The App for Homestead Sustainable Agriculture produce Procurement and E-Payment (A-HOPE)

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Modern Sustainable Agricultural Practices

Small Farms and Organic Homesteads in Asia: Missing the Bus!

Organic Markets – Growing exponentially in Asia and commanding Price Premiums.

Small Farmers are missing out on this opportunity!

Organic Homesteads and Small Farms – Require Two Things:

A  Modern Sustainable Agricultural Practices

B  Market Access - Procurement, Traceability and Organic Certification suited for small farmers.

Focus of this presentation
What do smallholder farmers need

Agricultural context of Homesteads/ Small Farmers in Asia

Fragmented Land Holding
Increased travelling time between fields, leading to lower labour productivity and higher transport costs.

Need for an appropriate procurement model
Current procurement model suited for large plantations – Need for customized model for small holding

With an average landholding size of 1 hectare, there is a need for a dedicated, appropriate procurement model for Homesteads/ Small Farmers in Asia that ensures

Traceability, Quality Control, and Transparency.

Started in Kerala
Expanded to North east
Next step – Expand to South East Asia

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Market Access – Procurement, Traceability, Organic Certification

- **Traceability**
  - Trace produce from market to farm.
  - Track farm inputs and services into the farm.

- **Organic Certification**
  - Traceability aided reporting for organic certification
  - Quality linked value realization of produce for farmers

- **Procurement**
  - Aggregation: Single Window’ model for farm services
  - Procurement hub and spoke model; GPS linked

- **Technology Platform**
  - Facilitated and driven through technology platform - AHOPE

**Driving Factor**
A-HOPE: Mobile-based, integrated transformation

**Aggregation of Farmers**
- Creation of a hub and spoke model for procurement.
- Bringing together all farmers through a GPS linked system.

**Integration of Farm Services**
- ‘Single Window’ model for farmers built on an integration of services (procurement, harvesting etc.)

**Price Discovery & Digital Transactions**
- Transparent pricing available real-time.
- E-payment powered by Federal Bank’s payment gateway.

**Process Monitoring**
- Linkage to ERP and other shared services for centralized monitoring.
- MIS and data reconciliation for monitoring.

**Demand-Supply Matching**
- Connecting the growers/ producers directly to the processing unit/ end users/ market. No middle-men.

**Traceability**
- Ability to track farm inputs and produce: From farm-gate to market.
- **Shared services** for accounting to ensure reconciliation.
A-HOPE: Key stakeholder and How it works

Click [here](#) to see video
A-HOPE: A model of integration of Coconuts and Coir in North Kerala

Key Stakeholders
- Homestead farmers
- Copra Drying Unit
- Driver
- Processing unit/De-fibering Unit

Mobile Application
- A-HOPE Farmer
- A-HOPE Agent
- A-HOPE Driver
- A-HOPE Manufacturing Unit

Piloted in Perambra, a town in Kozhikode district with the Perambra Coconut Producer Company Ltd. (PCPCL). PCPCL, a collective of 25,000 homestead coconut farmers also has a de-fibering unit and coconut oil manufacturing factory.

A-HOPE in Perambra

1. Aggregation of Farmers: A-HOPE links all the 25,000 coconut farmers and the manufacturing units, by creating a GPS linked hub and spoke model.

2. Integration of Farm Services: A-HOPE is the ‘Single Window’ for multiple farm services like harvesting (shared automatic climbing), maintenance of farm etc.

3. Price Transparency & Digital Transactions: Transparent prices of the coconut (and husk) – as per the Vadakara Market. All payments are on a Federal Bank payment gateway (our banking partner for the pilot).

4. Process Monitoring: Ability to capture details of farm inputs like source of input, frequency of application etc.

5. Demand-Supply Matching: The Farmers sell to the Copra Drying Units, the CDUs to the Factory. This is managed on the app.

6. Traceability and Accountability: GRNs and receipts of copra and oil mapped to their corresponding batches, from farm-gate to market.
A-HOPE: Work Flow in Perambra

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App Registration
1. A-HOPE Farmer
   - Personal, homestead (GPS, crop details) and bank details.
2. A-HOPE Agent
   - Unit, Godown and bank details.
3. A-HOPE Driver
   - Personal, Vehicle and bank details.
4. A-HOPE Manufacturing Unit
   - Unit, Production and Godown details.

Aggregation
5. Supply-demand matching
   - Request for pick-up/farm services/etc.
   - Multiple requests
   - Supply-demand matching
   - Assigning logistics provider
   - Demand log required for produce

Integrated Farm Services
6. Farmer GRN
   - Linked
   - Quality Check/Grading
   - Copra Batches
   - Linked
   - Coconut Oil Batches

Traceability
7. e-Payments via Federal Bank
8. Process Monitoring/MIS on application
A-HOPE: Technical details and FAQs

Technical Details

Development tools used:
1. Microsoft .Net (For API)
2. Angular 5 (for Web Application)
3. Visual Studio IDE
4. ReactNative

Database: Postgresql

Hosting Server: Windows Cloud server from Amazon.

