The Southern African Development Community (SADC) is currently composed of 15 Member States, namely: Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Madagascar, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe. The SADC Vision is ‘one of a common future, a future in a Regional Community that will ensure economic wellbeing, improvement of the standards of living and quality of life, freedom and social justice and peace and security for the peoples of Southern Africa’.

The fisheries sector in SADC countries, comprising marine and inland capture fisheries and aquaculture, generates a variety of benefits, including nutrition and food security, livelihoods, employment, exports and foreign currency and conservation and biodiversity values that are of global significance.

In order to optimise benefits from the fisheries and aquaculture SADC Heads of State in 2001 endorsed the SADC Protocol on Fisheries. The Protocol aims to promote responsible and sustainable use of the living aquatic resources and aquatic ecosystems of interest to State Parties, in order to (i) promote and enhance food security and human health, (ii) safeguard the livelihood of fishing communities, (iii) generate economic opportunities from nationals in the region, (iv) ensure that future generations benefit from these renewable resources; and (v) alleviate poverty with the ultimate objective of its eradication.

Fish in Focus: Three Spotted Tilapia, Oreochromis andersonii. This cichlid is indigenous to Zambia, where it is found in rivers swamps and lakes. Also exist in other parts of Southern Africa. It is important to local commercial fisheries, as well as being commercially farmed. It is also popular as a gamefish.
Zambia is an entirely landlocked country occupying an area of 752,612 km², 9,220 km² of which is covered by water. It is bordered by the Democratic Republic of Congo and the United Republic of Tanzania to the north, by Angola to the west, by Namibia to the south west, by Malawi and Mozambique to the east, and by Zimbabwe and Botswana to the south. The country has rich water resources, the Zambezi River valley and Luangwa valley with interfluves in the main drainage systems consisting of the Zambezi, Luangwa, Luapula/Chambeshi, and Kafue rivers.

**Socio-economic:** The country has a population of about 16 million with a life expectancy of 58 years. About 61% of the population lives below the national poverty line.

**Languages:** English (official), seven main vernacular languages: Nyanja, Bemba, Tonga, Lozi, Luvale, Lunda and Kaonde, with more than 70 dialects.

**Fisheries production:** 106 798 tons of fish is produced annually (about 86 527 tons from capture fisheries and 20 271 tons from aquaculture), with the gross value add of USD147 million. The fisheries sector employs about 325 000 people (313 000 in capture fisheries and 12 000 in aquaculture). Fisheries contribute 1% to Zambia’s GDP.

**Food and Nutritional Security and the Contribution of Fisheries:** The per capita consumption in Zambia is 7kg per person, which constitutes 20.2% of the total animal protein intake and 4% of the total protein intake. About 48% of the Zambian population is undernourished, the highest percentage in the region, while 15% of children under the age of five are moderately or severely underweight.

**Zambia’s fisheries sector:** Fishing happens in nine areas, Mweru-Wantipa, Lake Tanganyika, Itezhi-Tezhi, Lake Bangweulu, Lake Mweru, Lukanga swamps, Kafue river, Zambezi river and Lake Kariba. The Zambian fisheries in the main lake areas are classified in two groups- the inshore fishery which mainly exploits the bream, and the pelagic fishery targeting Kapenta. All fishing activities are classified as being commercial, although separated into artisanal and recreational for management purposes. The artisanal fishery is characterized by extensive usage of canoes and plank boats. Aquaculture is in its infant stage of development but has shown tremendous growth. The development of National Aquaculture Development Plan in 2010 attracted investment into the aquaculture sub-sector. Aquaculture production increased rapidly from 2010 to 2015. There has been a number of donor supported aquaculture development programmes targeting smalls-scale farmers. This has led to increased and adoption of the practice in various parts of the country.

