Assessment of Southern and Eastern African countries for vegetable and flower seed production by U.S. companies

August 2020

EMEA Agri.

TABLE OF CONTENTS

SUMMARY

Overview

The countries in the region were summarized individually to enable members of ASTA to determine the potential interest to use Africa as a vegetable and flower seed production destination. These are attached to the document on a country by country basis.

If we consider the seed environment in Africa, maize is the dominant food crop in the region. It receives the most attention from governments in most African countries. Other field crops such as dry beans, sorghum and cow peas are also well documented. Maize can be described as a political crop in most African countries, with governments taking a key interest in the production and availability of high quality seed to local farmers. The governments vary their interest and involvement in vegetables seed segment. In general, vegetable seeds are imported and regulations are mainly focused on seed quality at the time of import.   Most African countries determine that two years after packing, vegetable seed need to be removed from sales or retested. Flower activity is very limited in the region with some production for European seed and fresh market customers.

Field crops are in general stimulated to be produced in the country of sale. Although, some cross border sales are made from key production countries (Zambia developed as a regional production hub for field crops). As stated, vegetable seed is mainly imported and regulations are in general based more on quality (germination and purity by an OIC), phytosanitary regulations and reliability of supply. Although substantial volumes of vegetable seed are produced in South Africa and Tanzania, most of the seed is exported to the quality and distribution hubs of international seed companies and re-exported to the markets including theoretically the country of production.

Countries showing a clear interest in contract vegetable seed production include Zimbabwe, Rwanda and Uganda. These countries either have already or are in the process of implementing the appropriate infrastructure and resources to comply with international standards to produce vegetable seed locally and export to IP holders. Interests are not only from government institutions, but also from potential producers.

COMESA is a regional body who are in the process of trying to harmonize the seed laws to allow easier and more efficient movement of seed. Member countries are in the process to align their seed laws to allow the easier movement of seed. SADC is attempting similar actions with their member countries and positively can be noted that some countries are part of both groupings.

Conclusion

Currently South Africa and Tanzania are substantial producers of vegetable seed. Rwanda, Uganda, Zimbabwe, and Kenya are well positioned to be developed into vegetable and flower seed producers of substance. Additionally, Zambia should be monitored and reconsidered for further potential in vegetable seed production. Several countries have an interest in high quality indigenous vegetable seed varieties. There is a clear opportunity to enhance this capacity.   This seed is currently produced under small projects in several countries. If the quality of this seed can be improved, it can help to enhance better yields.

Methodology

Due to COVID-19 related travel restrictions, the company reviewed its normal project strategy (two or three key people to conduct all interviews and research on a project) and decided to use a slightly adapted process. EMEA used a much wider team of locally based people to conduct the investigations and interviews and give feedback to the project leader of this assignment.

The team of locally based contributers consisted of employees and contracted collaborators. EMEA Agri is a team of seasoned seed and agricultural professionals based in various countries in Africa. They have a very close knowlegde of the local systems and conditions, access to local government officials to interview, and can provide local industry views. A few local collaborators known to the team were contracted in the other countries to interview government representatives, seed associations, and some private seed companies on key questions required to compile the report. An office-based person was also used to collect all statistical data used in the country overview (Source: mainly FAO statistics, CIA Worldbook) to compare the size, population, ease of doing business, corruption etc.

Countries included in this study

- Angola
- Botswana
- Burundi
- Democratic Republic of the Congo
- Eswatini – Swaziland
- Kenya
- Lesotho
- Malawi
- Mozambique
- Namibia
- Rwanda
- South Africa
- Tanzania
- Uganda
- Zambia
- Zimbabwe

Abbreviations

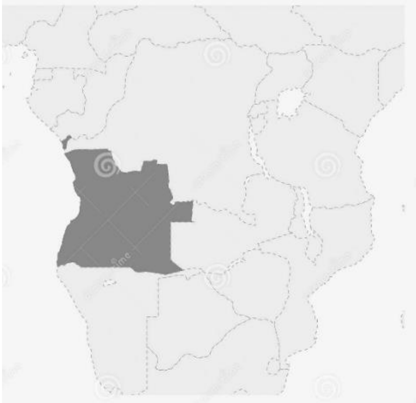
ISTA: International Seed Testing Authority
OECD: Organization for Economic Development
AFSTA: African Seed Trade Association
COMESA: Common Market for Eastern and Southern Africa
UPOV: International Union for the Protection of New Varieties of Plants
SADC: South African Development Community

ANGOLA (ANG)

SNAPSHOT

Angola is rich in petroleum and diamond reserves, but this led to a large divide between rich and poor citizens. Rural people are suffering due to lack of skill, correct inputs, and rural development. After the Portuguese colonial farmers left post independence, agricultural production was on a downward spiral.

Angola has some of the most fertile land and growing conditions in the region, but the country potential is not reflected in the current state of agriculture.



COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	31 127 674	46th
Size (Square Mile)	481 400	22nd
Life expectancy	61.3	213th/228
Median age	15.9	226th/228
Official Language	Portuguese and 4 native languages	
Currency	Kwanza	(AOA)
Literacy index	71%	12th / 16
Ease of doing business	40th / 48 (Sub Sahara Africa)	177th / 190
Corruption Ranking	36th / 54 (Africa)	146th / 180
GDP per capita (PPP)	$ 6 658	5th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

Government is very actively involved in the field seed market in supplying a big portion of the seed to the farmers for free. Almost all new seed planted is supplied by the government, but Angola recorded one of the highest cases of Farm Saved Seed in the world which leads to lower yields. Vegetable seeds are sold directly from the dealer to the farmer. The income derived from the natural resources reduced the focus on agriculture.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

Several NGO's are active, and several large projects from external funders are done to stimulate local commercial farming.

FARMER PROFILE

The rural community (80% of total population) is dependent on small-scale farming for food. (app. 1 hectare farm). Productivity is very low, which results in limited local food availability. Large commercial farms are mainly run by foreigners on a program to attract investment in agriculture. Difficulty to obtain sustainability after these foreigners leave remains one of the challenges.

EXPORTS

Historically coffee was exported, but this is becoming a smaller industry due to the gradual demise of coffee fields. Low agricultural productivity is inhibiting growth and limiting exports of agricultural products.

LOCAL CONSUMPTION

Angola is not able to produce sufficient food for its own needs and large quantities of produce are imported every year. Most seeds are imported, including maize and other field crops. Vegetable seeds are also imported, and no local production of vegetable seed is noted. The Portuguese culture is also noted in the type of vegetables consumed including tomato, onion, kale, peppers etc.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	No
OECD	No
AFSTA	No
COMESA	No
UPOV	No
SADC	Yes
Seed Association:	None official
Seed Regulatory body:	National Seed Service
Department of Agriculture:	Ministry of Agriculture www.angola-portal.ao/MINADER/Default.aspx (+244 222) 322377

IMPORT REQUIRMENTS

A local registered seed merchant should apply for an import permit, phytosanitary certificate, Germination certificate (OIC), fumigation certificate, seed treatment certificate, non-GMO certificate, invoice. It is also recommended to obtain a Letter of Credit as currently Angola has a currency shortage (mainly due to low oil prices).

EXPORT REQUIREMENTS

Exports are limited but an Import permit from the destination country is required.

LEVEL OF ENFORCEMENT OF RULES

Strong enforcement is done on imports, but local production is limited and therefore enforcement also restricted.

