

# LOVELL DONALD EMSLIE

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## EDUCATION & QUALIFICATIONS

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<i>Degree</i>	<i>Institute</i>	<i>Year obtained</i>
Masters (MSc) Degree in Mechanical Engineering	University of Stellenbosch	1999
Baccalaureus (BSc) Degree in Mechanical Engineering	University of Stellenbosch	1993
Also studied		
Masters Degree in Business Administration	University of Pretoria, South Africa	Subject requirement completed 2005

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## PROFESSIONAL EXPERIENCE

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### Lovell Emslie

#### *Agri- Evolve– 2016 – current*

- **Red meat and Cereal grain value chain development** – World Bank (Finance, Competitiveness & Innovation Global Practice - Africa (East)) – Laikipia Agriculture production Alliance, Laikipia County, Kenya. Contacted to conduct a pre-feasibility study, Feasibility study and business plan to secure private sector funding of agriculture production and agroprocessing. Integrating the interests of a diverse group of producers – from commercial to small / micro scale producers to pastoralist / woman and youth producers.
- **Red meat and Cereal grain value chain development** – World Bank Somalia – Scaled-up programme – Feasibility study into the intermediary financing targeting agriculture, fisheries and livestock – exploring complementarities.
- **Agriculture value chain development** – Dairy, red meat, aquaculture, horticulture, cereal and forage crop production systems in Mozambique, Nigeria, Botswana, and Uganda.
- **Agriculture production system development support** – Small and medium scale producer support
  - Ongole Beef – Beef finishing operation Laikipia County , Kenya
  - Ongole Beef – Beef production and finishing operation Taita Taveta County , Kenya
  - Elozie Television – Dairy production operation, Enugu, Enugu State, Nigeria.
  - Inther-Beira – Beef production and finishing operation, Sofala Province, Mozambique
- **Red meat value chain development** – Mountain Beef - Feasibility study and business plan to secure private sector funding for the expansion of existing agriculture production and to develop the business into agroprocessing – abattoir, meat processing.
- **Red meat value chain development** – Livestock and wildlife integration production system – Design, develop and feasibility study investigation and implementation of conservancy and rural community livestock production and rural economic development activity in South Africa and Botswana. Develop proposal to secure public and private sector funding for the implementation of production is 3 sites in South Africa.
- **Biomass to Energy and Soil fertility**
  - Charcoal kiln development – Research, design and prototype testing in collaboration with CAE - 2018. Strong emphasis on youth Skills development in collaboration with Vaal University of Technology.
  - Composting process research and development – Aerated static posting research, design and prototype process testing – 2020
- **Dairy value chain development** – Financial viability, business plan and infrastructure planning for a Dairy production and processing, and Grain production and processing project for a Ghanaian company, DairyMaster , Oct 2017 to present
- **Red meat value chain development** – Red meat sector analysis and Business plan for a red meat value chain project in Tanzania, June 2017, ongoing.

- **Business/production plan development:** Financial modelling and infrastructure planning for a beef production, feedlot, feed production and abattoir project in Angola, Oct 2016 – May 2017
- **Innovation / Agtech development :** Development of applied Agtech systems for commercial scale and small/micro scale application in a South African context. The focus is on biological food production principals to reduce the dependency on expensive and chemical input to the production system and to increase profitability and climate resilience of the production system.

**CAE / CAE Energy – Technology, skills development and business development advisor / consultant      2012 – 2020**

- **Project development consultant:** Municipal solid waste to energy and Materials recovery facility project development for the group of consortium partners, MSW to energy Modeling, Equipment specification, Financial modelling and financial viable study, and the application of funding from Development Bank of Southern Africa (DBSA)
- **Technical support:** Technical and operation support and equipment installation at the City of Windhoek WWTW
- **Project development consultant:** Financial modelling for WWTW sludge to energy City of Windhoek Gammams WWTW, and the application of funding from Industrial Development Corporation - South Africa (IDC), Namibia – 2012
- **Project Manager :** Compressed natural gas vehicle pilot for the IDC. Scoping, vehicle monitoring, data analysis and reporting.
- **Local technology development** – Diesel natural gas multi fuel technology.
- **Technology demonstration project** – Skills for Green Jobs project Implementing a Combine Heat and Power demonstration project in the food-processing industry, in collaboration with Vaal University of Technology, funded by Technology Localisation Unit of the CSIR, funded by the Department of Science and Technology and the German GIZ.
- In the process of establishing Innovation and Commercialization Platform in collaboration with Tshwane University of Technology – Alternative fuel and energy technology development for mobility
- Implement Diesel Dual Fuel demonstration project with Metro bus , City of Johannesburg. Convert two vehicles and operate these vehicles of 6 month as a technology demonstration project.

