



CHAYUMA DISTRICT INVESTMENT PROPOSALS FOR NORTH-WESTERN PROVINCE EXPO

**RICE FARMING, FISH FARMING &
ANIMAL RANCH**

19

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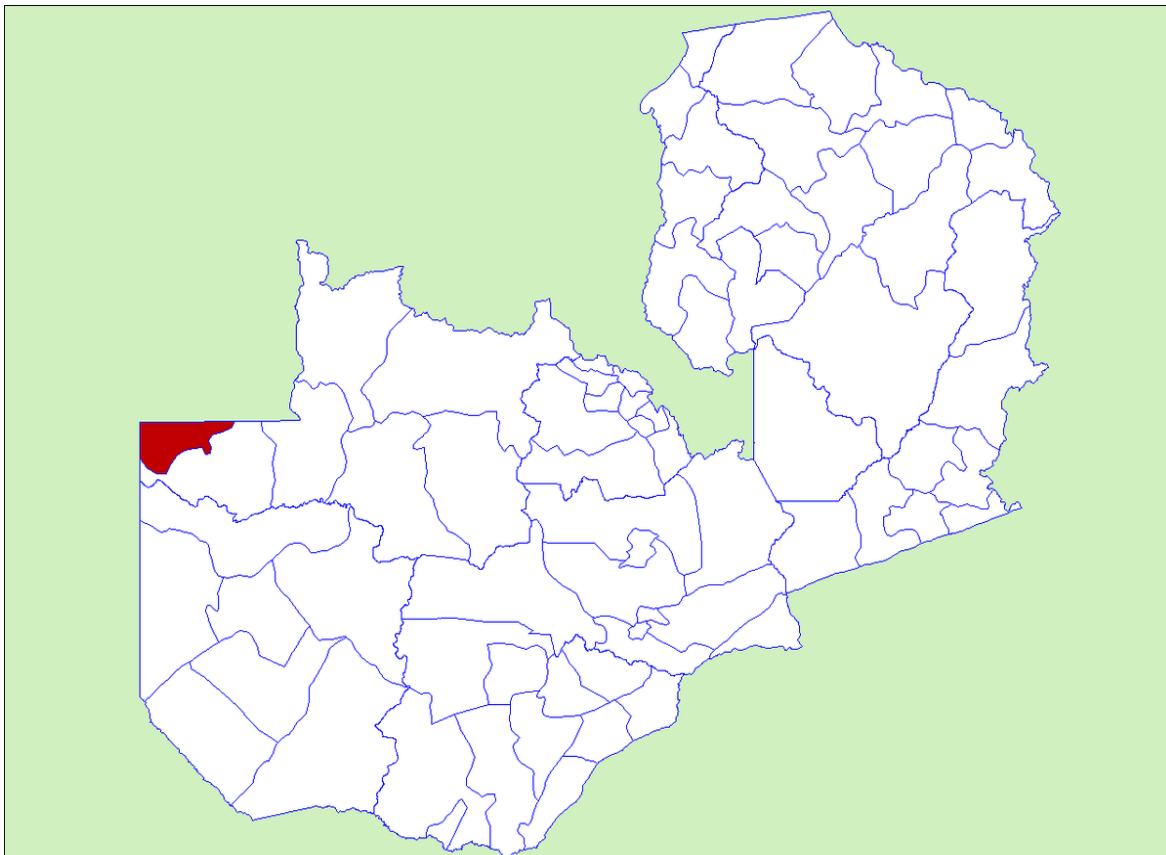
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1.0 Introduction

