of natural products.
 - Global competition and adverse climatic conditions has made South African agriculture a generally marginal activity.
 - While South Africa has focused little if any attention on our indigenous food species the rest of the world have taken note of their potential. So for instance has *Dovyalis caffra* (kei apple) been cultivated in California and various named cultivars exists. Horned melons (*Cucumis metuliferus*) are produced commercially in New Zealand, France, Israel, California and exported widely across the world.
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IMPORTANCE OF INDIGENOUS FOOD CROPS

- Providing alternative more robust crops in the event of climate change
- Long term food security option
- Resources to maintain cultural heritage and practices
- Buffering against poverty in rural areas during droughts and other crop failure events
- Supplying of essential micro-nutrients in rural households
- Novel crops for food industry – especially breakfast cereals
- Potential market opportunities for new products
- An additional income source to rural communities in woodlands where wild fruit trees are abundant

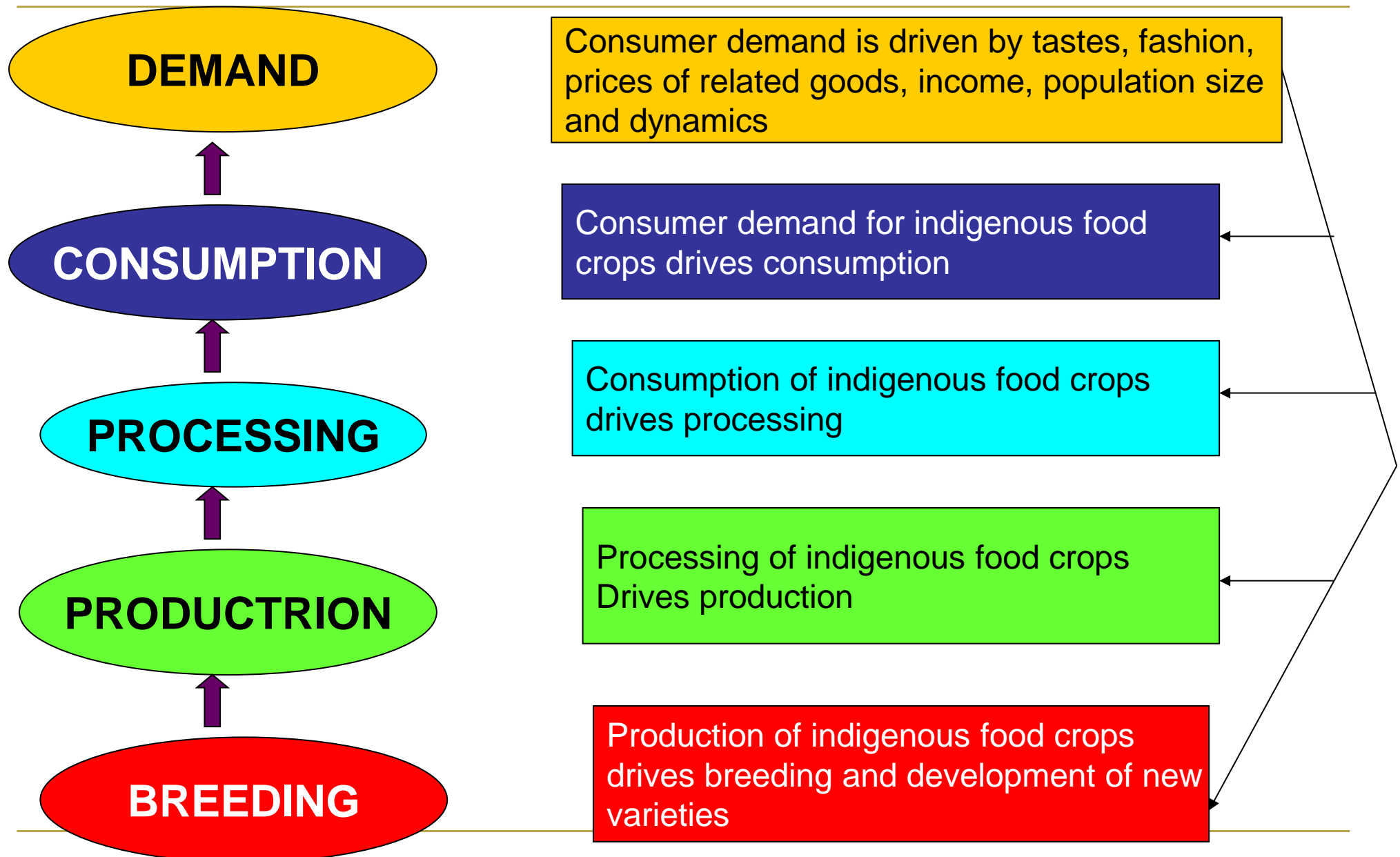
CHALLENGES FACING THE INDIGENOUS FOOD SECTOR

SHORTAGE OF SEED AND OTHER PROPAGATING MATERIAL	There is no formal seed supply system for many indigenous crops. The seed industry, research institutions and the nursery industry had neglected these crops for many years. As a result, farmers had been keeping seed for many years from one planting season to the other.
DECLINE IN CONSUMPTION AND PRODUCTION	There had been a remarkable decrease in consumption of indigenous crops. The decline in consumption of indigenous crops led to reduction in the production of these crops.
LACK OF VALUE-ADDING TECHNOLOGIES	Most of indigenous food crops are largely consumed unprocessed due to shortage of appropriate processing technologies for such crops. Lack of processing technologies makes it difficult for the sector to cater for changing needs of consumers and to compete with other food products.
MARKETING PROBLEMS	Despite the nutritional and economic value of these crops, they were never commercialised. The lack of advancement of these crops is amongst other underlying reasons why the food crops have never entered the market.