**Vaal University of Technology – Technical and innovation advisory consultant:      2012 – 2013**

- Established the link between the dti Footwear and Leather CSP project and the VUT, which resulted in the VUT being the custodian of the National Footwear Cluster.
- Suggested the formation of the VUT renewable energy innovation centre, which resulted in:
  - The Diesel Dual Fuel project with Metro bus , City of Johannesburg.
  - The technical support to Metrobus in tender specification development and technical evaluation of tenders for the procurement of new DDF busses, refurbishment and DDF conversion of existing busses, supply and compressing natural gas to the Metro bus depots, and the supply of bio-methane.
  - Application of funding to the Innovation hub, Climate change centre; SA Cities network, Technology localization implementation unit
- The development of the VUT business technology incubation business model, as well as the development of the proposals to SEDA technology programme.

**Business / Project development consultant – Sole Proprietor      2004 – 2015**

- **Sector development consultant** to the South African Government – Department of Trade and Industry (the dti)
  - **Project Manager :** contracted by the dti, Clothing and textile , footwear and leather sector desk to, implement the Footwear and Leather Customized Sector Programme (CSP) – Implementation of a sector development model to stimulate growth in the sector (target set at 100% growth pairage growth in 5 years), Initiate the development of a National Footwear Development Centre.
  - Support the dti to amend the “Competitive improvement programme” to allow for technology demonstration and technological innovation.
  - Sector competitive analysis for the SA Footwear and Leather sector.
  - The formulation of the Footwear and Leather sector, Competitiveness Improvement Programme.
  - Formulation of value chain cluster, and the development of cluster proposal.
  - Facilitate Industry and Labour Union workshops

- **Policy development:**
  - Clothing and textile competitiveness improvement project: SA Fashion week fashion designers cluster
  - Employment creation fund: Quick response clothing and footwear supply to SA retail.
  - Employment creation fund: Product and systems development for bio-gas and CNG to vehicle fuel supply chain.
- **Project Management** services to government/economic sector development, facilitated through an NGO - ComMark Trust
  - Clothing and Textile Customised Sector Programme implementation and incentive scheme development, Chief Directorate Industrial Policy, the dti, to:
    - Develop the Clothing and textile competitiveness programme (CIP) , and supported in the initial implementation
    - Initiate e development of the “production incentive (PIP)” programme in the dti
    - Support the dti to establish IDC CTCP desk to implement the CIP and PIP, and recruited the proposal evaluating resources.

*References Available Upon Request*

# Company Profile

Introduction to Agri | Evolve

**Agri Evolve** pty ltd

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## Agri-Evolve

Agri-Evolve is a company formed to validate the technical and financial viability of agriculture production systems in Africa and has subsequently have worked in West, East and Southern Africa and for clients that include World Bank Group and US AID.

The companies further developed a wide range of specialist associates, across more than thirty countries and specific experts and active practitioners in almost every single facet of the agricultural supply and production value chain.

## The Objectives of Agri-Evolve

Agri-Evolve is an agricultural value chain developer in emergent- and developing economy countries and recognises that there is a gap between potential investors and agricultural producers. The producers have a critical need for capital and investors are looking for investment ready projects. However, the producer and the investors do not seem to be able to successfully come together.

## Southern African Projects:

### 1. South Africa – Agri-Hub

The South African Agri-Hub development centres on the following areas:

- Commercial farmers producing livestock at scale for the 'Beyond Organic', 'Organic' and 'Economy' product ranges. (See below).
- The project focusses on Commercial farmers for the core production, and seeks to include emerging community producers to add scale and diversity.