SEED PRODUCTION INFRASTRUCTURE

Very little seed production infrastructure exists. The country has no culture of seed production and are in almost all crops depended on imports.

CONCLUSION

Angolan farmers and government have a low commitment to sustainable agriculture. It is not recommended to consider Angola as a vegetable seed production destination.

BOTSWANA (BOT)

SNAPSHOT

Botswana is located at the center of Southern Africa, positioned between South Africa, Namibia, Zambia, and Zimbabwe. Botswana was one of the world's poorest countries at its independence in 1966, but it is rapidly becoming one of the world's development success stories. The largest part of Botswana stretches over the Kalahari Desert and Okavango swamps. This African country has the highest GDP per capita, runs effective operations and has an impressive ranking in combating corruption.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	2 254 068	145th
Size (Square Mile)	224 610	47th
Life expectancy	64.8	197th/228
1197th/Median Age	25.7	157th/228
Official Language	English and Setswana	
Currency	Pula	(BWP)
Literacy index	89%	2nd / 16
Ease of doing business	6th /48 (Sub Sahara Africa)	87th / 190
Corruption Ranking	2nd / 54 (Africa)	34th / 180
GDP per capita (PPP)	$ 17 024	1st / 16

ROLE OF GOVERNMENT IN AGRICULTURE

Sorghum is a key crop and farmers receive a subsidized price from government. Seed is also distributed yearly to small-holder farmers. Vegetable seed are traded freely with little government involvement. Seed is mainly imported from various countries.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGO's have little to no involvement in Botswana. The participation of NGO's is limited to small projects.

FARMER PROFILE

Commercial crop farmers are based in cluster concentrated areas, for example Panamatenga. These farmers mainly serve as commercial sorghum farmers. Livestock farmers are based across the country and small vegetable farmers are located closer to major cities. Botswana farmers are made up of approximately 88% small-scale farmers and 9% commercial farmers.

EXPORTS

Botswana is reported to be a large exporter of meat products, with limited scope in exporting commercial vegetable produce. There is no evidence of commercial vegetable seed production activities in Botswana and therefore seed exports are not high on the country's priority list.

LOCAL CONSUMPTION

Botswana is a net importer of food, especially fresh vegetables and produce. Local productions in Botswana are limited to tomatoes, cabbage, and onions. However, like most African countries, it is challenging to produce enough for total population.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	Yes
OECD	No
AFSTA	No
COMESA	No
UPOV	No, member of SADC and ARIPO and are in process to adapt laws
SADC	Yes
Seed Association:	None
Seed Regulatory body:	Department of Agricultural Research (DAR)
Department of Agriculture:	Ministry of Agriculture www.gov.bw (+267) 3689113/ 3689115/ 3689116

IMPORT REQUIRMENTS

The local registered seed merchant needs to apply for a seed import permit, a phytosanitary certificate, fumigation certificate, Non-GMO certificate, seed treatment certificate, invoice.

EXPORT REQUIREMENTS

No exports of seeds and vegetables are done. In general, import permit from the destination country is required.

LEVEL OF ENFORCEMENT OF RULES

Botswana is a well-managed country with proper systems and law-abiding citizens.

SEED PRODUCTION INFRASTRUCTURE

No real seed production infrastructure is in use in Botswana, barring some open-pollinated variety maize and sorghum production. No vegetable seed production infrastructure is available in the country.

CONCLUSION

Botswana is currently not suited for vegetable seed production.

BURUNDI (BUR)

SNAPSHOT

Burundi is a small landlocked country nestled between Rwanda, DRC, Tanzania. The country is one of the most densely populated countries in Africa with more than 85% of the people living in rural areas. Burundi is a tough country to live in, as the World Happiness Report of 2018 rated it in last of 156 places to live.

Burundi also has two planting seasons, generally a very good agricultural environment but currently the development of the country does not reflect the potential of the country.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	11 865 821	84th
Size (Square Mile)	10 747	142nd
Life expectancy	66.7	184th / 228
Median Age	17.7	218th / 228
Official Language	Kirundi and French	
Currency	Franc	(BFU)
Literacy index	85.6%	5th / 16
Ease of doing business	33rd / 48 (Sub Sahara Africa)	166th / 190
Corruption Ranking	46th / 54 (Africa)	165th / 180
GDP per capita (PPP)	$ 735	16th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The country was introduced to formal seed systems in the early part of this century, and the systems are still relatively new. Government determines the policies and regulations and does the monitoring, but most seeds are still imported into the country. The government has a very limited role in the commercial agriculture but has committed an increase in spending on agriculture to assist the development of the farmers.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

Several NGO's are active to help to stimulate the agricultural production and increase the livelihood of the people of Burundi.

FARMER PROFILE

90% of the total population of the country is involved in small scale farming. Most farms are poorly developed and lack inputs. The country has an excellent environment for agricultural production, but more than 50% of the people are malnourished.

EXPORTS

Agricultural exports are limited to coffee (approximately 60%), tea, sugar, and cotton.

LOCAL CONSUMPTION

The country is not able to produce enough food (although the country should have the agricultural potential) and imports of all the major commodities are required. Bananas are the major local crop, but vegetable production for local consumption is a major source of food.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	No
OECD	No
AFSTA	No
COMESA	Yes
UPOV	No
SADC	No
Seed Association:	Burundi Seed Trade Association (COPROSEBU),
Seed Regulatory body:	National Seed Quality Control and Certification (ONCCS)
Department of Agriculture:	Ministry of Agriculture www.burundi-gov.bi/minagrie +257 2222 2087 / +257 2222 5141

IMPORT REQUIRMENTS

An import permit issued to local seed merchants, phytosanitary certificate, fumigation certificate, seed treatment certificate, non-GMO certificate, germination certificate, and invoice are required.

EXPORT REQUIREMENTS

Import permit from receiving government are required. No seeds are exported from the country in a formal manner.

LEVEL OF ENFORCEMENT OF RULES

Strict regulations are in operation on formal seed imports. Very limited enforcement of local seed production occurs due to limited success in sector. Corruption is high in the country, which inhibits growth opportunities.

SEED PRODUCTION INFRASTRUCTURE

Seed production infrastructure is very limited and for all practical purposes, not in effective function status. The government is trying to stimulate and introduce seed production and seed processing, but the success rate is very low.

CONCLUSION

Burundi is not suitable to investigate investment in seed production due to the status of agricultural development, local skillset, and macro-economic environment in the country.

DEMOCRATIC REPULIC OF THE CONGO (DRC)

SNAPSHOT

DRC is the most populated and largest country in this review, but probably the least accessible country in the region. The country is partly in civil war, and a big portion of the country is serviced from neighboring countries with seeds and inputs due to security reasons. Corruption and violence are high, and the average income is very low. This country has excellent potential as the climate, soil types and rainfall are excellent to grow crops almost all year, but the level of corruption, and poor infrastructure is withholding the growth opportunities of the country.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	101 780 263	15th
Size (Square Mile)	905 567	11th
Life expectancy	61	216th / 228
Median Age	16.7	223rd /228
Official Language	French – 4 Native	
Currency	Franc	(CDF)
Literacy index	77%	10th / 16
Ease of doing business	44th / 48 (Sub Sahara Africa)	183rd / 190
Corruption Ranking	46th / 54 (Africa)	165th / 180
GDP per capita (PPP)	$ 889	15th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government has limited influence on agriculture in a commercial role but determines the import requirements. Most seed travels freely across borders because of the corrupt systems in place.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGO's show a level of presence however have a limited role in Agriculture.