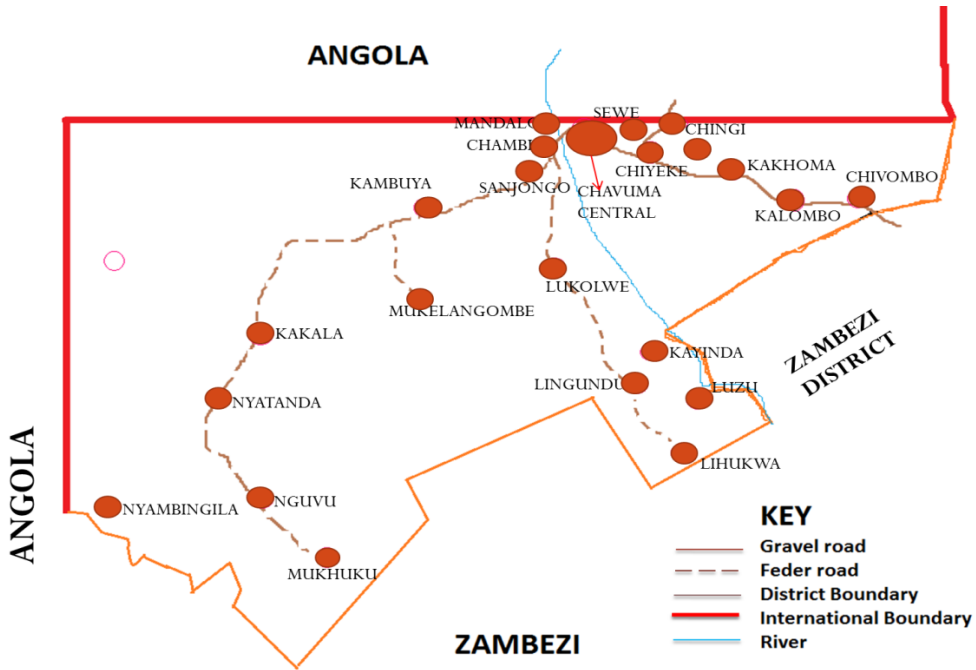
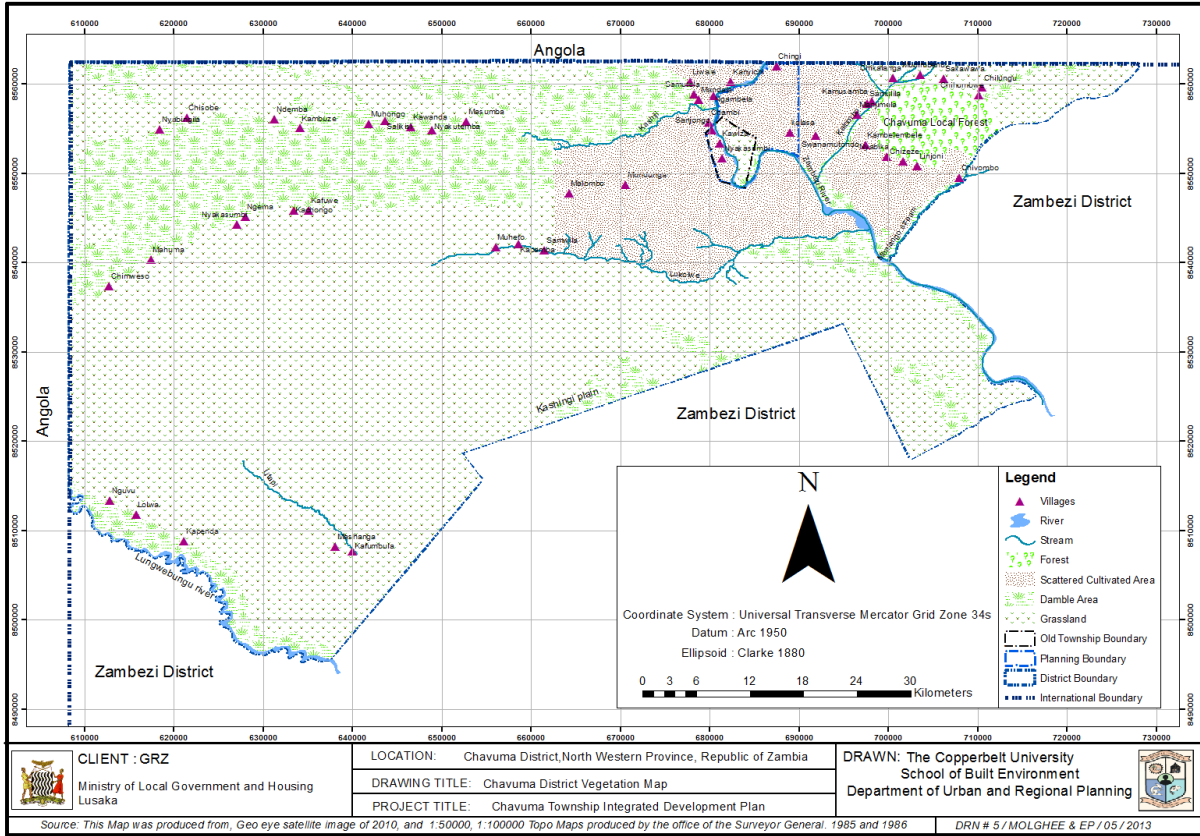
1.1 Location

Chavuma district is one of the Eleven (11) districts in North-western province. The district is located about 607Km North-west of the provincial headquarters Solwezi and 83Km north-west of Zambezi district. Chavuma shares an international border with Angola on the Northern and Western side of the district and Zambezi district in the Eastern and Southern side.