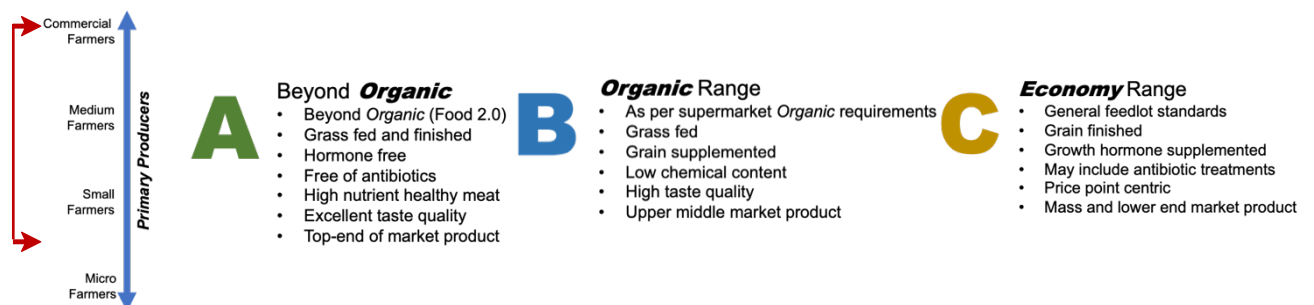


Figure 1: Vertical Development

- The Agri-Hub's focus is the postproduction processing stage of the value chain.
- This includes setting up an abattoir, meat processing and de-boning plant and five butcheries.

## **South African primary production of red meat– Mountain meat – South Africa, Van Reenen**

Mountain meat is red meat value chain project that was established by Agri-Evolve and Zandspruit beefmasters , a large commercial cattle and crop production entity. The project will include the expanding of the existing Zandspruit operation at the Van Reenen production facilities in KwaZulu-Natal and the existing Agri-Evolve operations at Steynsrus, in the Freestate province, and setting up cattle, sheep and crop production activities in the Freestate province at Vrede.

The benefit of the multiple site model is that the production risk is reduce and the risk of adverse weather does the impact on the whole operations. Therefore the risks of climate change is reduced.

The objective is the grow the business to slaughter 2500 cattle, 5000 sheep and produce 10 000 tons of cereal grain per year within 5 years. Agri-Evolve has developed the business plan and has been submitted to the Landbank / IDC for finance.



**Van Reenen cattle operation –  
Zandspruit, KNZ South Africa**

**Steynsrus cattle operation – Agri-Evolve,  
Freestate province , South Africa**

## **2. Mozambique – Agri-Hub**

The South African Agri-Hub development centres on the following areas:

- The development of Mozambican commercial farming remains largely under-developed.
- This project is a direct response to a tentative off-take agreement between Agri-Evolve and the Oil and Gas sector developing in Northern Mozambique.
- The aim is to develop a full Agri-Hub, like the South African and Kenya full-service Agri-Hub models.
- The preliminary work based on three-commercial farms in the Beira/Vilanculos area of Mozambique is underway, with further potential commercial producers following.
- The local farming development investment, support and development will come online in parallel, so that the growth and demand scaling come from local Mozambican production.

## **3. Mozambique Poelela Fisheries**

Mozambique are experience unprecedented growth and will continue to do so in the near future on the back of primarily the oil and gas developments in Northern Mozambique with a number of prominent international investors and mining companies investing \$128Bn USD over ten years to develop one of Africa's biggest natural resource deposits.

The Agri-Evolve did a field visit to the Inhambane or Vilanculos with a South Africa family farming entity, and explore the opportunities for agriculture development is Mozambique. Based on the visit and research done, Agri-Evolve developed a pre-feasibility study and will continue with a full feasibility study, and a business. The value chains that have been investigated and the financial viability completed, include livestock and cereal grain production.



## **4. Mozambique Inther-Beira**



Integrated agriculture production model for livestock and cereal crop production for the local market in Beira and the Oil and Gas sector in the north. Further integration between commercial livestock producers and pastoralist to supply red meat to the high for reliability of supply into the market.

**Progress:** Market analysis and feasibility study underway.

**5. Namibia:**

The rebooting of a failing dairy operation, developing it to a full Agri-Hub based on drip irrigation. The project concept is underway and negotiations with all the stakeholders started. The project requires pre-feasibility funding to bring it to investment readiness. The local stakeholders need much more engagement to close the deal.

**6. Tanzania:**

Early-stage initial concept development for a future Agri-Hub is underway. Stakeholder identification in progress, with the first domestic partner negotiations underway.