**Mukangala in Zambia is the source of Zambezi River**

The source of the incredible Zambezi River is located in the Ikelenge District in north-west Zambia, 1500m above sea level. Situated very near the spot where Zambia, Angola, and the Congo meet, the source is a black, marshy shallow wetland known as a dambo, which has been since declared a national monument, the Zambezi Source National Monument. Zambezi River is Africa's fourth longest river, which stretches over a distance of 3,500 kilometers journeying to the Indian Ocean forming the Zambezi Basin shared by 8 countries. The Zambezi basin constitutes one of Africa’s most important natural resource. It is an important habitat as far as biodiversity is concerned.
Zambian Fisheries Policy Reforms by Mr Patrick Ngalande, Director of Fisheries, Ministry of Fisheries and Livestock, Government of Zambia

The Government of the Republic of Zambia has prioritized fisheries in its national development efforts in line with the SADC Protocol on Fisheries. Consequently, in September 2015, the Ministry of Fisheries and Livestock (MOFL) was created in order to regulate and guide the development of the Fisheries sector. At the operational level, the sector is managed by the Department of Fisheries (DoF). The Fisheries Act of 2011 under the Laws of Zambia regulates the Fisheries Sector. The new Fisheries Act demands that an environmental impact assessment be conducted before a large scale aquacultural activity is embarked on, so as to ensure best aquacultural practices in the country. Government passed the Fisheries Act of 2011 with the objective of improving the involvement of communities in fisheries management and promoting development of the aquaculture sector. The Department currently operates under the guidelines of the National Agriculture Policy 2015-2024 (NAP). The completion of NAP provides an opportunity for the development of sector specific policy that details interventions for the sector. As of now, Zambia does not have a fisheries policy in place. However, a stand-alone fisheries policy is being developed. These efforts are aimed at realizing the full development potential of the fisheries industry in Zambia. Recent efforts by the government to enhance development and growth of the sector have been noted as a significant commitment to addressing the food security challenges faced by the country. It is important to note that further effort need to be directed at various levels within the sector, including defining the appropriate access rights and responsibilities at the local level with relevant regulatory oversight; and to implement the revised national policy that in order to strengthen the existing national management systems of the country’s fisheries resources.

© Ministry of Fisheries and Livestock, Government of Zambia

New Partnership to Develop Tilapia Feed Mill in Zambia

A new joint venture between Nutreco (Skretting Zambia) and African Century Foods (ACF) is looking to construct and operate the first dedicated fish feed plant in Zambia. The agreement is subject to regulatory approval.

Aquaculture in Zambia is developing at a rapid pace, in order to reduce the dependency on imported fish. A lack of high quality fish feed is the key bottleneck in the further development of the regional aquaculture sector, which primarily consists of tilapia farming. The new plant will be located at Siavonga, Lake Kariba, close to the major fish farms in Zambia and Zimbabwe, and will have an initial capacity of 25,000 tonnes of extruded fish feed. A substantial part of the capacity will be used to supply the Zambian and Zimbabwean tilapia farms of joint venture partner ACF, Africa’s largest fish producer with tilapia farms in Zambia, Zimbabwe and Uganda. Plant capacity will be expanded in a second phase with the aim of supplying the wider South-East African region.

The production of high quality, extruded fish feed will further support the development of aquaculture in this region. It will help fish farmers to increase efficiency and profitability, and as a result will also mitigate the environmental footprint of the sector.

Consistent supply of high quality feed is critical to the success of aquaculture operations in the region, specifically in Zambia and Zimbabwe. This new feed mill will allow both operators in Zambia and Zimbabwe to expand their operations and increase current production levels and help to reduce their cost of production.

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Common Market for Eastern and Southern Africa (COMESA) Headquarters are based in Lusaka, Zambia. SADC has entreated into a Tripartite Free Trade Area agreement with COMESA and East Africa Community (EAC). Eight SADC countries are also members of COMESA
Zambia's President Lungu has said it is scandalous for Zambia to import fish and has called for a stop to the trend, saying that Zambians are capable of producing sufficient stocks for home consumption and export.

He also disclosed that Government has secured $50 million from the African Development Bank (AfDB) to enable Zambians to venture into fish farming entrepreneurial projects, according to reports from the Zambia Daily Mail.

Zambia currently has an approximated 20 million hectares of land under water. The country is, however, importing an estimated 45 000 metric tons of fish annually. Mr Lungu was speaking in Chongwe’s Palabana recently after touring Palabana Fisheries, an aquaculture private company specialized in fingerling production and supply of dragging nets.

