

ESCAP Water and Energy Symposium

The Big Idea: A Collaborative Funding and Commercialization Model

Presented by: Paul Bevis, Founder and Co Director of
GreenTrees (Thailand) Pty Ltd

November 27th, 2018

Introduction

- Over the past 100 years the increasing global industrialization an epidemic of social and environmental problems globally. These include but are certainly not limited to:
 - the production of calorie rich but nutritionally poor foods which are fueling global obesity and diabetes, iron deficiency and the like;
 - “modern” farming practices that are often environmentally toxic, relying heavily on water, pesticides and herbicides;
 - practices which trap tens of millions of rural populations into multigenerational poverty
- These problems are costing individuals, governments and businesses staggering amounts of financial and human resources to say nothing of the effect on the health of the planet and entire populations.
- From soil management to waste management and everything in between, new thinking is needed if the world is survive sustainably in the future.
- Although Governments can facilitate and promote research into solutions to these problems, the solutions that are developed will not be adopted if they offer no commercial advantage. The commercialization of these technologies may be undertaken by large multinational corporations, however these large corporations by and large have a poor record of innovation.
- Increasingly, the solutions will come from small innovative companies, particularly startups formed to develop and (hopefully) commercialize their visions.

The Existing Start Up Conundrum

- Start-ups are where the innovation, the energy, the passion and commitment will be found to solve the world's problems.
- In less than 20 years start-ups have changed how the entire planet interacts, from social media to entertainment to shopping to education to medicine to business. There is virtually no sector that has not been transformed by the Age of the Internet...an Age imagined and fostered to a phenomenal degree by start-ups.
- Throughout the world startups often struggle to commercialize their ideas internationally, primary due to:
 - Lack of access to capital...especially smart capital
 - Predatory VC Funders... focused on short term gain, constant revaluation and then an exit, often with terms and a timing suitable to the funder not the founders
 - A Funding model based on equity or convertible notes or other financial instruments ... often binds founders into agreements that effectively hamstring them in the future, leaving them at the mercy of the original VCs
 - Cost of business ... especially R&D especially in developed markets
 - Difficulty in partnering with international companies...poor access to decision makers
 - Scaling and localization issues outside of home market
- The result: many innovative technology companies across multiple sectors stall in infancy and often leave founders in debt, struggling and disillusioned.

The Open Investment VC Funding Model

- Has its place as long as it is understood that:
 - for every winner there will be multiple failures; competitive not collaborative
 - Project/product duplications often leading to wasted human and financial resources
 - The best and most relevant tech is not necessarily the winner rather first to market
 - a zero sum exercise as, in many cases, the tech investment is primarily driven by commercial considerations

What If?

- There was an opportunity for international technology Start-Ups, under a coordinated and coherent strategy, to work directly with:
 - Thai Government departments and agencies,
 - Thai and International Universities and Institutes,
 - International and Thai based NGO's,
 - Local and international business partners

What If?

- ASEAN and Thai governments were to jointly develop as a matter of national policy a global hub for research, development and commercialization of next generation technology based in Thailand but with satellite and business development strategies and initiatives encompassing ASEAN and then “like” markets globally.
- The focus of this initiative was to create an entire eco-system, from R&D to knowledge creation and transfer to business models and commercial partnerships using Thailand as a template that could be then be migrated around the world, especially to emerging markets where the need is the greatest with the assistance of global NGOs.

What if?

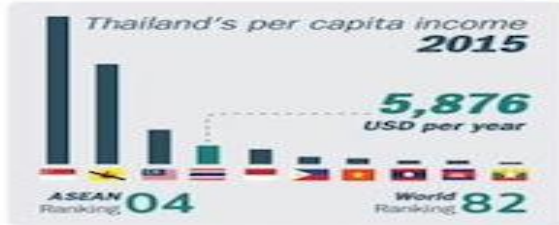
- There was a new Funding Model that was Collaborative: Introducing The Big Idea:
 - A highly structured and focused research and commercialization platform based on the collaboration between innovative technology start ups, Government(s) Ministries and Institutes, Corporates and NGO's to identify technologies across multiple sectors and create equitable business and knowledge creation and transfer models for to benefit all in the value chain.
 - Where funding is by way of project not equity finance by Partners in return for defined sector and/or territorial commercial rights
 - Project(s) risk is mitigated due to the collaborative nature of The Big Idea model- project risk is shared and there is constant independent oversight
- **BUG BOY!**
 - Innovative, low cost insect trap technology utilizing AI to reduce the use of and increase the efficiency of pesticide

Why Thailand for The Big Idea?

Thailand 4.0



Ministry of Commerce



Source : Office of National Economic and Social Development Board, 15 August 2016

Thailand's Economic Progression



Thailand 1.0
Agriculture Based Economy



Thailand 2.0
Light Industry Based Economy



Thailand 3.0
Heavy Industry Based Economy

We Are Caught in A Trap of...