Fig 1: Map of Zambia



Map Showing Location of Chavuma District



1.2 District Area

Chavuma district an area approximately 7, 347Km² and stands between 914-1218m above sea level. The district is separated by the mighty Zambezi River into two distinctive areas namely East and West banks as the maps above shows.

1.3 Climate

The district is subject to a sub-tropical climate with temperatures averaging to 20 °C in the cool dry season and 35 °C during the hot dry season. The normal rainfall season starts in mid-November to April with an average rainfall of above 1200mm per year with a relative humidity of 60%. This entails a growing season of 160 days.

1.4 Topography

Chavuma generally has a flat lowland in the West Bank and a plateau-like formation in the east bank. The district stands between 914 -1,218 meters above sea level.

1.5 Soils

Generally, the soils in the district are sandy with low base nutrients, high acidity, leached and have aluminum toxicity. However, there are patches of sandy loams and clayey loams on the East bank, while the soils on the West bank are mostly sandy.

1.6 Geology

The district has potential for mineral extraction, especially for oil, industrial minerals and semi-precious stones. However, only oil explorations have been conducted by Zambia Consolidation Copper Mines Investment Holding (ZCCM –IH).

1.7 Vegetation

The vegetation of the district is characterized by open savannah grasslands, with some parts being covered with Livunda woodlands. The West Bank is mainly covered with scattered savannah grasslands and Dambos.

1.8 Hydrology

The hydrology of the district consists of rivers, streams, dams, springs and lagoons. The major perennials rivers are the Zambezi, Lungwevungu and Kashiji. All rivers and streams in the district drain into the Zambezi River. There are also some perennial streams which

include Chizumbula and Lukolwe. Seasonal streams include Litapi, Chivombo, Kalombo and Kakhoma.

One main hydrological feature in the district is the vast Kashiji flood plains.

2.0 Economic Resources and Opportunities

Chavuma District is endowed with abundant natural resources which accords it a comparative district advantage as shown in the District resource inventory below:

- ✓ The many strategic water bodies (Rivers, streams, flood plains ETC.).
- ✓ The vast virgin arable lands for agriculture production.
- ✓ Availability of Oil and Mineral deposits.
- ✓ Good weather patterns favorable for farming.
- ✓ Potential development of tourism sites.
- ✓ Dumbos.
- ✓ Beautify seasonal sandy beaches.
- ✓ Variety of Fish species in the Zambezi River, Kashiji plains and other water bodies.
- ✓ Variety of flora and Fauna.
- ✓ Apiculture (Beekeeping).

3.0 Investment Proposals

The district has identified Three (3) areas of investment; namely, Rice farming, Fish farming and cattle ranching.

3.1 Rice Farming

3.1.1 Background

Chavuma District is endowed with vast land and flood plains predominantly on the western half of the district. In recent years, these vast flood plains have provided an enabling environment for rice farming at domestic level for numerous households in these areas. Even with the conducive environment surrounding this venture, rice production in the district has been generally low to cushion food security in the district and supplement to the entire nations' food security. Most of the rice produced is consumed at household level and little of it makes it at market level.

The low rice production in the district has been largely attributed to.

- ✓ Poor farming practices among farming households.
- ✓ Lack of suitable farming inputs and equipment's.
- ✓ Lack of a profitable available market (restricted so few Households with enough disposable income).
- ✓ Long and poor road network from Farming sites to the market.

The table below shows the current production of rice In the District.

Item	Detail of Item	Paddy Rice
Standard	production per ha	2.5 tons
Current situation	production per ha	1.3 tons
Optimum level	production per ha	2 tons
Deficiency	production per ha	0.7 tons
% production deficiency	% production per ha	35%

Table 1: Rice Production per ha

Therefore, with Zambia working towards shifting its economy from depending on Mining activities to diversifying in sectors such as agriculture and not just maize

production, an investment in rice growing will significantly contribute to the agricultural and economic growth of the district and national at large.

4.0 Project Description

4.1 Site Location

A suitable site for this venture is the vast flood plains on the western half of the district will be chosen for this productive undertaking with an estimate of Fifty-thousand (50,000) hectares of land.

- ✓ Consultation will be made with the Ministry of Agriculture (MoA) to help locate a suitable site for the project in the Plains.
- ✓ The Council through the office of the Council Secretary and the District Planning Unit will then hold consultative meetings with the respective ward Counsellors and Sub chiefs to seek permission to undertake the project. (Note that this will only apply in areas beyond state land).
- ✓ If need arises, all affected households will be resettled and/ or compensated.