Q Does the Farmer need to have a smartphone?
A No. We recognize that all Farmers do not have smartphones. A-HOPE will have a call centre (for booking requests, queries, etc.) and SMS-based updates for Farmers without smartphones.

Q Does the app work on low-end smartphones?
A Yes. The app works on all android smartphones. There is no RAM or Processor requirement.

Q Does the phone require 4G network to download the app?
A No. The app can be downloaded on any 2G or 3G connection. Any public wi-fi can also be used.

Q Is the app available on iOS?
A No. Currently, the app is available only for android phones.
Way Forward

• We are in discussion with the Ministry of Agriculture, India for roll out in select states in India

• We are in discussion with the International Fund for Agriculture Development (IFAD) for a pilots in Asia with focus on Philippines and India.

• If you require further information on A-HOPE, Please contact us at info@mbyom.com; We will send updates to those interested on the launch of app on the Google Play store (free download).
mByom: An implementation-focussed Consulting firm

mByom is an implementation-focused Consulting Firm working in the area of Sustainability: across Agriculture, Environment and Healthcare & Nutrition. The mByom team has extensive Consulting experience across India.

The mByom team is a unique mix, well-positioned to help clients. Our Differentiators have been illustrated below:

- **Team Mix of Engineers, MBA professionals and registered PMP practitioners.**
  - Industrial and Electrical Engineers with MBA degrees and registered PMP practitioners
  - Combined experience of 50+ years of Consulting experience.
  - Worked across a wide spectrum of clients in Government and in the Private sector.

- **Technical Expertise in implementing technology solutions in different sectors**
  - Successfully implemented technological solutions in hospitals, government organizations and private sector organizations.
  - Hands-on experience in implementing customized ERP modules across all departments of an organization.
  - Also implemented Electronic Health Records hospitals in India, USA and Italy.

- **Expertise in Sustainable Agriculture, Environment and Healthcare**
  - Currently working with the Government of Kerala in reviving the Coir Sector in Kerala.
  - Constantly engaged with the Kerala State Planning Board, the M. S. Swaminathan Research Foundation, etc. on these areas.
  - mByom is also working with a private Electronic Health Records company in transforming healthcare and hospital services in India.
Brief profile of Ajit Mathai

Ajit Mathai, Founding Partner, mByom

- 30 years of experience.
- Alumnus of REC Trichy and XLRI Jamshedpur. Golden Jubilee Distinguished Alumni Award- NIT, Trichy
- Worked 15 years in Deloitte and other “Big Four” Consulting Firms.
- Hands-on experience of running produce collection centres and organic farms. Interacted widely with growers and suppliers.

Ajit is the Founding Partner at mByom Consulting and Management Services LLP, with 25+ years of diverse experience. Ajit is involved in organic farming and is a founder member of BDAI (Biodynamic Association of India), Advisory member of the BASIL Academy (Sustainable Agriculture) and was a former Executive Committee Member of the Palni Hills Conservation Council (PHCC).

He has advised Governments/Public Sectors on institutional reforms, sector revival plans, project management practices, technology implementation. He has worked in most states of India, Bangladesh, Sri Lanka and Nigeria.

In the area of sustainable agriculture, has been driving the 1000-day sustainability program in Kerala built on the convergence of Coconuts and Coir in the homestead. A micro-procurement model led transformation of the Coir sector is currently being program managed by him. Ajit has been engaging extensively with the Department of Agriculture, Industries Department, Kerala State Planning Board; Ministry of Finance & Coir, State Institute of Rural Development (SIRD) among other institutions in Kerala.

He has been working closely with MS Swaminathan Research Foundation (MSSRF) in articulating their strategic plan and has been working with the institution in driving the Carbon Neutral Program in Wayanad, Kerala.

Ajit has developed farms and estates for organic certification. He has redesigned cultivation and harvesting processes; processing/ value addition; packaging and marketing of various organic products. He has the experience of running fresh produce collection centres both for plains grown produce and hill items and had established a wide network of growers and suppliers. He has worked in farm sourcing, collection, distribution and retailing of coffee, fresh fruits and vegetables.
AHOPE – APP SCREENSHOT SAMPLES
A-HOPE – App Screenshot Samples
Farmer Application

(a) Home Screen – showing pickup and other farm services

(b) Schedule Pick-up screen

(c) Goods Receipt Note - GRN
A-HOPE – App Screenshot Samples
Driver/Logistics Provider Application

(a) Home Screen-1
(b) Details of trip
(c) Route Map
(d) Trip Complete Confirmation
A-HOPE – App Screenshot Samples
Manufacturing Unit – Web Portal

Demand Log of Unit

[Images of screenshots showing the demand log interface with details like Order No., Delivery Date, Crop, Grade, Count, etc.]
Thank You

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