Middle Income Country



Income Inequality



Imbalance

the rate of Thailand's economic growth has declined considerably



It's Time for CHANGE

More for Less



Less for More



Raise competitiveness in 4 main sectors



Traditional Farmers

Smart Farmers



Traditional SMEs

Smart SMEs and Startups



Low Value Services

High Value Services



Unskilled Labor

Highly Skilled Labor

Utilize Our Comparative Advantage Such as Bio-Diversity and Cultural Diversity Introduce Innovation and Creativity



1 Food, Agriculture and Bio-Technology



2 Health and Medical Technology



3 Robotics, Smart Devices and Mechatronics



4 Artificial Intelligence and Internet of things



5 Creativity, Culture and High Value Services

Public and Private Partnership Pracharat

University

Private Sector

Financial Sector



International Alliance



Research Institute

Supported by The Royal Thai Government

Thailand 4.0 and The Big Idea

- "Thailand 4.0" is a sector-specific industrial policy that aims to attract new investment towards transforming the economy
- There are Four Main Objectivities to the Thailand 4.0 Initiative
 - ***Economic Prosperity***: to create a value-based economy that is driven by innovation, technology and creativity.
 - ***Social Well-being***: to create a society that moves forward without leaving anyone behind (inclusive society) through realization of the full potential of all members of society.
 - ***Raising Human Values***: to transform Thais into “Competent human beings in the 21st Century”
 - ***Environmental Protection***: to become a livable society that possesses an economic system capable of adjusting to climate change and low carbon society.

How The Big Idea Works

- Working collaboratively Thai Ministries/Institutes, Thai Corporates and Thai and International NGOs identify a range of problems from a:
 - Social, environmental and commercial perspective
 - Territorial Perspective; Thai, ASEAN, Global
- Examples include but are not limited to:
 - Medical issues; obesity, anxiety, vitamin deficiency,
 - Resource Management; water, waste, energy
 - Social Issues; income inequality, educational opportunities, job accessibility (especially in rural communities), urban drift

The Big Idea Advisory Board

- Access Government, Corporate and NGO start-up databases/networks for potential project tech candidates
- Selection Criteria include:
 - Multiple Project Silos (Agritech, Food/ingredients, Pharma, Water, Energy)
 - Multiple (core) Project Partners
 - Multiple (application) Partners
 - Knowledge Creation Opportunities (Education Partners) for all in the value chain
 - Knowledge Transfer Opportunities into international territories especially for children
 - Scalability; can the technology and business model be applied internationally with NGO assistance (NGO Partners)

Initial Due Diligence by The Big Idea Analysts

- Select Short list for each problem and contact target Start Up (Applicant)
 - Match to potential
 - Core Partners
 - Application Partners
 - Educational Partners
 - NGO Partners

Initial Due Diligence on target Start Up

- Technical/Science
- Legal/Intellectual Property
- Financial/Commercial/Market Characteristics
- Multiplier Effect
- Analyst DD Recommendations back to Advisory Board for review

Successful Big Idea Applicants: Project Planning

- The Partners work with the Applicant to design a Project Plan
 - Scope of the Project
 - Core Project
 - Applications
 - Educational modules
 - NGO Input
 - Cost(s), deliverables and timelines for each component
 - Draft Commercials—right(s) allocation(s)
- Draft Project Plan goes to Advisory Board for review and initial approval
 - Avoid project duplication and repetition

Final Commercials and Project Go

- Final Due Diligence by:
 - Commercial Core and Application Partners
 - Government Partners (BOI status etc)
 - NGO Partners
 - Pilot Project oversight to ensure that projects meet recognized international scientific processes and protocols
- Final Due Diligence to the Advisory Board
 - Approval Process
 - Commercial Offers made by Partners to the target Start Up (Applicant)
 - Negotiation Phase under supervision by Advisory Board
 - Parties reach Terms

The Big Idea in Action: Water Retention in Soils

- A specific problem identified across social, environmental and social parameters throughout Thailand, ASEAN and Globally
 - Increasing crop yield and quality through improved water retention in poor soil leading to better outcomes:
 - Socially: employment opportunities, increased income, new skills and education
 - Environmentally: reduced water use, reduced fertilizer use
 - Commercially: cost savings, increased revenues, new product lines, new markets
- Potential Solution Identified to meet above problems
 - Two international suppliers of mobile Bio Char equipment
 - Efficient utilization of different Feed Stocks; rice husks, bagasse, maize straw etc
 - Mobile-allows a distributed community based model as opposed to a centralized model
 - Relatively quick ROI on each unit
 - Multiple products from each unit=multiple uses and revenue streams