4.2 Infrastructure and Road Network

The flood plains being across the Zambezi River, and having a poor road network due to the sandy soils across the River, accessibility is only restricted to the use of the pontoon. The pontoon however, is seasonal, and hence the need to erect a bridge across the River and upgrading the status of the road to Gravel and if possible to bituminous standard in order to access the proposed site with ease.

4.3 Investment Benefits

- ✓ An investment in Rice farming will translate into an increase in rice production in the district and nation at large. This will foster economic growth through an increase Gross Domestic Product (GDP) and ultimately the wellbeing of the residents of Chavuma and the Nation.
- ✓ The increase in rice production will increase the district and nations food security.
- ✓ An investment in the large scale rice farming will benefit both the residents of the district and the investors. For the residents, large scale rice farming will translate into employment opportunities. People with skills, semi-skilled, and unskilled will

have an opportunity to work and earn a living from the proposed investment. From the investor's lens, high unemployment means a readily available labour market. This gives the investor the power to dictate the market and strike an equilibrium that will be profitable for the project and acceptable to the possible laborers.

- ✓ Increased rice production as a result of the proposed investment will mean a readily available commodity on the market, high quality and nutritional value rice due to more improved crop breeds, growing and harvesting techniques.
- ✓ Increased production of rice will translate into an increase in local industries and rice processing businesses, thereby increasing economic activities in the district.
- ✓ A large scale rice plantation and production will increase the current transport situation within and outside the district as more vehicles such as trucks will frequent travels to and from the district bringing in farming inputs and taking our rice produce out of the district respectively. This will ultimately have a ramification on the various economic aspects in the district such as, increase in storage facilities, lodging facilities, restaurants, filling stations and any other related activities thereby changing the face of the district.

5.0 Fish Farming

5.1 Background

The fisheries are classified into major and minor. Major fisheries refer to fisheries of large water bodies while minor ones include fisheries of small water bodies. According to FAO (Country profile, 2006), Zambia has eleven main fisheries of which four belong to the Congo River basin and Seven to the Zambezi River basin. The fisheries in the Congo River basin include Tanganyika, Mweru-Wantipa, Mweru, Luapula and Bangweuru, while Kafue, Kariba, Lukanga, upper Zambezi, lower Zambezi, Iteshi-tezhi and Lusiwasi belong to the Zambezi River basin.

5.2 Types of Fishers

Like in some other countries in Africa, fishing is carried out by two distinct groups namely; traditional or artisanal fishers and industrial operations. The case is the same for

Zambia as most of the traditional fishers stick to the small water bodies and use traditional implements to catch fish.

5.3 Type of Fish Production

There are 76 fish farmers in Chavuma district. The major types of fish farmed include; Tilapia rendali, Tilapia macrochir, and Andersonii

Fish Production and Food Package

Item	Detail	Quantity
Standard	Fish consumption per day	¼ kg / person
Population	District	
Current situation	Available amount of fish per month(kg)	1 tonne
Optimum level	Fish production per day	500 kg
Existing production	Fish day	350 kg
Capacity of production	No of fish farmers and fish folks Producing /capturing fish	200 farmers
Deficiency/surplus	Amount of fish	
People with inadequate access	Amount of fish (kg)per day	3 tonnes/ year
Percent	People without	0.5%

5.4 Fisheries Sector SWOT Analysis

STRENGTHS	OPPORTUNITY
<p>1. The presence of competent and qualified Fisheries personnel ensures the delivery of relevant extension services as regards fish farming and correct</p>	<p>1. A favourable environment for aquaculture practice enables the production of huge numbers of fish by fish farmers</p> <p>2. There is a ready market for fish farming in the District as the Zambezi river alone cannot</p>

fishing methods	feed the entire district 3. A low fish disease burden in both implies that fish can be grown with ease
<p>WEAKNESS</p> <ol style="list-style-type: none"> 1. Understaffing of the Fisheries department implies that some potential fish farmers miss the opportunity of venturing into aquaculture because of inadequate skills and knowledge. 2. Inadequate logistical support to field operations also leads to insufficient transmission of new interventions and technologies 	<p>THREATS</p> <ol style="list-style-type: none"> 1. The inaccessibility of the west bank due to floods in the rain season makes it difficult to transmit knowledge and skills during the said period

5.5 Rural Development

Harris (1982) defines rural development as a distinct approach to interventions by the state in the economies of under-developed countries and one which is at once broader and specific than “agricultural development”. The government of Zambia has enshrined the course of development from 2017-2021 in the Seventh National Development Plan (7NDP).