FARMER PROFILE

The farmer profiles consist of about 300,000 commercial farmers (10 – 250 hectares) and approximately 4 million families involved. In subsistence farming (average size 1.5 hectare), main crops include cassava, coffee, maize, sorghum, and sugar. Vegetables are used but are a small crop. Onions, tomatoes, and peppers are the primary vegetable crops.

EXPORTS

The main agricultural exports are coffee, sugar, rubber, palm oil and cacao. The country is a net importer of food because it cannot supply its own needs.

LOCAL CONSUMPTION

Local consumption exceeds the production of food crops. Cassava is the staple. Maize, sorghum, and beans are the key crops. The country has a great opportunity to increase local production in the future to satisfy its own demand.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	No
OECD	No
AFSTA	Yes
COMESA	Yes
UPOV	No
SADC	Yes
Seed Association:	Association Interprofessionnelle des Semences du Congo (AISC) bukasapierre@gmail.com
Seed Regulatory body:	Direction in charge of the Production and Protection of Cultural Varieties (DPPV)
Department of Agriculture:	The National Seed Service (SENASEM);

IMPORT REQUIRMENTS

An import permit obtained by local seed merchants, phytosanitary certificate, seed treatment certificate, germination certificate, and invoice are required.

EXPORT REQUIREMENTS

Only fresh produce is exported. Export of seed not an option. An import permit from the country of export is required.

LEVEL OF ENFORCEMENT OF RULES

The enforcement of rules is under a very corrupt system.

SEED PRODUCTION INFRASTRUCTURE

Very limited infrastructure for seed production of any type. Several attempts to produce seeds by a few local companies were done, but with very limited success.

CONCLUSION

DRC is not a suitable country to consider for vegetable seed production.

ESWATINI (SWAZILAND)

SNAPSHOT

Eswatini (previously Swaziland) is the smallest country in the overview. The country is landlocked between South Africa and Mozambique. More than 65% of the countries' residents are living below the poverty line.

The country has two distinct farming systems: commercial estates, and small-holder farmers. These are run on very different sides of the spectrum.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	1 136 281	155th
Size (Square Mile)	6704	153rd
Life expectancy	58.6	220th/ 228
Median Age	23.7	174th/ 228
Official Language	English and Eswatini	
Currency	Swazi Lilangeni (SZL)	(SWL)
Literacy index	87.5%	3rd / 16
Ease of doing business	14th / 48 (Sub Sahara Africa)	121st /190
Corruption Ranking	22nd / 54 (Africa)	113rd / 180
GDP per capita (PPP)	$ 8 659	4th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

Government is determining the policies and strategies while monitoring the implementation. Small-holder farmers are assisted when buying the maize for their farms.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGO's are active, but not on a large scale due to the size of the country.

FARMER PROFILE

Eswatini is the 4th largest producer of sugar and major commercial farms are in operation to produce sugarcane, forestry, and citrus. Seventy percent of people are working in agriculture, adding about 300,000 small-scale farmers. They are farming with maize and other crops including beans.

EXPORTS

Exports are driven by the commercial farms and are focused on sugar, forestry, and citrus.

LOCAL CONSUMPTION

The country is not able to produce enough food and large quantities are imported primarily from South Africa.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	No
OECD	No
AFSTA	No
COMESA	Yes
UPOV	No
SADC	Yes
Seed Association:	None
Seed Regulatory body:	Ministry of Agriculture (+268) 2404 2731 /9/ 6362
Department of Agriculture	www.gov.sz/index.php/ministries-departments/ministry-of-agriculture

IMPORT REQUIRMENTS

Seed is mainly imported from South Africa, Zimbabwe, and Zambia. No formal seed production is done in the country, although it was attempted several times with field crops. A local registered seed merchant should apply for an import permit, phytosanitary certificate, germination certificate (OIC), fumigation certificate, seed treatment certificate, non-GMO certificate and invoice.

EXPORT REQUIREMENTS

No seed is exported, but an import permit from the country of destination is required to obtain the documentation.

LEVEL OF ENFORCEMENT OF RULES

A reasonable level of compliance is observed in the country.

SEED PRODUCTION INFRASTRUCTURE

No seed productions of substance are in operation in Eswatini. The government established a seed cleaning plant to clean local produced seed, but this was not successful. Some raw seed is now imported from Zimbabwe and Zambia and packed in Eswatini for local consumption and occasional re-export.

CONCLUSION

The country is not suitable for vegetable seed production because of a lack of proper systems, good farmers, and ability to create sustainable systems.

KENYA (KEN)

SNAPSHOT

Kenya is the regional commercial hub of East Africa. The country is located on the equator (5 degrees north and south) and the high elevation of Nairobi (main city) creates an ideal climate. Many multi-national companies host their regional offices in Nairobi. Big investments are made in buildings, but traffic congestion and stressed supporting infrastructure remains one of this city's biggest challenges. The economy is the third largest in Africa (after Nigeria and South Africa). Tourism, coffee, tea and exports of fresh produce and flowers highlight Kenya as a notable country of opportunity in Africa.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	47,564,296	29th
Size Square Meter	224,081	48th
Life expectancy	69	173rd / 228
Median Age	20	196th / 228
Official Language	English	Swahili
Currency	Kenya shilling	(KES)
Literacy index	82%	6th / 16
Ease of doing business	3rd / 48 (Sub Sahara Africa)	56th / 190
Corruption Ranking	32nd / 54 (Africa)	137th / 180
GDP (PPP) per capita	$ 4 071	6th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

Government is an active player through its parastatal company, Kenya Seed, a major player in the region. The government agency administrating the seed systems is KEPHIS. KEPHIS administers the registration, production, import, export, and monitoring sales of seed in Kenya. KEPHIS is well managed.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGO's are very active with major regional offices based in the country. Several projects to improve the livelihood of small-holder farmers are active.

FARMER PROFILE

It is estimated that Kenya has approximately 3.5 million small-holder crop farmers. Several large export farming units are in operation, and they also operate an outgrowing scheme with small-scale growers to allow these products to be exported. Vegetable production with small-holder farmers are very regional, because approximately 80% of the land is an arid or semi-arid environment.

EXPORTS

Agricultural exports contribute to approximately 50% of total exports from Kenya with tea, coffee, and horticultural produce as the leaders. Exports are primarily to neighboring countries, UK, Europe, and Asia. Kenya has good systems and infrastructure to enable it to be a major agricultural exporter. Kenya is also a major exporter of seeds to the neighboring countries like Uganda, Rwanda, DRC, Burundi, Somalia, and Sudan.

LOCAL CONSUMPTION

The country produces normally enough food for its own consumption, barring major droughts that require periodic import. Major vegetables are tomato, onion, cabbage, and some indigenous vegetables.