“I think this is an eye-opener for me. Zambia should stop the trend of importing fish. There is abundant water and we can utilize the labour. We can go back to where we belong and export fish around the region so we can reverse this in three years’ time and be able to export even to China because it is criminal to imagine that we are importing tilapia from China when the fish is indigenous to Zambia,” he said. President Lungu said Northern and Luapula provinces have abundant waters which can be re stocked.

“I am given to understand that the Chinese, at the time they were constructing the Tanzania-Zambia Railways rail line, picked some fingerlings from Zambia and started breeding them and they have expanded to a point where they are exporting back to Zambia, and where were the Zambians?” Mr Lungu asked. He also said that the money acquired from the African Development Bank would also be used in the fish restocking programme, to implement the initiative in rural parts of the country.

Minister of Agriculture and Livestock, Given Lubinda, said Government is working towards developing aquaculture farms and parks to reverse the trend of importing fish within one and half years. He indicated that areas where aquaculture parks will be established have already been identified. The intention is to bring fish farmers together to operate as co-operatives in order to pool resources together, and to lower the cost of doing business, both for farmers and for the government extension and support services. Mr Lubinda is happy that some farmers have formed an association called Aquaculture Development Association of Zambia, which is in constant dialogue with Government, and that incentives will be considered.

© Zambia Daily Mail and The FishSite

Fishackathon >>>

Fishackathon is a public-private partnership that aims to capitalize on the expansion of mobile phone and internet use across the developing world to address sustainable fisheries challenges. The annual Fishackathon event calls for coders and science enthusiasts from all around the world to come together to create new applications and tools for use on mobile phones and other devices, which can help fishers work smarter and more safely in sustainable fishing. Zambia hosted their first ever Fishackathon 22-24 April 2016, as their contribution to Earth Day, under the theme “Code for more fish in Zambia”.
Zambia to Create Four New Aquaculture Parks

In order to boost fish production in the country, four new sites have been identified for the development of aquaculture parks. The parks will have three aquaculture pond sites and one cage site and will be located in Kasempa, Rufunsa, Gwembe and Mungwi.

The project, dubbed “Zambia Aquaculture Enterprise Development”, is expected to contribute to economic growth and food security in Zambia. The implementation of the project will result in improved incomes and social well-being of people, creation of employment opportunities through fish processing, and reduced trade imbalance.

Other benefits are improvement of environmental conditions through catchment management activities, capacity building, targeting local communities, youth empowerment, management of natural resources, value addition and fish processing and entrepreneurial skills.

Meanwhile, some of the components of the project are support to aquaculture entrepreneurs to strengthen their framework to spur increased private sector investment into the domestic industry by supporting emerging entrepreneurs. Other components are support to aquaculture growth enabling infrastructure and project management.

Did You Know? Fish is a low-fat high quality protein. Doctors recommend eating fish at least twice a week. Fish is packed with proteins, vitamins and nutrients that can lower blood pressure and help reduce the risk of heart attack or stroke, cancer and arthritis. Most fish have highest concentration of omega-3 fatty acids which are essential for healthy brain, eye and nerve development in children.

Fisheries sector is a priority for the SADC Region as defined in the revised SADC Regional Indicative Strategic Development Plan (RISDP) and the SADC Regional Agricultural Policy (RAP). Guided by the SADC Protocol on Fisheries and implemented through the SADC Fisheries Programme. The SADC Food and Nutrition Security Strategy incorporate fish as an important source protein. This has been profiled in the report of a recently concluded study by the Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA), titled “The Role of Fisheries in Food and Nutrition Security in the SADC region”.

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Aquaculture company develops a USD 9.5m expansion programme

Yalelo Limited has devised USD 9.5 million investment plans to increase tilapia production at the company's cage fish farming operations in Zambian district of Siavonga. Referring to the plans, the firm’s chief executive officer Bryan McCoy explained that the expansion programme will make it possible for its annual fish production to grow from 7,000 tonnes to 30,000 tonnes in the next five years, The Post reported. McCoy also stressed that the investment will create additional 150 specialist full-time jobs and engages 100 non-skilled staff. “Yalelo is extremely proud to be investing further into local production capacity.