Under pillar one of the 7NDP, it is clearly outlined that in this period the government will accelerate Economic Diversification and growth from 2017-2018. This will be

achieved by having: a diversified and export-oriented Agriculture, and Mining sectors; a diversified Tourism sector; improved Energy production and distribution; improved transport system and infrastructure; enhanced Information, Communication and Technology; enhanced decent job opportunities in the economy; and enhanced research and development with a view of creating more jobs for the people.

5.6 Chavuma District Strategy

Although North Western province has abundant water bodies, there is still a huge gap to cover for the deficiency of fish. Several studies have shown that the consumption of high quality animal foods in rural and poor households in Sub Sahara Africa in general is very low (Kikafunda et al., 2003; Nyambose et. al., 2003; FAO, 2007). In Zambia, body building nutrients such as proteins, vitamins and minerals are expensive and hence usually deficient in the regular diet of the poor and Chavuma is not exception in this case. A healthy diet should include at least two portions of fish a week, including one of oily fish. Most of us are not eating this much. A portion is around 140g. The district requires huge investment into the fish farming to enable the people acquire such foods at a reasonable price and provide to the rest of the country.

In line with pillar one of the 7NDP, Chavuma district intends to follow suit what the government plans to achieve during the plan period as the district has identified fishing as one of the areas it can diversify.

5.7 District Environs

In the district land is used for farming, fishing, grazing and building of infrastructure. There is also one forest reserve, Chavuma Local forest reserve P31, with the area of 9,632 hectares.

Generally, the district has plenty of land and is easily accessible to both men and women including the youths. However, land is under-utilized especially on the west bank of the Zambezi River where it is sparsely populated and usually flooded except for some few months in the year. The abundance of water makes it suitable for fish farming and rice growing.

Picture 1: Pictures Showing Terrain in Chavuma



West Bank

Chavuma General

5.8 Suitability of Fish Farming

Although there is a lot of water in the district, there is still a deficit in the fish farming. This can be properly harnessed with huge capital income to create reservoirs and dams. The district has a lot of water bodies such as Rivers, Streams, dambos, springs and lagoons. The perennial Rivers are Zambezi, Lungwevungu and Kashiji. All rivers and streams in the district flow into the Zambezi River. These rivers and streams provide water for domestic use; small scale irrigation and fish farming where some farmers have invested in aqua culture. Chizumbula and Lukolwe are the only two perennial streams in the district while seasonal streams include Litapi, Chivombo, Kalombo and Kakhoma.

Picture 2: District Water Quantity



One main hydrological feature in the district is the vast Kashiji flood plain which floods for six to ten months in the year on the west bank making it very suitable for fish farming if properly studied and invested in.

5.9 Advantages

Investment into fish farming can easily be done in an area like west bank of Chavuma district because of availability of water to create canals and dams. The investment only requires creation of dams, reservoirs and the technical knowhow. The district also has available of non-skilled human resource to help with creation of the intended investment; in this case 'fish farming'.

5.11 Challenges

The district has limitation with movements especially in the west bank. Most of the roads are impassable because of the sandy-water terrain. Most of the parts of west bank are accessed between October and November due to floods. There is also a menace with crossing the Zambezi River because the pontoon only operates from May to December when the water levels go down.

6.0 Animal Ranch

6.1 Introduction

Cattle ranching are becoming a major foreign exchange earner in Zambia which could benefit Zambians especially in North-Western province. However, in Zambia, a considerable cattle population is mostly owned by small scale farmers. Ranching can lead to an increase in food security at a national level which can eventually lead to a potential contribution to the gross domestic product (GDP). Cattle ranching has significant opportunities for economic growth and poverty reduction, especially among the rural farmers.

Unlike other provinces in Zambia, North-western province has no significant large scale commercial livestock farming. Chavuma District like other districts in North-western province only has subsistence livestock farmers of about 3, 935. The district boasts of huge communal grazing lands and favorable temperature to sustain livestock farming, Chavuma district has about 7, 633 heads of cattle, 3, 009 goats, 105 pigs, and many other forms

livestock such as chickens, guinea fowls, ducks Etc. the district however, has no statistics on sheep farming.

6.2 Project Description

Chavuma District has huge potential to invest in commercial livestock farming. Chavuma has many water bodies dotted around the district. These water bodies coupled by huge portions of land nearby present a favorable environment to venture in commercial livestock farming. The absence of sheep farming in the district gives a salient reason to exploit this investment option.

7.0 Conclusion

Chavuma district would like to recommend the investment into rice growing, fish farming and animal ranching considering the district's terrain with huge amount of water especially in the west bank of the Zambezi River. There are also huge returns in these investments in the province and the country as a whole.

These investments would thrive the district and can also bring development to the rest of the province. In North-Western province the economic activities are mostly done at a small scale and such investments are one of them.

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