

Utilising Renewable Energy for Commercial Quail Production: Case of Umodzi Poultry in Malawi

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Quail farming has been gaining popularity in Malawi since the early 2000s. Like other poultry businesses, quail farming is profitable and has several advantages including easy management due to their small size, not requiring a lot of space for rearing; their meat and eggs are a great source of nutrition; they grow and mature in just six weeks and are hardy with low risk of disease and sickness.

However, few smallholder farmers are involved in commercial quail production enterprises even though quails are considerably easier to rear and manage even in rural settings. The main constraint is that quails need to be fed in-house and so the farmers need access to supplies of feed. Farmers are generally not organised and do not have structured arrangements to help them produce and market quails to the middle and high-end markets. Even agri-SMEs have not focused on mobilising small-scale producers, facilitating improved production, aggregation, and offtaking to consistently meet the growing market demand.

Umodzi Poultry, a Malawian-owned agri-SME based at Santhe in Kasungu District has dared to take an unusual path in quail production. Umodzi has organised smallholder farmers into an out-grower scheme to facilitate increased quail productivity for its own growth and improved incomes for the smallholders. Interestingly all the production facilities – including incubators, brooders, refrigerators, and water system – are powered by renewable energy, solar and biogas. The company is also promoting the use of environmentally friendly materials for the construction of quail houses.

CREATING ECONOMIC OPPORTUNITIES THROUGH QUAIL PRODUCTION

About two kilometres off Mchinji-Kasungu Road, at Santhe, lies a 50-hectare farm, the home to Umodzi Poultry, a social enterprise that was founded by two partners, Mathews Tisatayane Sapemba and Sean Mandell. Its business concept was hatched in 2018 and was inspired by the vision of women in the village surrounding the farm who had started making significant strides in their village savings and loan group but lacked an opportunity to turn the contributions into a viable business.



Late Mathews Tisatayane Sapemba at the solar system site

Before his sudden death in a road accident in October 2024, the late Mathews Tisatayane Sapemba disclosed that Umodzi Poultry was born out of the desire and belief in the power of creating economic opportunities through improved productivity, for people to attain self-reliance and consequently contribute to the development of their communities.

Umodzi Poultry started the quail business in 2018 and was incorporated as a Private Company Limited by shares in 2022. As a commercial entity, Umodzi Poultry has focused on quail production initially in collaboration with Mthetsankhuli Women Cooperative.

While Mathews Tisatayane is gone, the dream lives on. The company has started expanding its reach, targeting at least 1,000 smallholder farmers in villages around the farm as its out-growers. These smallholders are equipped with skills in quail production, access to production facilities and inputs and in the end, sell their mature birds to Umodzi Poultry as a ready market.

Since Mthetsankhuli Cooperative started working with Umodzi Poultry, its members have reported an improvement in their economic status. Some members have bought goats, pigs and other livestock for commercial production, while others can pay school fees for their children. Other members also invested the profit in irrigation farming which they use as an alternative income source.



Members of Yankho Club (Photo – Vincent Eliya)

The benefits have not only improved the living standards of the farmers but also inspired other women to form groups and join the venture, such as the Yankho Club. The benefits have also helped to change the attitude of men who initially were stopping their wives from participating in the activities of the women groups. It is reported that now men are encouraging the women to work hard in their groups to increase the benefits.

As a group, they have done well, generating an annual profit of 1,300,000 Malawi Kwacha in 2023 and 2,200,000 Kwacha in 2024. The members shared part of the profit, which they used to venture into other businesses, while keeping a considerable amount in the village bank for operations. The benefits of this engagement between Umodzi Poultry and Mthetsankhuli has fuelled the motivation of the clubs which have been formed under the CASA-supported initiative to support establishment of the out-grower scheme that facilitates increased quail productivity and incomes among smallholders.

CAPACITY AND TECHNOLOGIES FOR QUAIL PRODUCTION

Umodzi Poultry has demonstrated the capacity to increase quail productivity through technologies which are environmentally clean. In 2022 it invested in start-up equipment and materials, to a tune of US\$80,000 (using savings from the two initial owners) required to operate a hatchery at a commercial scale. This included solar panels and batteries, incubators, and a bio-digester as investment into productive equipment.



Angella Sapemba opening the feed mixer (Photo – Vincent Eliya)

The farm has a 25 kW solar system which is used to run the incubators and provide lighting, and a biogas biodigester that they initially used to provide heating for brooding. The installed solar system can support 5,000 birds per week, with excess power available for other uses. Umodzi Poultry has four incubators, with a combined capacity of 20,000 eggs and a coop with capacity to hold 3,000 quails. The company also has a feed mill facility waiting to be mounted. In addition to the productive equipment, the company has a refrigerator for cold storage, a dressing machine, and a rechargeable motorcycle which they use for door-to-door free delivery service of the quails, all powered by solar energy. The farm also has a solar-powered water system from which they access clean water for use in the quail production process, home use for the workers at the farm, as well as supplying it free to the surrounding community.