Zambia has the resources to be the leader in regional fish production, and Yalelo is ready to anchor Siavonga’s emergence as the aquaculture capital of sub-Saharan Africa,” the firm’s CEO pointed out.

For his part, Yalelo’s director Fisho Mwale stated the decision to increase production has been reinforced by national encouragement for the development of the aquaculture sector, as seen from the creation of the new Ministry of Fisheries and Livestock as well as the growing momentum behind the Aquaculture Development Association of Zambia.

“Yalelo is poised to be a major contributor to aquacultural production in Zambia. We have adhered strictly to good practices and environmental standards that are second to none in our first stages of development” Mwale said.

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WorldFish is an international, nonprofit research organization that harnesses the potential of fisheries and aquaculture to reduce hunger and poverty. In the developing world, more than one billion poor people obtain most of their animal protein from fish and 250 million depend on fishing and aquaculture for their livelihoods. WorldFish is a member of the Consultative Group for International Agricultural Research (CGIAR), a global agriculture research partnership for a food secure future.

Zambia hosts the Program Office of the WorldFish in Lusaka. The office is involved in projects in the Zambia’s Barotse floodplains, as well as a regional project on Fish Trade.

© WorldFish
Siavonga Kapenta

It is popularly known as Siavonga. This is the kapenta or sardine that is fished from Lake Kariba in Siavonga, Gwenbe and Sinazongwe Districts of Southern Province. Siavonga is a good source of protein, a delicacy which is eaten fresh or dry. It can be boiled, fried, roasted or cooked in tomato or ground source. Many people appreciate it because it cooks fast. The siavonga is also cheaper than beef and chicken.

Siavonga kapenta was first introduced to Lake Kariba in 1967. About 300 000 individual sardines were transported from Lake Tanganyika and planted into Lake Kariba in Sinazongwe. The sardines migrated to the deepest sides of the lake and were first fished in 1974 in Kariba Town in Zimbabwe, and in 1981 in Siavonga in Zambia and that is where the name Siavonga kapenta comes from. The siavonga kapenta is relatively smaller than the Lake Tanganyika kapenta which is popularly known as ‘Mbulungu’.

Mr. Emmanuel Silwimba who is Senior Fisheries Research Officer at Lake Kariba Fish Research Unit in Sinazongwe says the siavonga could be smaller because Lake Kariba is not as deep as Lake Tanganyika. The nutrients in Lake Kariba could not have been sufficient leading to the stunting of the sardine and it has since maintained the same stature.

In 1997, a survey was carried out on Lake Kariba using hydro-acoustic techniques so as to estimate the standing biomass and prescribe sustainable fishing effort for the sardines. The standing biomass was estimated at 20 000 to 30 000 metric tonnes. And in an effort to preserve the sardine, the Ministry of Fisheries and Livestock has put up some rules and regulations which the fishers have to follow.

To begin with, the siavonga kapenta fishers have to apply for a fishing license which costs K2 000 per year per fishing vessel. The fishers are not allowed to fish in waters less than 20 meters deep and the use of fish nets less than eight millimeters is prohibited. The fishers are also not allowed to fish from the breeding areas which are prescribed by the Fisheries Department. Mr. Silwimba further explained that sardine fishing is not allowed five days before and five days after the full moon. The number of fishing vessels has also been limited to avoid over-fishing and depleting the sardine population.

Siavonga kapenta is fished during the night using kapenta rigs. These rigs use mercury vapour lights connected to portable generators to attract the fish to the rig. A dip net measuring roughly six meters in diameter and around 8 to 10 meters in length is then used to bring the kapenta up.

It is a perishable commodity and has to be processed very quickly. Fresh siavonga is packed in plastic sachets and frozen. It is usually dried in the sun on a clean surface such as concrete slabs or netting. Drying on racks gives the best results. Some fishers salt it before drying it so that it gets a longer shelf life. Drying takes one day or more, depending on the weather.

