



WATER and
ENERGY
for **FOOD**



Q&A for Developing Business Models for Base of the Pyramid (BoP) Consumers

1. For Hydroponics Africa, what is the lowest cost hydroponics setup that easily adoptable by the BOP beneficiaries?

Hydroponics Africa: \$100 and it comes with starter kit of seedlings and nutrients for 3 months.

2. For Lal Teer Seed, will the new technology to tackle counterfeits up the production costs and if so, how will that be countered?

Lal Teer Seed: The technologies we apply to tackle counterfeits cause some extra expenditure. However, the COGS of seeds do not increase significantly due to this expense and the reflection on the price of a single pack of seed is very nominal since we purchase the technologies in bulk.

3. For Hydroponics Africa, how do you go about Quality Assurance and testing, especially for the medium?

Hydroponics Africa: We outsource the water testing through government chemists. For nutrients, we came up with our own formulation that was passed by a relevant authority.

4. For aQysta, what are the risks in models like EASI-pay? Does the customer always pay on time? What has your experience with respect to payment delays?

aQysta: There are a number of possible risks with this system. Farmers may not be honest with the amount of crops they harvested, crop failure, and payment delays or no payment at all. Based on our experience, having someone or an organization we (aQysta and the farmers) can trust is key. We have established a system where we have regular meetings before cultivating the land, during, and post-harvest. In the post-harvest meeting, we gather farmers together to share their updates, feedback, and payment. Regular meetings have prevented payment delays because we have been with the farmers along the way.

5. All, how easy or difficult is it to serve BoP customers when you expand to a new country or market?

aQysta: We started the EASI-Pay model in Indonesia, and we tried to adapt it in our other focus countries. It has not been easy. To have the EASI-Pay model running and established is a good start but when expanding to another country we cannot duplicate it exactly as is. Local context has changed the form of EASI-Pay in other countries and developed into new programs.

Hydroponics Africa: It is sometimes difficult to communicate since most BOP customers speak only in their local language. However, it also easy because almost all BOP customers have common problems when comes to growing their own food so we can use same design and model.

Lal Teer Seed: Our crop varieties were developed considering the climatic condition of our country. We have tested the varieties through several multi-location trials in the country and found good results. In a new area where the climate and soil conditions are quite similar, we believe the seeds can perform well. Also, besides good seeds, it is also very important to follow Good Agricultural Practices (GAP) for getting a desired outcome. In adverse conditions such as salinity, drought or high heat, the end users also need to follow some easily adoptable cultivation techniques to get good results.

6. For Hydroponics Africa, what is the surface area that a \$100 hydroponics system would cover in square meters?

Hydroponics Africa: It depends the type of crop the farmer wants. For crops like tomatoes, the area is 40 m² while vegetables, tubers and fruits (like strawberries) that are grown 2 to 3m vertically cover a surface area of 12 m².

7. For aQysta, what kind of social and economic impact have you seen with farmers that are using the Barsha Pump?

aQysta: Most EASI-Pay farmers we work with are not commercial farmers. They depend on the rainy season to water their land and stock crops for the dry season. Only a small number of farmers grow crops during the dry season for their own consumption. Prior to the Barsha Pump, all-female farmers were spending hours taking water from the river to their land. With the Barsha Pump, they can now use the time to weave which adds extra income. Another group of farmers had almost nothing to eat during the dry season because the rainy season was very short. Now, they can grow their own food and have more to sell to increase their income. Most farmers work hard and worry

about their children. One of our EASI-Pay farmers can now pay for her child to go to university. For more of our impact stories, please visit:
<https://www.aqysta.com/stories/innovating-for-impact/>

8. All, you've all talked about your successes. How often do things go wrong and how do deal with them? And how have you learned from your challenges?

aQysta: Things can go wrong so often. But if we try our best and constantly innovate, the things that go wrong give us lessons to learn from. I think that's the mindset you must have to deal with it.

Hydroponics Africa: 20% of first-time farmers report challenges after installation, most of them being because of wrong use of system. We have learned that there is a need to develop simple training materials in the form of a video that they can use at home.

Lal Teer Seed: One of the biggest challenges we face is female farmer engagement. We have designed different engagement tools, such as community meetings, farmers' training, farmers' gathering that have strong gender components to engage more women farmers. We have observed that the smaller community meetings have more women participants (around 60%) compared to the larger activities (i.e. field days 25%). In addition, it is difficult for some marginal farmers to buy seeds and other necessary inputs. We invite microfinance service providers to attend our field days which enables the farmers to have access to loan facilities.

9. All, do you incorporate charges to delayed payment in your package?

aQysta: No.

Hydroponics Africa: No, we don't. Instead we reward the ones who pay on time with extra nutrients in order to encourage timely payments.

Lal Teer Seed: Lal Teer distributes its seed to the farmers through its dealer network. The dealers purchase seeds from Lal Teer and sell to the farmers (end users). The company does not charge for any delayed payment. However, we always motivate the dealers for paying on time.

10. All, how has covid-19 impacted your models and how have you been able to make adapt?

aQysta: Some of our EASI-Pay farmers are hesitant to continue cultivating their land, because they are afraid of the virus. Some farmers interested in joining the EASI-Pay

model this year have canceled. Because of the unstable condition during Covid, they need to rethink their investments. To adapt, we are setting an example that as long health protocols are followed, farming should continue to be an important activity. Even more so during times like this.

Hydroponics Africa: Lockdown has resulted in less or no field visits to do crop support. To mitigate this, we started selling hydroponics systems with crops already growing because 95% of challenges take place at the transplanting and root development stage.

Lal Teer Seed: Due to the travel restrictions, seed transportation and distribution was a big challenge. Lal Teer had to arrange alternative transport systems (hired cars and vans) to keep the supply chain alive which costs the company extra expenses. The seed production cost has also been higher due to the worker and laborer crisis during this pandemic. The company ensures safety in different steps of its supply chain through distributing safety equipment to its staff, workers, contract growers and dealers, and maintaining social distancing. For promotion of our products, we have been using digital tools like digital leaflets, mobile apps, and a call center for reaching the farmers. The company has been giving flexibilities for credit repayment to the seed dealers so that they can provide the same to the farmers.



Government of the Netherlands