REGULATORY SYSTEM

VARIETY LISTS	Yes, Note new certification or OECD requirement on imported seed
ISTA	Yes
OECD	Yes
AFSTA	Yes
COMESA	Yes
UPOV	Yes
SADC	No
Seed Association:	Seed Trade Association of Kenya (STAK): www.stak.or.ke
Seed Regulatory body:	Kenya Plant Health Inspectorate Service (KEPHIS) www.kephis.org
Department of Agriculture:	Ministry of Agriculture: www.kilimo.go.ke/ +254-20-2718870

IMPORT REQUIRMENTS

Local seed merchants should obtain an import permit, phytosanitary certificate, fumigation certificate, germination certificate (OIC), non-GMO certificate, seed treatment certificate, and invoice. The system is now completely electronic and can be accessed through the website: http://ics.kephis.org/. A new regulation requires vegetable seed to be produced under OECD or certification to imported. This is still very new, and implementation is under review.

EXPORT REQUIREMENTS

An import permit from the importing country and registered fields with KEPHIS allow issuing of required documents. This can be viewed at www.kephis.org.

LEVEL OF ENFORCEMENT OF RULES

KEPHIS is a well-organized and strict implementing agency. Formal trade is well regulated with good systems and well-trained personnel. Informal seed markets are always more complicated to regulate, but the general view is that Kenya has good regulatory systems, which are strictly enforced.

SEED PRODUCTION INFRASTRUCTURE

Large quantities of field seeds are produced under certification. Very good supply chains and infrastructure exist in Kenya. Vegetable seed production is limited to small production of hybrid seed by multi-national companies with limited success. Limited OPV vegetable seed by some local vegetable seed companies and indigenous vegetable seed are produced via projects or vegetable seed companies. Limited infrastructure is in existence for vegetable seed production, but companies remain interested to increase vegetable seed production in country.

CONCLUSION

Kenya holds opportunity to be used for vegetable seed production, but some serious development work is required to train people and create the correct infrastructure to accomplish this.

LESOTHO (LST)

SNAPSHOT

Lesotho is a small, land-locked country surrounded by South Africa. A large portion of the country is situated in the highest mountain range in the region; therefore, it is referred to as the Mountain Kingdom. The whole country is 1000m above sea level and 59% of the country is mountainous. The country has a very limited development in the seed industry and is obtaining almost all its seed from South Africa. The country is mainly used for livestock farming with winter wheat, maize, and some additional products. Very limited vegetable use exists.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	2 108 328	144th
Size (Square Mile)	11 720	137th
Life expectancy	53	227th / 228
Median Age	24.9	164th / 228
Official Language	English and Sesotho	
Currency	LotI	(LSL)
Literacy index	79.4%	9th / 16
Ease of doing business	15th / 48 (Sub Sahara Africa)	122nd / 190
Corruption Ranking	14th / 54 (Africa)	85th / 180
GDP per capita (PPP)	$2 932	9th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

Government is determining policy, regulatory and monitoring functions. The government is also very involved in the commercial segment of agriculture by supplying large quantities of maize and wheat seed to the small-scale farmers. Vegetable is a small market put peas are planted on a fairly large scale.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

Several NGO's are active in the country and seed is also supplied by several major NGO's like FAO, World Vision, and others.

FARMER PROFILE

Farmers are mainly livestock and wheat producers with a very limited exposure to vegetable production. The country has a limited development is the seed sector. Seed production was attempted in country but with limited to no success. Farm-saved seed is still estimated as approximately 80% of the market.

EXPORTS

Exports are limited to wool with no real exports for vegetables.

LOCAL CONSUMPTION

Lesotho cannot produce sufficient food for its own consumption and large quantities of food are imported. Several aid agencies help to import food.

REGULATORY SYSTEM

VARIETY LISTS	Yes	Open list on vegetables
ISTA	No	
OECD	No	
AFSTA	No	
COMESA	No	
UPOV	No	
SADC	Yes	
Seed Association:	No	
Seed Regulatory body:	Department of Agricultural Research. Tel: +266 22324651	
Department of Agriculture	https://www.gov.ls/ministry-of-agriculture-and-food-security/	

IMPORT REQUIRMENTS

Seed are mainly imported from South Africa. A seed import permit issued to a local seed merchant, phytosanitary certificate if required (normally not required for seed from South Africa), fumigation certificate, seed treatment certificate, germination certificate (ISTA accredited), non-GMO certificate, and invoice are needed.

EXPORT REQUIREMENTS

Exports are limited due to the nature of the production capacity. Most products are exported to South Africa with minimum requirements.

LEVEL OF ENFORCEMENT OF RULES

Strong regulations on important are appliable, but most seed is farm-saved seed, so it is not existing on locally produced seeds.

SEED PRODUCTION INFRASTRUCTURE

No notable seed production infrastructure is in existence. Several attempts were made to establish local seed production, but none was successful.

CONCLUSION

The country is not suitable for vegetable seed production.

MALAWI (MAL)

SNAPSHOT

Malawi is a landlocked country nestled between Zimbabwe, Zambia, Tanzania, and Mozambique. It is one of the poorest countries in the region and has trouble to sustaining itself. The country relies on foreign aid to remain relevant.

Malawi has an exceptionally high population growth, and this adds to the already limited infrastructure. Electricity and other key infrastructure are in short supply, which limits growth opportunities.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	19 129 952	62nd
Size (Square Mile)	45 747	98th
Life expectancy	63.2	205th / 228
Median Age	16.8	222nd/ 228
Official Language	English- 8 native languages	
Currency	Kwacha	(MWK)
Literacy index	65.80%	14th / 16
Ease of doing business	10th / 48 (Sub Sahara Africa)	109th / 190
Corruption Ranking	26th / 54 (Africa)	123rd / 180
GDP per capita (PPP)	$ 1 205	14th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government is actively involved in determining policy, regulations and monitoring the activities. The government operates several subsidized programs to enhance food production.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

Several NGO's are active to assist farmers.

FARMER PROFILE

The country has about 2 million small holder farmers on an average of 2.25 hectares of farmland. Almost 80% of the residents are dependent on subsistence farming, but agriculture only contributes to approximately 27% of the GDP. This is mainly caused by low yields and minimum inputs by farmers.

EXPORTS

Approximately 90% of the total exports of the country are derived from tobacco, tea, and sugar. The country is heavily dependent on tobacco to obtain forex. The decreasing market for tobacco put further pressure on the currency and reserves.

LOCAL CONSUMPTION

In normal years, Malawi will produce enough maize for its own consumption and even allow small exports. Droughts are causing frequent food supply shortages. Production is not sufficient in most other crops and vegetables are imported to minimize the shortage from local production.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	Yes
OECD	No
AFSTA	Yes
COMESA	Yes
UPOV	No
SADC	Yes
Seed Association:	Seed Trade Association of Malawi (STAM): staminformation@gmail.com
Seed Regulatory body:	Department of Agricultural Research Services (DARS)
Department of Agriculture:	Ministry of Agriculture https://agriculture.gov.mw/ +265 (0) 1 788 738

IMPORT REQUIRMENTS

A local registered seed merchant should apply for an import permit, phytosanitary certificate, germination certificate (OIC), fumigation certificate, seed treatment certificate, non-GMO certificate, and invoice.

EXPORT REQUIREMENTS

No export permit is required. Import permits are only required from the destination country.

LEVEL OF ENFORCEMENT OF RULES

The country has strong system of enforcement to protect its citizens from poor quality seed. The government requires local productions in most field seed crops but vegetable seed can be imported according to the rule and regulations supplied.

SEED PRODUCTION INFRASTRUCTURE

Good infrastructure for agronomic crops is in place. No local vegetable seed production is done barring a few indigenous vegetables and local adapted OPV vegetables.

CONCLUSION

Malawi currently requires further investment to enhance to the local production system before the required capacity will be available for structured vegetable seed production.

