**Insights on Maximizing Revenue for Smallholder Farming**

**Problem in India**

There are more than 117 million smallholder farmers in India tilling small plots of land that are less than 5 acres in area. Incidence of poverty (as defined by the $3.10/day threshold) among this group exceeds 58% [1] in many regions. Amongst this group, smallholder farmers growing vegetables are extremely vulnerable. The perishable nature of their produce gives them little bargaining power in a market where prices can fluctuate wildly. Added to this market risk, rising costs of agricultural inputs and decline in soil health is making vegetable farming an unviable proposition.

Our innovation addresses the challenges faced by a smallholder farmer growing vegetables and enables them a steady and regular income that is 5-10x more than existing options.

**Specific Innovation and Expected Outcomes**

Our primary beneficiaries are smallholder farmers growing vegetables with access to atleast 1 acre of land, irrigation facilities, and located within 100 miles of a large demand centre (i.e. a metro city like Bangalore, Mumbai)

Our Innnovation

Our Technology Innovation and Process Suite (TIPS) enables smallholder farmers to grow 20+ varieties of organic vegetables, 365 days a year with constant production of ~100Kgs/day on just 1 acre of land. Our TIPS uses intelligent farm design that is based on 3 major principles:

(A) Investment in Soil Health at the Outset- Our proprietary mix of 4 different soils increases productivity in the very first harvest, a rare feat in organic agriculture where the soil usually takes 2-3 years to regenerate. Our soil preparation technique uses virgin soils brought in from nearby commons to accelerate this process.

(B) Diversification and Permaculture- We scientifically combine 20+ varieties of vegetables in carefully planned combinations to increase yield. For example, an onion plant is planted in close proximity to spinach- the limited foliage of an onion plant does not compete with the large foliage of a spinach plant.

(C) Self Reliance on Inputs- We grow a variety of grasses on the perimeter, harvest them periodically, compost them on an on-farm pit, and augment soil health from the manure thus generated.

We provide 2 major services to farmers to help them implement our TIPS on their farms

(A) Production Planning - Our Farmer Extension Services team works closely with farmers to help implement our TIPS on their farms. We use simple tools such as Production Charts, Daily Seeding Plans, Daily Harvest Charts to help farmers implement our TIPS.

(B) Assured Buyback- We provide a 100% gurantee to purchase all produce from the farmer with a small premium over prevailing market prices. This helps farmers focus on farming and leave the marketing of produce to us.

Expected Outcomes

(1) Increased Income: Farmers can earn $400-600 per month; a 5-10x increase compared to existing options.

(2) Reduced Risk: By growing 20+ vegetables with a constant year-round production, farmers are able to convert single lumpy and volatile cashflows (once in 90-days and highly unpredictble) of vegetables farming to a daily recurring cashflow.

**Scalability**

Over the next 18 months, we will further prove our concept and prepare the ground for scaling. We have divided our project plan into three phases:

(i) Phase 1 (Completed): Prove our TIPS on our first farm and serve 200 direct customers in Bangalore through 2-4 distributors. Milestones Established- (a) Demonstrated Proof of Concept of TIPS (b) Build evidence to show customers are willing to pay premium for high-quality organic fresh produce

(ii) Phase 2 (Oct 2016 - March 2017): Build a Farmer Services team to help 50 farmers replicate our TIPS on their farms. Expand Sales & Marketing network in Bangalore to serve ~2,000 retail customers in Bangalore. Milestones to Establish (a) Demonstrate the social impact and economics of our TIPS for smallholder farmers over a sample size of 50 farmers.

(iii) Phase 3 (April 2017 - May 2018): Increase farmer base to 200, serving them through a model of cluster team, which includes a team of 4 farmer service professionals with a team leader, each serving a cluster of 50 farms. Milestone to Establish (a) Demonstrate the capability of a cluster team to successfully implement implement all aspects of our TIPS for 50 farmers.

**Success Metrics**

1. Baseline Metrics (collected for each farmer at the time of entry into the program): a. Acres of land holding; b. Estimate of net income from agriculture

2.Input Metrics: a. Farmers reached out to (Quarterly); b. Farmers enrolled in program (Quarterly)

3. Output Metrics: a. Farmers with successfully commissioned farms (Quarterly); b. Number of farmers getting access to formal credit (Quarterly) c. Average Daily Yield among commissioned farms (Monthly) d. Average Monthly Revenue per farmer (Monthly)

4. Outcome/Impact Metrics: a. Net Income for each farmer, based on actual revenue earned and an estimate of cost of production (Half Yearly)