Joseph Makalani, Production Manager, and Angella Sapemba, Accountant, at solar control unit (Photo - Vincent Eliya)



Joseph Makalani showing the feed mill (Photo - Vincent Eliya)

CLEAN TECHNOLOGIES FOR INCREASED PRODUCTIVITY

Umodzi Poultry has pioneered the use of renewable energy in poultry production. All the machines and technological facilities that are used in the production of quail are powered by renewable energy. This helps to ensure steady and reliable power supply, which is key to minimizing production risks such as loss of eggs during incubation or premature deaths of the quails during brooding. In addition, the use of renewable energy is helping to conserve the environment and protect the farmers from climate induced shocks.

Elsewhere when SMEs or farmers have limited access to reliable energy, the tendency is to use charcoal burners for brooding, which leads to destruction of trees. In addition, another problem with using charcoal burners is that it is always difficult to regulate the required heat levels. As such, there is always the risk of losing the quails.



Solar panels at Umodzi Poultry

Umodzi Poultry champions the construction of quail houses using environmentally friendly materials. At the farm, all the quails' houses are constructed using cement bricks and thatched with grass while all the targeted farmers have constructed their quail houses using compacted earth (mdindo) and thatched with grass. According to them, such houses are not only low cost, but they also help to protect the environment since no firewood is required to burn the bricks.



Biogas digester at Umodzi Poultry



Members of Yankho Club in front of quail houses (Photo – CASA Malawi)

OUT-GROWER SCHEME WITH SMALLHOLDER FARMERS



Members of Tikondane Club in front of their quail house
(Photo – Vincent Eliya)

With support from CASA, Umodzi Poultry has established an out-grower scheme involving 1,075 smallholder farmers (78 percent women) from the surrounding villages. The farmers are organised in groups of ten for easy management. The model is that each group receives 250 three-week-old quails to raise and sell back to Umodzi per six-week cycle, raising a total of 1500 quails a year. The out-growers are selling to Umodzi at wholesale price for further processing and marketing. Beyond the pilot, Umodzi plans to gradually support the women's groups to graduate into independent businesses that can raise more birds annually, purchase their own inputs and sell directly to consumers and other lucrative markets. The women will be at liberty to rear more quails, not limited by Umodzi offering small numbers (lowering their risk of loss) while Umodzi itself will benefit from selling them inputs for cash.

In January 2025, Umodzi Poultry distributed quails to three farmer clubs as a demonstration of their business model. Each group received 250 quails for rearing. In the end, one group suffered a minor loss as 40 quails died due to a disease attack. This offered significant lessons to the farmers regarding management of the quails. Nevertheless, feedback from the groups indicates that the farmers are excited to be part of the scheme, which they describe as a life-changing economic opportunity.

THE BUSINESS PROSPECTS FROM QUAIL PRODUCTION

There is a significant business opportunity for both Umodzi Poultry and the smallholder farmers. While they are currently selling the quails through local trading centres, Umodzi's growth strategy is to meet an initially identified demand of 22,000 quails in hotels, supermarkets, bars and restaurants in Lilongwe and Kasungu. To achieve this, Umodzi Poultry is set to utilise the availability of reliable power supply to maximise incubation and brooding services. The company seeks to increase monthly production from 2,000 to an initial 22,500 within a year to meet the current available demand, until they can produce up to 150,000 quails per year.



Joseph Makalani and Angella Sapemba at solar panels
(Photo – Vincent Eliya)

DIVERSIFICATION AND SOCIAL INCLUSION

Both Umodzi Poultry and the farmers' clubs are diversifying their activities. Umodzi has started constructing ponds to use for aquaculture, to widen their business offering with the ponds planned to utilise the quail droppings for fertilisation. Benefitting from the solar-powered water supply, one of the farmers close to the communal taps is doing irrigation farming, growing chilli pepper. The farmers use gains from village savings and loans and proceeds from chilli sales to meet their household needs and at other times to cover quail production costs.

While most of the farmers engaged in the out-grower scheme are women, there are also men in the groups. In most, there is at least a man who helps in tasks such as construction or roofing of the quail houses.



Farmers in chilli pepper field at Umodzi (Photo – Vincent Eliya)



Pond construction at Umodzi (Photo – Vincent Eliya)

REFLECTIONS

While Umodzi Poultry has invested in most of the required equipment and production facilities, it still needs additional investment to support its operations. Supporting 1,075 smallholder farmers with inputs (e.g., quail chicks, feed) and the market requires resources.

Using renewable energy in commercial quail production is ideal as it saves time, is reliable, less risky to the quails, and also profits the environment.

CASA strategic support focused on components where the company did not have strong capacity, including farmer mobilisation, investment facilitation, setting up a sustainable extension system and contract farming arrangements.



Solar-powered water system and quail houses at Umodzi (Photo – Vincent Eliya)



Commercial Agriculture for Smallholders and Agribusiness