MOZAMBIQUE (MOZ)

SNAPSHOT

Mozambique is a large, diverse country and previous Portuguese colony. The country has one of the poorest adoption rates of hybrids (field crops and vegetables). In the north of the country a civil war is still ongoing, but the southern region is safe and peaceful. This is one of the least developed and poorest countries in the region. Vegetables are a more important part of the diet compared to neighboring countries.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	30,066,648	48th
Size (Square Mile)	309,500	35th
Life expectancy	58.3	222nd / 228
Median Age	17	220th / 228
Official Language	21ortuguese- 6 native languages	
Currency	Metical	(MWK)
Literacy index	59%	16th / 16
Ease of doing business	20th / 48 (Sub Sahara Africa)	138th / 190
Corruption Ranking	36th / 54 (Africa)	146st / 180
GDP per capita (PPP)	$ 1 250	13th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government is active in a regulatory, policy and monitoring capacity. National government is very limited in activity in the commercial market, but local governments are active to support their citizens.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

International NGOs are very active in the country and supply relief support using seeds and other inputs. Several aid agencies have permanent offices in country and are major players in the seed market with inputs.

FARMER PROFILE

A limited amount of large corporate farms and commercial growers are in operation throughout the country. Most farmers are small-holder farmers spread throughout the country. It is estimated that up to 3 million small holder farmers are active in the country on farms ranging between 0.5 – 5 hectares.

EXPORTS

Fresh produce is exported to neighboring countries and European countries e.g. United Kingdom, Portugal. No real seed exports are executed in a formal way. The main agricultural exports are coffee, sugar, rubber, palm oil and cacao. The country is a net importer of food because it cannot meet its own needs.

LOCAL CONSUMPTION

Local consumption of vegetables is higher than in other countries in the region. Most vegetables (above 95%) are produced by small-holder farmers and sold in the informal market system. Hybrids used are cabbage and tomatoes mainly because of deceased pressure. Other vegetable crops include onions, kale, eggplant, beans, and salads.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	No
OECD	No
AFSTA	No
COMESA	Yes
UPOV	No, Member of ARIPO to assist and in line with SADC rules
SADC	Yes
Seed Association:	Planned to establish and operate, aid required to implement
Seed Regulatory body:	National Seed commission (CNS)
Department of Agriculture:	Ministry of Agriculture: www.minag.gov.mz Tel: +258 84 650 2745

IMPORT REQUIRMENTS

Requirements include seed import permits issued to local seed merchant, phytosanitary certificate, seed treatment declaration, non-GMO certificate, fumigation certificate, germination certificate (ISTA or ISTA accredited), and invoice.

EXPORT REQUIREMENTS

No seeds are exported. Mainly fresh produce is exported, which is dependent on the import requirements. Commercial farms export to European and neighboring countries.

LEVEL OF ENFORCEMENT OF RULES

Imported seed quality is regulated by import requirements, but as no local ISTA accredited laboratory is in operation, enforcement is complicated.

SEED PRODUCTION INFRASTRUCTURE

Limited field seed production capacity exists, but there is no known vegetable seed production infrastructure (barring indigenous vegetables and limited OPV). Main fresh vegetables include tomato, onion, cabbage, pepper, bean, and salad. These seeds are almost all imported.

CONCLUSION

The country is still too early in their development phase to consider vegetable seed production.

NAMIBIA (NAM)

SNAPSHOT

Namibia is a fairly large country with a very low density of people. The country is well managed. A large portion of the country is desert/semi-desert, so it is not suitable for agricultural production. Livestock farming is practiced on a large portion of land and is the majority of the agricultural activity. Primary activities for crop production are along the irrigation areas in the north and south of the country.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	2 746 430	143rd
Size (Square Mile)	318 772	34th
Life expectancy	65.3	195th / 228
Median Age	21.8	183rd / 228
Official Language	English and German	
Currency	Namibian Dollar	(NAD)
Literacy index	82%	6th / 16
Ease of doing business	9th / 48 (Sub Sahara Africa)	104th / 190
Corruption Ranking	5th / 54 (Africa)	56th / 180
GDP per capita (PPP)	$ 10 471	3rd / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government is a not a major player in commercial agriculture, however the government supplies the regulatory framework, policy, and monitoring of the seed industry.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGOs have a limited role in commercial agriculture with little influence in the commercial segment.

FARMER PROFILE

There are many sheep and cattle farmers in Namibia. Limited farms are suitable for vegetable or vegetable seed production. The sector consists of about 4,000 commercial farmers and 140, 000 small-holder farmers. Over 80% of these farmers are livestock farmers with limited potential to grow crops because of below average rainfall.

EXPORTS

Due to limited production capacity, most field crops and vegetable products are consumed locally. Meat is exported.

LOCAL CONSUMPTION

Most vegetables are imported, but onions, tomatoes and melons are produced under irrigation schemes in the north and south of the country.

REGULATORY SYSTEM

VARIETY LISTS	No
ISTA	No
OECD	No
AFSTA	No
COMESA	No
UPOV	No
SADC	Yes
Seed Association:	None
Seed Regulatory body:	Ministry of Agriculture: www.mawf.gov.na/contact-us (+264) 61 2087111
Department of Agriculture:	Ministry of Agriculture: www.mawf.gov.na/contact-us (+264) 61 2087111

IMPORT REQUIRMENTS

The local registered seed merchant needs to apply for a seed import permit, a phytosanitary certificate, fumigation certificate, non-GMO certificate, seed treatment certificate, and invoice. www.mawf.gov.na/

EXPORT REQUIREMENTS

Phytosanitary certificates must comply with the import permit supplied by importing country, invoice, and fumigation certificate. www.mawf.gov.na/contact-us

LEVEL OF ENFORCEMENT OF RULES

Control is managed strictly on imported seed; local produced seed is not controlled because no real infrastructure exists to manage this.

SEED PRODUCTION INFRASTRUCTURE

No Seed production activity is conducted in Namibia. Almost all seed is imported from either South Africa, Zambia, or Zimbabwe. Some onion seed is produced on farms in the south of the country. This is done by South African companies and seeds are processed and managed from South Africa

CONCLUSION

Namibia is not well suited for vegetable seed production due to limited water supply, limited available farmers for produce production, limited suitable environment and logistical challenges.

RWANDA (RW)

SNAPSHOT

Rwanda is one of the smallest but most efficient countries in Africa. Corruption is very low, infrastructure is good, and there is a good business environment. The people remain poor but good growth is experienced in the small economy.

The country is investing in a large new airport in a joint venture with Qatar to establish Rwanda as the airport hub of Eastern Africa. Various infrastructure projects are undertaken to stimulate economic growth.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	12 374 397	76th
Size (Square Mile)	10 169	144th
Life expectancy	64.8	196th / 228
Median Age	19.7	200th / 228
Official Language	English, French. Local languages	
Currency	Rwandan Franc	(RWF)
Literacy index	70.50%	13th / 16
Ease of doing business	2nd / 48 (Sub Sahara Africa)	38th / 190
Corruption Ranking	4th / 54 (Africa)	51st / 180
GDP per capita (PPP)	$ 2 043	11th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

Vegetable seed business is totally private and was phased out of government influence several years ago. Government still has a role in the commercial business of maize, but they are currently on an active program to privatize the maize business completely. Government still pays a subsidy to growers of maize, but all growers are required to pay some portion of the price of the seed. This is an improved system compared to other African countries where government gives the seed freely.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGO's are active in the country and run programs that supply seed and other inputs for free for selected growers.