THREATENED SPECIES	The vast majority of these crops are still harvested from the wild and therefore this makes them vulnerable to over-exploitation. This may result in extinction of the species from natural occurrence especially that there is little effort to protect and conserve these species.

NEGATIVE CONSEQUENCES FOR IGNORING INDIGENOUS FOOD CROPS

- Loss of genetic resources (which could play a role in future agriculture especially given the advent of climate change)
 - Loss of culturally important plants (plants used for cultural practices)
 - Loss of important food resources (fruit trees declining in numbers and diversity)
 - Lack of awareness of trade opportunities
 - Lack of investment in R&D in regard to indigenous foods plants
 - Narrow focus of commercial agric sector which largely excludes indigenous foods crops
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VALUE CHAIN OF INDIGENOUS FOOD CROPS



REGULATORY FRAMEWORK FOR INDIGENOUS FOOD CROPS

- The overall foundation of a regulatory framework is the Policy on Indigenous Knowledge System driven by the Department of Science and Technology.
 - DAFF developed the National Strategy on Indigenous food Crops to deal directly with the challenges facing the sector.
 - The strategy has 5 key objectives:
 - Support research and technology development of these crops
 - Promote and support sustainable production of indigenous food crops
 - Promote consumption of indigenous food crops by creating awareness on their value and their nutrition.
 - Improve productivity and profitability of indigenous food crops through market development on both local and export
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BUILDING BLOCKS FOR A PROSPEROUS AND SUSTAINABLE INDIGENOUS FOOD CROP SECTOR

GOVERNMENT

- Policy framework
- Regulations
- Extension and advisory services

RESEARCH INSTITUTIONS

- Breeding programmes
- Development of new technologies
- Product development
- Technology transfer

TRAINING INSTITUTIONS

- Curriculum development
- Formal and informal training programmes
- Outreach programmes

PRIVATE SECTOR

- Seed supply systems
- Product development
- Processing and value addition
- Marketing and distribution

CONCLUSION



- + Indigenous food crops cannot be ignored forever**
- + Opportunities for new products and markets**
- + Diversification of the food basket**
- + Increased global competitiveness**
- + We have a choice to make:**
 - We snooze, we lose**
 - We wake up, we grab the opportunities**

THANKS

