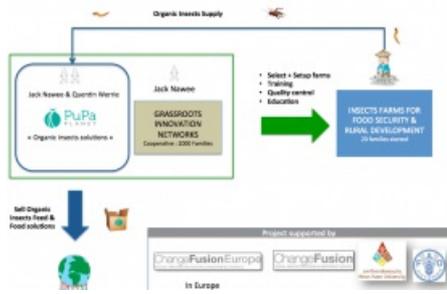


## INSECTS FARMS FOR FOOD SECURITY & RURAL DEVELOPMENT

Buriram, Thailand



Jack Nawee Nakw...



Organic Insects Feed Solutions

July 2013





**Our vision and Goal**

**Our vision**

- **Insects as powerful change Maker** : they contribute towards a prosperous, healthy and peaceful future. We want to help create this future
- **Thailand as a Leading Insects producer**
- **Social Impact**: empower farmers and women in rural areas (reduces poverty & rural migration, increases education, brings dignity)

**Our goal**

- A leader in the organic insect space, providing the highest quality of insects and a sustainable approach for pet food & feed industry
- Your B2B partner, centrally located in Asia-Pacific (Thailand)
- A partner with a strong social impact: our insects are carefully raised by a network of Rural farmers.



**Why?**



**The Opportunity...**

«...The insect world is an underutilized food for people, livestock and pets... »

UNFAO, Rome Conference,  
May 2013

This is the right time to consider insects seriously...



**The Opportunity...**

Horizon 2020: Food security & Sustainable agriculture

European Commission  
strategy

This is the right time to consider insects seriously...

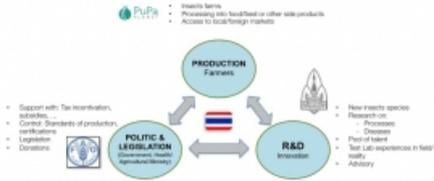




# How can we make this happen?



## The ecosystem we imagine in Thailand



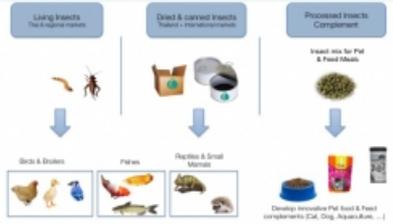
## Road to Market



We are ambitious and realistic, we plan to grow STEP by STEP



## First Target products: pet food & feed products



Thailand's unique insects for food market provides an additional output channel for PuPa Planet



## Be one of the Pioneers for Feed...

ENVIROFLIGHT

AgriProtein

Insect

PuPa Planet

Black Soldier: The Super Fly...

Diagram: Circular bio-economy system showing the flow from waste to insects, then to feed, and back to waste.

But also a center of innovation for many insects applications at the heart of ASIA.



## PuPa Planet is located at the right place and supported by a powerful network

Grassroots Innovation Network (GIN)

ChangeFusion

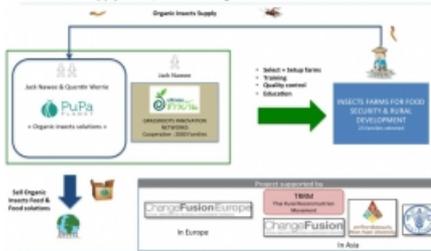
- Highly recognized in Thailand and ASEAN Countries, specialized in social innovation. British Council, Rockefeller Foundation, AINSA...
- An institution supported by the Thailand Rural Reconstruction Foundation under Royal Patronage
- Office with 20 people in Bangkok
- Experiences in Venture Capital, social and managed projects worth over 3 million USD focusing on social innovation development

PuPa Planet is located at a unique place in the world to produce insects

- Thailand Region is specialized on agriculture & farming
- Organic farming - High quality feed for insects
- Ideal natural Growth conditions - warm climate all year long



## Our insects supply chain, collaborating with Farmers



## Team



Quentin Moric, Belgium

- Co-Founder PupPa (start-up)
- President of IE Net Impact Chapter (2012)
- Quality manager and analyst, BNP Paribas, Luxembourg (2007-2013)
- Master in Business and Finance from ESCP (Brussels, MBA at IE Business school (2012))



Jack Neeves, Thailand

- Co-Founder & Operations Director PupPa (start-up)
- Founder of Sustainable Innovation network (SINet)
- Assistant Science Fellowships in 2008
- Master in Electrotechnology, Thammasat University



## Conclusion

- **Right timing** to start production for Feed (other initiatives have been launched in the world)
- We have built a **powerful network & team**
- We are located at the heart of **Asen Economic Community**
- **Thailand = right place to produce Insects**
- **2020 EU Strategy for Food security**



Year Founded:

2013

**Organization type:**

for profit

Project Stage:

Start-Up



- [Food security](#)
- [Environment](#)
- [Rural development](#)
- [Sustainable development](#)

## Project Summary

### Elevator Pitch

**Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.**

We empower farmers in Northeastern region of Thailand to produce organic insects, a highly nutritive solution for the feed and food sector. Insects have also a much lower environmental impacts e.g. less water, land use, gas emissions, deforestation, and etc than traditional animal protein sources.

### About Project

#### **Problem: What problem is this project trying to address?**

-Rising prices of basic commodities (e.g. corn, soy) used as food and feed meals for livestock and fish farms. This will continue with a 9 Billion population in 2050. -Massive environmental damage & natural resource exploitation caused by the Feed industry (deforestation, inefficient water usage, pesticides, overfishing as fishmeal is used as feed...) -In addition, Thailand is the country, which relies heavily on agricultural trade. In 2008, agriculture, forestry, and fishing industries contributed 8.4% percent to GDP. Even so, migrations of rural people are considered one of national challenges. Such case is believed to derive from rural poverty from the lack of local jobs.