FARMER PROFILE

Most farmers are small-holder farmers on an average of 1.5 hectares. Three percent of farmers are commercial and on farms larger than 10 hectares.

EXPORTS

A fresh vegetable export industry is active with produce being exported to various European countries e.g. UK, Holland, Belgium. Coffee, tea, green beans, hot peppers, and broccoli are examples of export products.

LOCAL CONSUMPTION

A good market for locally produced onions, tomatoes, peppers, and cabbage are supplied.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	In process of application
OECD	In process of application
AFSTA	Yes
COMESA	Yes
UPOV	No
SADC	No
Seed Association:	National Seed Association of Rwanda (NSAR) ninnocentagriseeds@gmail.com
Seed Regulatory body:	Rwanda Agricultural board (RAB) newly formed RICA to take over regulatory function
Department of Agriculture:	Ministry of Agriculture www.minagri.gov.rw +264 61 2087111

IMPORT REQUIRMENTS

A pro forma invoice to a registered seed merchant, import permit issued according to permit, seed treatment certificate, fumigation certificate, non-GMO certificate, and invoice are needed. Germination certificate is not required by government, but a germination certificate will be required by all importers of seed. Germination should also be mentioned on seed packaging.

EXPORT REQUIREMENTS

Import permits from the importing country, phytosanitary certificate, and invoice are required.

LEVEL OF ENFORCEMENT OF RULES

The government is improving the systems and recently created a new and separate department called RICA, which is monitoring and issuing the required certificates. Very harsh penalties are imposed on any transgression of the law.

SEED PRODUCTION INFRASTRUCTURE

Several seed cleaning facilities for field seeds exist in the country with the most notable in Kigali as very modern seed cleaning plant. Seed production was facilitated by the Rwanda Agricultural Board, but this is now in the process to be handed to private seed companies. No vegetable seed production of substance was done in Rwanda.

CONCLUSION

Rwanda is a progressive country with a government that supports development. The government is in the process of modernizing its agricultural systems. The Minister of Agriculture is very supportive of a vegetable seed production unit by private industry in the country. We would recommend investing further in Rwanda's vegetable seed production capacity.

South Africa (RSA)

SNAPSHOT

South Africa is the leading country in the region, with well-developed infrastructure, and systems. A strong seed sector is well-regulated and dominated by multi-national companies, who use South Africa as their regional hub. The value of the seed sector in South Africa is more than all other the other countries in this document combined.

Vegetable seed for use by professional farmers is mainly imported as most players in the market use a central distribution model based in Europe. Local distributors/subsidiaries only test and deliver the seed to farmers. Very limited breeding programs are operated by local companies in South Africa. Vegetable seed production is well developed with three major products of acreage. Companies and several multi-national companies are operating in the market.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	59 622 350	24th
Size (Square Mile)	471 445	24th
Life expectancy	64.8	198th /228
Median Age	28	142nd/228
Official Language	English	
Currency	Rand	(ZAR)
Literacy index	94.4%	1st / 16
Ease of doing business	4th / 48 (Sub Sahara Africa)	84th / 190
Corruption Ranking	9th / 54 (Africa)	70th / 180
GDP per capita (PPP)	$13 965	2nd / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government provides policy, regulatory oversight, and monitoring. National government is not directly involved in the commercial agricultural market barring a political interest in the ownership of land. This issue creates uncertainty in the market but as this is a long-debated issue, commercial production is continuing as before. Local governments/municipalities might assist small scale farmers with inputs, but this is a very small activity.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGO roles are limited to small farmer development, which remains a small activity in the market.

FARMER PROFILE

In 2017, 40,122 commercial farmers were active in South Africa, but these numbers are declining. South African food production is driven by mega-farmers in field crops and vegetables. In vegetable production (barring cabbage) maximum 10 Mega Farmers will produce at least 75% of the total production of the species. Vegetable seed producers are specialized in the dry areas of the countries and are very well equipped to produce high quality seed. A high skillset is available with farmers for vegetable seed production.

EXPORTS

Fresh vegetable products and vegetable seeds are exported on wide scale all over the world. All neighboring countries import fresh produce and seed from South Africa as well. Local companies and the country have very good infrastructure and systems to enable the country to be a major exporter.

LOCAL CONSUMPTION

Fresh produce is mainly produced in South Africa. Several bio zones enable year-round production, but several products are also imported to enable year-round supply.

REGULATORY SYSTEM

VARIETY LISTS	Regulates all varieties that are planted including all vegetables. All products including vegetable seed need a government approved DUS test to be available for commercial sales.
ISTA	Yes, 5 accredited Laboratories
OECD	Yes
AFSTA	Yes
COMESA	No
UPOV	Yes
SADC	Yes
Seed Association:	South Africa National Seed Organization (SANSOR) www.sansor.co.za
Seed Regulatory body:	Department of Agriculture: www.daff.gov.za +27 12 319 6000
Department of Agriculture:	Department of Agriculture: www.daff.gov.za +27 12 319 6000

IMPORT REQUIRMENTS

The following different purpose imports are allowed: seed for multiplication, testing, commercial sales, re-export and special usage permits. Commercial seed import is done with a government issued import permit to a local seed merchant (stating phytosanitary requirements) and an authorization to import (verifying it is a permitted variety). No government requirement to regulate the germination and quality and are regulated by local companies own requirements. There are minimum quality standards to sell as seed is determined by law.

EXPORT REQUIREMENTS

Maize seed requires an export permit, but all vegetable seeds can freely be exported if the exported can meet the requirements of the importing country. Phytosanitary certificates will only be issued by government with an import permit from customer country which they can comply with.

LEVEL OF ENFORCEMENT OF RULES

A very high level of competence and enforcement is observed.

SEED PRODUCTION INFRASTRUCTURE

The country produces a vast amount of field crop, forage and vegetable seed that is exported on a large scale. Vegetable seeds are produced by multi-national companies direct and three contract production companies. The country is well known for high quality short and intermediate onion, bunching onion, carrot, beetroot, and several smaller niche crops. The supply chain system is well developed with highly skilled farmers and input suppliers and good infrastructure from the farm to the factory.

CONCLUSION

South Africa is a very interesting vegetable seed market and very well equipped to do extensive seed production in various vegetable crops.

TANZANIA (TAN)

SNAPSHOT

Tanzania is one of the larger countries in Africa with a population like South Africa. Tanzania can be described as a medium developed country with a diverse climate. Arusha, which is close to the equator but on a high elevation, was the traditional hub of seed activity in the region due to the ideal climate. Tanzania is a very large cropping country and produces field crops and vegetable seeds. In recent years, it became more difficult for foreign companies to operate efficiently because of new rules and regulations.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	56 313 438	25th
Size (Square Mile)	365 756	31st
Life expectancy	63.9	203rd / 228
Median Age	18.2	213th / 228
Official Language	English and Swahili	
Currency	Shilling	(TZS)
Literacy index	80%	8th / 16
Ease of doing business	22nd / 48 (Sub Sahara Africa)	141st / 190
Corruption Ranking	16th / 54 (Africa)	96th / 180
GDP per capita (PPP)	$2 948.00	8th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government is very actively involved in the regulations, policy, and enforcement of seed laws in the country. Several new rules were implemented, including the brand registration with the variety registration when varieties are put on the list. Vegetable seed production is one of the key industries in the country and supported by government.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

Several NGO's are active in the country and working on development of segments of agriculture. Due to the development of industry in general, focus of development is more on enhancement of current practices.