The siavonga has a big market especially in Lusaka and Copperbelt provinces. It can be found in many big markets such as Soweto Market in Lusaka and Chisokone and Nakadoli markets in Kitwe. It is usually sold in 50 kilogram bags, one gallon tins popularly called meda and smaller tins.

Siavonga kapenta is packed with a lot of advantages. It is cheaper than most food commodities and is a good source of protein and minerals. Siavonga, a popular and fast cooking relish, tasty and is ideal for those with busy schedules.
The Department of Fisheries and the Policy Monitoring and Research Centre (PMRC) of Zambia hosted a two-day workshop at Chita Lodge and Resort in Kafue, to assess the status of fisheries in Zambia, specifically looking at policy, nutrition and trade issues. This workshop was supported by the World Fish Centre (WFC) in Zambia through the European Union (EU) funded Fish Trade project. The workshop was attended by representatives from the Zambian Department of Nutrition both in the Ministries of Health and Agriculture, University of Zambia, Lilongwe University of Agriculture and Natural Resources (LUAANAR) in Malawi, Makerere University in Uganda, SADC Secretariat, World Fish Centre and Lake Tanganyika Authority (LTA). The aim of the workshop was to strengthen the delivery on the national goals on fisheries and aquaculture, in line with regional and continental priorities. The meeting specifically reflected on the status on the implementation of the National Fisheries and Aquaculture Policy, the role of fish in National Food and Nutrition Security and the role of fish Trade in sustainable fisheries and aquaculture as well as livelihood for the fish-dependent communities. All organizations in attendance made theory presentations of their fisheries and aquaculture activities and how relevant are they to the development of fisheries and aquaculture in Zambia, specifically in assisting to derive interventions that will assist to unlock Zambia’s Fisheries sector potential. SADC Secretariat was represented by Dr. Motseki Hlatshwayo, Technical Advisor- Fisheries, who gave a presentation on the SADC Status of Fisheries Resources, which also covered domestication and implementation of the SADC Protocol on Fisheries and the SADC Fisheries Programme of Action.
Salting fish to improve livelihoods in Zambia’s Barotse floodplain

Fishers, processors and traders are working in partnership with researchers to improve the ways they preserve fish to increase its shelf life, reduce losses and create new opportunities for trade.

Life in Zambia’s Barotse floodplain is defined by water. Annual floods inundate the area and bring a diversity of aquatic life to the plain, with fish in particular providing a critical source of income and food for the area’s 250,000 inhabitants, more than 4 out of 5 of whom live in poverty.

As water recedes, many fishers and their families migrate to temporary fishing camps along the Zambezi River for up to 6 months of the year.

Without electricity or refrigeration, fishers must preserve their catch to stop it from spoiling. Preserving the fish is also necessary for the journey to the market. Retailers store fish so they can buy when the price is low and sell when the price is high, increasing their profits. The most common method for preservation used in the area are smoking and sun drying; however, these techniques come with challenges.

Smoked and dried fish are brittle and often break during packaging and transportation, creating losses for the seller. The smoking and drying processes also make the flesh susceptible to rotting and insect infestation, reducing its longevity.

To reduce these post-harvest losses, the CGIAR Research Program on Aquatic Agricultural Systems (AAS), implemented by WorldFish, through the Cultivate Africa’s Future (CultiAF) project, is working with communities to trial and refine fish processing technologies. The project uses a participatory action research approach, which treats communities as partners who drive the focus of the research and conduct experiments themselves. With guidance from the research team, 12 community groups have identified the challenges they face with processing fish. Community members in Webby’s village of Mukakani selected salting as one of the methods to trial in response to these challenges.

The benefits of slated fish are many. It is not easily attacked by weevils or rot, the shelf life is longer, and it maintains its original flavor, and does not break easily. Salting is the cheapest and least laborious. With smoking you need to buy firewood, but for salted fish you just need a basin, salt and knives, which are utensils people use to prepare fish anyway.

Salting is a new technique for many in Barotse. Fish that is salted in Barotse is purchased by foreign traders for export to neighboring countries, including the Democratic Republic of Congo and Angola.

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