## **East African Projects:**

**1. Kenya Red meat project – World Bank Group – Kenya, Laikipia:**

Lovell Emslie was appointed by the World Bank in July 2018 to do a high level investigation into the feasibility to embark on a red meat development project in Laikipia county to support the economic development activities of the Governor of the county, with the primary focus to secure private sector finance for developing the sector.

Based on a favourable outcome of the pre-feasibility phase Agri-Evolve assembler a team was appointed to do a complete feasibility study and a business plan on the red meat value chain in the county. The 11 person team consisted of local and foreign experts in the fields of disease management, grazing improvement, animal, crop and fodder production, abattoir and meat processing facilities, financial viability assessment and financing (micro, impact and development finance).



**Livestock value chain interaction with the Musul group ranch**

Agri-Evolve suggested an integrated model – integrated pastoralist and commercial livestock producer model to supply red meat to the high income portion of the Kenya market, as the model enable investor risks to be contained.

The project is ongoing and the future activities will be split into financing the cereal grain production/processing and livestock production/ processing activities based on the integrated model, and on the activities that will focus more on the small scale farmer development. The cereal grain – and livestock production/ processing opportunities has been packaged, and are being submitted for funding to UK based impact investors, and private investors from Australia. Agri-Evolve work closely with a UK based company that support the fund raising activities.

**2. Somalia Red meat project – World Bank Group – Feasibility of livestock and agriculture sector development opportunities in Somaliland, Somalia**

Agri-Evolve was contracted in 2018 to carry out a high-level investigation into economic development opportunities in production, processing and exporting activities in the livestock sector, and the development of the crop production sector in Somalia. The work was done as part of the World Bank Group's (WBG) SCALED-UP Program for intermediary financing targeting agriculture, fisheries and livestock.

The feasibility study described a range of interventions that should be investigated to establish a well-integrated, value-based animal production system that should be able to address most if not all of the supply-side failures. It is further suggested that the crop production sector should be

integrated into the development of the livestock sector, while dairy production should also be pursued.

**3. Kenya Full, all component, Agri-Hub,**

Starting with selected commercial farmers. **Progress:** Planning and initial negotiations completed, capital raising stage, launch expected during 2022).

**4. Uganda Dairy Development:**

Early-stage initial concept development for a future Agri-Hub is underway. Stakeholder identification in progress.

## **West African Projects:**

**1. Ghana Dairy master dairy operation:**

The development of the first commercial dairy farm. Once set up, the dairy will become the core of a whole Ghana Agri-Hub scheme. **Progress:** capital raise approved; awaiting Government programmes approval.

Based on a request from Dr Edwin Nkansah the representative from Dairymaster , Agri-Evolve developed a business plan to establish a green fields pasture based dairy in the Eastern region of Ghana, 30 km from the harbour town of Tema and 70 km from the capital city, Accra.

The Agri-Evolve team visited Ghana and the region that was identified to establish the dairy production activity in January 2018. The visit enabled the team to access the technical viability of the project in the region, and based on the field assessment the team developed the business plan that was subsequently submitted for funding to the Ghana commercial bank (GCB) with support from the Ministry of Trade and Industry.

The project will import cattle , equipment and skills and expertise from South Africa to get the project off the ground, and gradually transfer the operations to Nkansah family and local management.



**The land secured for the project – Dairymaster, Ghana**

During the initial phases on the project, the revenue will be generated from the sales of pasteurised milk and a small amount of yogurt, butter and cheese. As the milk production increase and the brand is well established and recognised in the market, a larger milk processing facility will be establish to produce larger volume of yogurt, butter and cheese. If the market opportunities allow a ultra high temperature (UHT) facility will be established.

**2. Nigeria Dairy Operation:**

Dairy farm based Agri-Hub plan in the centre of Nigeria, ready for Nigerian central bank capital incentive project for agriculture. **Progress:** NDAs agreed with global dairy company and with key local stakeholder in advance of a joint pre-feasibility fund-raise effort.

## **Non-African Project List:**

**1. Kazakhstan** Red meat value chain development

Primarily beef value chain in the western steppes of Kazakhstan. The project will focus on developing the value chain to be market oriented – Developing a market for red meat based in the supreme meat quality of the Podolian cattle and the heritage breed association. **Progress:** Partner stakeholder Identified, and outline concept agreed and pre-feasibility under way

**2. Pakistan** Rural agri-town development.

**Progress:** Partner stakeholder found, and outline concept agreed.