FARMER PROFILE

More than 65% of people are employed by the agricultural sector. Approximately 15 million hectares are planted with various crops, 13.5 million hectares by 3.7 million by small-holder farmers and 1.5 million hectares by approximately 1,100 commercial farmers. Commercial seed production of various vegetables seed is mainly done by commercial farmers.

EXPORTS

The agricultural sector contributes to approximately 25% of the total exports for Tanzania. Key export crops are sunflower, coffee, sugar, tea, sesame, vegetables etc.

LOCAL CONSUMPTION

Tanzania, barring abnormal droughts, is self-sufficient in food requirements. Maize, beans, and cassava are the main crops. Tomatoes followed by onions are the largest vegetable crop produced.

REGULATORY SYSTEM

VARIETY LISTS	Yes, also registration of brand and variety has been required recently
ISTA	Yes
OECD	Yes
AFSTA	Yes
COMESA	Yes
UPOV	Yes
SADC	Yes
Seed Association:	Tanzania Seed Trade Association (TASTA): www.tasta.or.tz: (+255) 27 250 3264
Seed Regulatory body:	Tanzania Official Seed Certification Institute (TOSCI): www.tosci.go.tz
Department of Agriculture:	Ministry of Agriculture: www.kilimo.go.tz/index.php/en: (+255) 262323265

IMPORT REQUIRMENTS

Tanzania is probably one of the strictest countries to ensure the origin and quality of the seed is correct. A Seed import permit to a local seed merchant, proof of registration in country, phytosanitary certificate, certificate of origin, non-GMO certificate, seed treatment certificate, fumigation certificate, and invoice are required.

EXPORT REQUIREMENTS

Import permit from the importing country is required. See www.tosci.go.tz.

LEVEL OF ENFORCEMENT OF RULES

Tanzania is very strict on enforcement of different seed laws. Counterfeit seed remains a problem in the country and much effort is taken to curb this problem. Many rules that could inhibit trade were introduced to counter this problem. Seed production and certification is also a very active segment of the seed activities.

SEED PRODUCTION INFRASTRUCTURE

Tanzania has good infrastructure for seed production, this is including the complete supply chain from good and experienced farmers, proper regulatory environment, good infrastructure, and the experience to export. Various companies are producing good quantities of vegetable seed in the country including hybrids (greenhouse and open field).

CONCLUSION

Tanzania is a country with great potential to expand seed production. Vegetable seed growers are already in operation for many years and several large groups established greenhouses for seed production. Currently the political and regulatory conditions are very strict, but we expect the condition to normalize in the next few years.

UGANDA (UGN)

SNAPSHOT

Uganda is a highly populated but small country. It is focused on and acting progressively to become a member of ISTA and OECD. Agricultural potential is very high with optimal conditions to grow most crops. Although the country is poor, it is creating a new business environment. According to the World Bank, the number of households living in poverty was halved during the last 20 years. This was mainly driven by agricultural development to a vast number of small-holder farmers. Several industries related to agriculture were stimulated to enhance production.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	42 729 036	35th
Size (Square Mile)	93 065	79th
Life expectancy	68.2	177th / 228
Median Age	15.7	227th / 228
Official Language	English and Swahili	
Currency	Shilling	(UGX)
Literacy index	74%	11th / 16
Ease of doing business	12th / 48 (Sub Sahara Africa)	116th / 190
Corruption Ranking	32nd / 54 (Africa)	137th / 180
GDP per capita (PPP)	$ 1 868	12th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government is involved in developing policy, regulations, and monitoring. Although it has limited influence on the commercial segment of the vegetable seed market.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGOs are active in the seed market and supply various projects with seed and other agricultural inputs.

FARMER PROFILE

Farmers are in two categories. It is estimated that there are about 2.5 million small-holder farmers with an average size of 2.5 ha farm. The commercial farmers comprise about 3% of the total farming community. Farmers are producing mainly cassava, sorghum, coffee, tea, sugar, and beans. Fresh fruit is a major crop in Uganda. Vegetables are produced for local consumption with export opportunities to Europe and COMESA countries.

EXPORTS

Current agricultural exports include products like coffee, tea, sugar, fruit, vegetable, and cacao. Seed is exported in a formal way, but it is restricted to maize and sorghum. Vegetable seed is mainly exported to neighboring countries like DRC and Rwanda. The process is mainly informal, and customers come into Uganda, buy the products, and take it back with them. No notable vegetable seed is exported through the formal channel.

LOCAL CONSUMPTION

Currently cassava, maize, sorghum, fresh fruit, and vegetables are produced.

REGULATORY SYSTEM

VARIETY LISTS	Yes
ISTA	Yes, pending final accreditation
OECD	Yes
AFSTA	Yes
COMESA	Yes
UPOV	No
SADC	No
Seed Association:	Uganda Seed Trade Association (USTA): www.usta.ug/
Seed Regulatory body:	National Seed Certification Services
Department of Agriculture:	Ministry of Agriculture (MAAIF): www.agriculture.go.ug/: Tel: +256 41 4320004

IMPORT REQUIRMENTS

The country imports more than 100 tons of vegetable seed per year including cabbage, onion, tomato, and various other crops. The market is expanding, and the vegetable industry is completely in private ownership. A local registered seed merchant should apply for an import permit, phytosanitary certificate, germination certificate (OIC), fumigation certificate, seed treatment certificate, non-GMO certificate, and invoice.

EXPORT REQUIREMENTS

The online procedure is specified at https://www.agriculture.go.ug. Several products are exported in the region and to European countries.

LEVEL OF ENFORCEMENT OF RULES

Law enforcement has increased, with strict enforcement on imported seed and good enforcement on locally produced seed. The government protects IP rights with its seed law.

SEED PRODUCTION INFRASTRUCTURE

Currently only field seeds are produced in country. Limited vegetable seed production exists (mainly indigenous species), but the country is very keen to start with commercial vegetable seed production.

CONCLUSION

The country is an interesting option to consider stimulating vegetable seed production. The membership of ISTA and OECD is very positive and together with PVP protection, creating an ideal regulatory environment for seed production. Climate is ideal for seed production of cucurbits, tomatoes, peppers, and eggplants at competitive pricing.

ZAMBIA (ZAM)

SNAPSHOT

Zambia is a landlocked country that underwent a major transformation in the agricultural sector in the last 15 years. Zambia changed from a net importer to a net exporter of agricultural products and received major investment in row crop farming from various private investors. Zambia developed as the optimum production country for hybrid maize seed in the region and are exporting maize seed to various countries in the region. Zambia host the COMESA office for seed systems and is at the forefront of new developments in the region

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	17 351 708	65th
Size Square Meter	290 587	38th
Life expectancy	53.6	226th/ 228
Median Age	16.9	221st/ 228
Official Language	English and Swahili	
Currency	Kwacha	(ZMW)
Literacy index	63.4%	15th / 16
Ease of doing business	5th / 48 (Sub Sahara Africa)	85th / 190
Corruption Ranking	22nd / 54 (Africa)	113th / 180
GDP per capita (PPP)	$ 4 033	7th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government is an active player in the market and are distributing approximately 30% of the maize seed to small-scale farmers. The government agency administrating the seed systems is called SCCI. SCCI administers the registration, production, import, certification, and export of seed.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

NGOs are active in country doing mainly sector development work, market stimulation and value chain development.