What is BioChar

- Biochar is charcoal used as a soil amendment. Biochar is a stable solid, rich in carbon, and can endure in soil for thousands of years. Biochar can increase water retention, improve soil fertility of acidic soils (low pH soils), increase agricultural productivity, and provide protection against some foliar and soil-borne diseases.
- BioChar made from biomass feedstock(s) via pyrolysis which is a process of chemically decomposing organic materials at elevated temperatures in the absence of oxygen. ... Unlike other high-temperature processes like hydrolysis and combustion, pyrolysis does not involve reaction with water, oxygen or other reagents

Biochar Applications

- Myriad applications:
 - Carbon sequestration
 - Fertilizer enhancer
 - Animal feed additive
 - Concrete additive
 - Biodegradable Packaging
 - Drinking water filtration
 - Pharma
 - Production of energy from pyrolysis process
 - Etc, etc, etc

The Proposed BioChar Partner Model

- Core Partners
 - for access to biomass and production of BioChar
 - Sugar Cane, Maize, Rice, Cassava partners identified
- Application Partners
 - For development of new products
 - Fertilizer, animal feed, packaging, concrete, energy partners identified
- Education-In discussion
 - Universities / Institutes
 - Schools
- NGO Partners-In discussion

- Core and Application Partners will fund pilot projects in return for commercial rights
- The Big Idea Advisory Board will oversee the assignment of commercial rights to ensure that such rights are free and clear.

The Multiplier Effect of BioChar Production

- From one project under The Big Idea Model
 - Meets the project criteria; social, environmental and commercial benefits
 - Creates new commercial opportunities across multiple sectors simultaneously
 - Creates new sustainable products and entire product lines
 - Provides international partnership opportunities
 - Generates new income opportunities especially in rural communities
 - Stimulates Research at both the University and school level
- Two examples of the Multiplier Effect
 - Energy –the battery pack swap and go
 - Air Pollution-Monetizes crop residue in situ...no need for burn off.

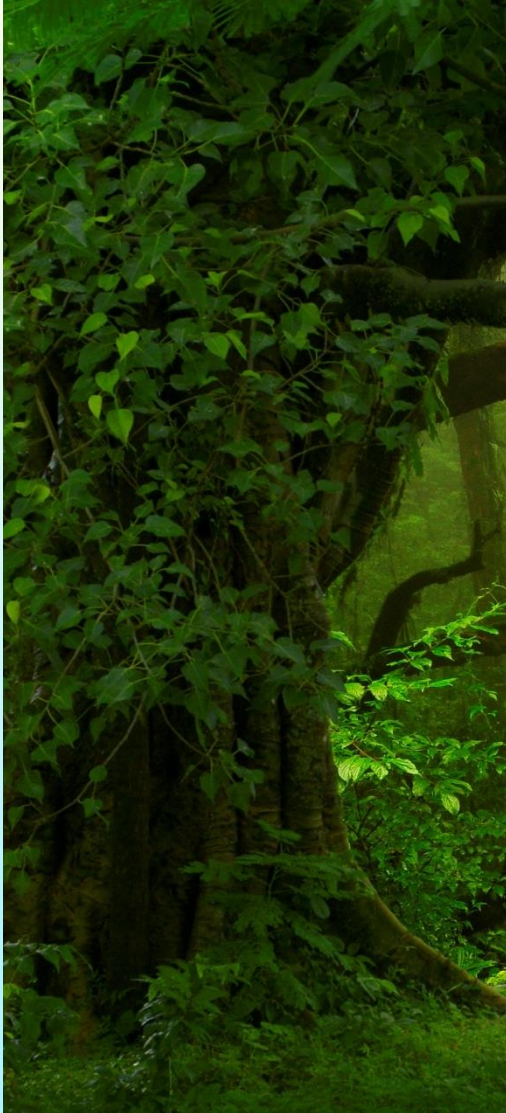
So.....If you are:

- An innovative technology start up who thinks that they may have a solution
- A Government Ministry or Institute that is concerned about the well being of their communities
- A Corporate who believes in doing business in a environmentally sustainable and socially responsible manner
- A NGO who knows that things must change

Then.....

We Would Love to Hear from You.

GREENTREES – *In Business for Good*



GreenTrees is a boutique management consultancy based in Bangkok, Thailand and Hong Kong, PRC.

The Principals of GreenTrees have a diverse and complementary skill set and we assist our clients with strategic planning, capital raising, contract negotiation and project management.

Throughout our careers we have worked for, or consulted to, a range of companies from startups to large multinationals across a number of sectors including the F and B, QSR, FMCG, Retail, Hospitality and Travel, and Media and Communication sectors.

One of our core competencies is the design of market entry and consolidation strategies that are culturally and environmentally relevant. The Principals of GreenTrees have deep personal and professional networks within the region from which to draw upon on behalf of our clients.

See www.thegreentreesproject.com