FARMER PROFILE

It is estimated that approximately 450 large commercial farmers and 1.2 million (some sources claim much more) small- scale farmers are actively farming in Zambia. Although there are commercial vegetable farmers mainly focused on export, around 20–25% of small-scale farmers plant some vegetables on their farms.

EXPORTS

Some fresh produce is exported to UK, and flowers are exported to the Netherlands. The process for exports and imports is described at https://zesw.gov.zm/#

LOCAL CONSUMPTION

Currently vegetables are still imported on a large scale to supply the formal retail segment in the country. Small scale famers markets are not well coordinated (seasonal overproduction) and sell mainly through the informal/small distributor market system. Seed production for vegetables are very limited and mainly restricted to indigenous varieties and limited OP varieties. Some major companies have tried making trial productions of onions and various other vegetable seed crops in Zambia. No large commercial scale productions were done in country yet, but the process of testing is ongoing.

REGULATORY SYSTEM

VARIETY LISTS	Yes	
ISTA	Yes	
OECD	Yes	
AFSTA	Yes	
COMESA	Yes	
UPOV	No	Member of SADC and ARIPO, in process. IP protection law
SADC	Yes	
Seed Association:	Zambia Seed Trade Association (ZASTA) (+260)1238818/235798	
Seed Regulatory Body:	Seed Control and Certification Institute (SCCI)	
Department of Agriculture:	Ministry of Agriculture: www.agriculture.gov.zm, Tel: +260 01-253933	

IMPORT REQUIRMENTS

Local seed merchants should obtain an import permit, phytosanitary certificate, fumigation certificate, germination certificate (OIC), non-GMO certificate, seed treatment certificate, and invoice. The system is now completely electronic and can be accessed via website https://zesw.gov.zm/

EXPORT REQUIREMENTS

The system is now completely electronic and can be accessed through a website called Zambia Single electronic window. https://zesw.gov.zm/

LEVEL OF ENFORCEMENT OF RULES

SCCI is very active to monitor the quality of seed sold and do frequent tests on all seed in the market. SCCI is sometimes short on resources but gets the job done very well. OECD certification was obtained recently, and strong PVP protections are in place.

SEED PRODUCTION INFRASTRUCTURE

Very good infrastructure exists for maize, soybean, wheat seed production. Local seed production infrastructure for these crops is well developed with a skilled farmer base, good infrastructure and certification and verification systems. Currently no major vegetable seed production is done in Zambia barring experimental projects and indigenous vegetables. Farmers are currently not skilled for vegetable seed production.

CONCLUSION

Zambia had rapid development in the field crop segment, farmers developed an appetite for seed production. The country developed several technologies to assist in regulatory support. It would be an interesting opportunity to further develop the possibility of vegetable seed production in Zambia.

ZIMBABWE (ZIM)

SNAPSHOT

Zimbabwe was the traditional breadbasket of Africa with excellent infrastructure. The country is landlocked between Mozambique, South Africa, Malawi, Zambia, Botswana, and Angola. The country is suffering from political and financial turmoil, which destroyed its ability to compete effectively. The country has excellent, skilled people but as time passed these become more obsolete.

Vegetable and flower seeds were always produced in Zimbabwe. Now production is very limited to indigenous varieties and some small-scale projects that produce seed for local commercial sales. If the political environment normalizes, this country can quickly recover to become a good regional seed player again.

COUNTRY OVERVIEW

Description	Statistic	World Ranking
Population	16 159 624	74th
Size (Square Mile)	150 872	60th
Life expectancy	62.3	210th / 228
Median Age	20.9	190th / 228
Official Language	English and 15 native languages	
Currency	Zimbabwean Dollar	(ZWL)
Literacy index	87%	4th / 16
Ease of doing business	21st / 48 (Sub Sahara Africa)	140th / 190
Corruption Ranking	42nd / 54 (Africa)	158th / 180
GDP per capita (PPP)	$ 2 434	10th / 16

ROLE OF GOVERNMENT IN AGRICULTURE

The government is directly involved in the commercial and regulatory segments of the seed business and is a buyer of approximately 50% of the maize, which is given for free to small-scale farmers. The government is not involved in the vegetable segment.

ROLE OF NON-GOVERNMENT ORGANISATIONS (NGO'S)

Several NGOs are very active in country and involved in the vegetable segment of the market. NGOs influence the market.

FARMER PROFILE

Farms and farmers are a highly political subject in the country. The agriculture was historically dominated by approximately 5,000 commercial, predominantly white farmers who produced the bulk of the food for locals and exports. These farms were taken from the farmers in a publicized political move and given to local farmers. This destroyed the ability to produce, but the new farmers are gradually improving yields. Some of the previous commercial farmers returned and are now leasing the land back, therefore improving agricultural practice. The country also has approximately 1.5 million small-scale farmers. Commercial vegetable production capacity has not returned, but changes are expected in the next years.

EXPORTS

Tabaco and cotton remain key exports from an agricultural perspective. Due to the severe pressure of the economy, agricultural output is limited but the country exported vast quantities of agricultural products in the past. Zimbabwe also exported fresh vegetables and flowers to South Africa and Europe, but currently, that industry in under pressure again due to the limiting political and economic conditions.

LOCAL CONSUMPTION

Historically Zimbabwe was an exporting country but with all the political changes became an importing country. In recent years insufficient maize was produced mainly due to drought. Vegetables are produced locally, but vast quantities are imported due to limited farmers with the required capacity.

REGULATORY SYSTEM

VARIETY LISTS	Yes	Open list on vegetables
ISTA	Yes	Government accredited and private seed companies in process
OECD	Yes	
AFSTA	Yes	
COMESA	Yes	
UPOV	No	Member of SADC and ARIPO, started process, IP law
SADC	Yes	
Seed Association:	Zimbabwe Seed Trade Association (ZSTA) (+263) 04 33 20 17	
Seed Regulatory body:	Seed Services Institute (SSI), Dr. Clide Mujaju	
Department of Agriculture:	Minister of Agriculture, www.moa.gov.zw/index.php/contact/ Tel: (+263)-04-797390	

IMPORT REQUIRMENTS

A local registered seed merchant should apply for an import permit supplying the following information: germination certificate (OIC), fumigation certificate, seed treatment certificate, non-GMO certificate, and a pro forma Invoice. Once the permit is issued (about 3 weeks) the exporter can apply for a phytosanitary certificate to be added with the invoice and all relevant information.

EXPORT REQUIREMENTS

Most crops also require an export permit as well. Besides an import permit from the country of export, a germination certificate (OIC) is mandatory even if not required by destination country.

LEVEL OF ENFORCEMENT OF RULES

Zimbabwe has a very good seed service institute, which is respected throughout the region. Seed companies comply with regulations, and a well-defined seed system is in place.

SEED PRODUCTION INFRASTRUCTURE

Extensive seed infrastructure is available in the country. Small-scale hybrid vegetable seed production is done already in country and will be further expanded with some support from genetic suppliers.

CONCLUSION

Zimbabwe is an excellent country to undertake vegetable seed production activities. Existing knowledge, infrastructure and systems and be utilized to expand the service further.