**Solution: What is the proposed solution? Please be specific!**

Insects are efficient and proven substitute for animal feed such as fishmeal and human food thanks to their rich essential nutrients which include protein, amino acids, minerals and vitamin contents. Our project delivers both strong social and environmental impacts; Social: we empower families of farmers in Thailand, which is renowned for insects farming practices and natural supply, by providing low-income female farmers with “organic” insect farming training. The increase of household income and dignity of farmers will reduce rural migration and alleviate poverty. In the other aspect, organic insects will be a healthy, environmental friendly and efficient substitution of fishmeal or chicken food, which are now widely used as animal feeds. Environmental: Insects are considered one of the most productive animals. They grow very fast using very little space, food intake, water and emit up to 100 times less greenhouse gases.

**Impact: How does it Work****Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.**

About 2 billion people supplement their diet with insects. The UNFAO, has recently announced in its 2013 publication on edible insects: the insect world is an underutilized food for people, livestock and pets. About 20,000 small unorganized insect farmers in Thailand raise different types of commercial insects (e.g crickets, bamboo worms, weaver ants...), daily consumed on local markets. In total, 7.500 tons of insects are produced yearly. Grassroots Innovation Network (GIN) has a network of 2000 farmers of which some have raised their children on revenues generated by insects. Currently we have 23 families committed to start production on a voluntary basis. Our insects will be supplied to PuPa Planet an organization specializing in organic feed and food solutions for processed feed and food distribution in Thailand and abroad. Besides, many initiatives throughout the world have been launched recently on various continents to substitute traditional animal Feed sources with insects. Still, our initiative is unique in Thailand and we are among the pioneers in Asia-Pacific. We strongly believe that insects can revolutionize the way we perceive the feed industry and that insects will become a powerful change maker. Possibilities with insects are limitless: beyond feed/food, insects have many applications for health and natural pests control.

**Impact: What is the impact of the work to date? Also describe the projected future impact for the coming years.**

Grassroots Innovation network (GIN), together with PuPa Planet, will supervise the organic insects farmers. Founded in 2005, GIN enabled Jack Nawee, to become an Ashoka Fellow in 2009 for the outstanding impact reached through the cooperative he has setup (<https://www.ashoka.org/fellow/nawee-nakwatchara>). As of today, the cooperative focusing on organic farming solutions, has expanded beyond Buriram province (Northeastern of Thailand) to reach more than 2000 members. The cooperative produces more than 60 tons of organic rice yearly and large amounts of organic fertilizer. GIN clearly demonstrated its capacity to setup and supervise insects farming network. On an early stage, 20 farms will be built to produce mealworms and other insects adapted for feed (ex: superworms, Black soldier flies). GIN has outreached to numbers of supports from academic and rural development organizations including ChangeFusion ([www.changefusion.org](http://www.changefusion.org)), UNFAO and KhonKaen university.

**Sustainability****Financial Sustainability Plan: What is this solution’s plan to ensure financial sustainability?**

We need initial seed investment to build 20 farms from which the first insects sold in Thailand and abroad (through PuPa Planet) will generate revenues. By using organic agricultural waste, the feed costs of our insect farmers will be reduced. After this first milestone, new fundraising is needed to expand our network of farmers, improve R&D (New insect bio processes, new species...) to target bigger players in Animal Feed Industry,

**Marketplace: Who else is addressing the problem outlined here? How does the proposed project differ from these approaches?**

Today, the insects sector in Thailand is unorganized: no standards, quality control, formal network...). There are already 7.500 tons produced annually by various small farmers in Thailand. Our approach is unique and innovative as all our insects will be grown on organic agricultural waste (e.g. rice bran, local plants...) to ensure a prime quality ingredient that can be incorporated in animal feed complements or pet food. Pupa Planet, our partner, will be capable of supplying alive, dried and processed insects to clients (B2B). Farms will be supervised by GIN and PuPa Planet to comply with strict quality control. This approach differentiates our insect project from existing insects farmers in Thailand.

**Team****Founding Story**

Our project started in 2012, when Change Fusion Europe ([www.changefusion.eu](http://www.changefusion.eu)), an incubator for social enterprises, connected Jack Nawee (founder of GIN and Ashoka fellow) with an MBA student, Quentin Werrie, who was working on the setup of an insects venture in Thailand, PuPa planet. As they shared the same vision: insects as a powerful change maker, they decided to collaborate in order to pioneer a unique organic Insects farms ecosystem in Thailand. Since Jack developed a powerful network of 2000 families, through GIN, from which some already produced insects, they had the assets & experience to develop a network of insects farms. Convinced about the great impact they can bring, they are now looking for financial support to start. The team has strong complementary backgrounds and is now recruiting experienced entomologists to develop (R&D) efficient insects raising techniques to scale their project.

**About You****Organization:**

Grassroots Innovation Networks

**About You****First Name**

Jack Nawee

**Last Name**

Nakwatchara

**Twitter URL****Facebook URL**

<https://www.facebook.com/GrainGrowth>

**About Your Organization****Organization Name**

Grassroots Innovation Networks

**Organization Country**

, 19, Buriram

**Country where this project is creating social impact**

, 19, Buriram

**Has the organization received awards or honors? Please tell us about them**

Jack Nawee was awarded Ashoka Fellowship in 2009

<https://www.ashoka.org/fellow/nawee-nakwatchara>

**Nutrients For All****Where do you ensure the availability of nutrients?**

Healthy environments., Nutrient-rich farming, Full nourishment foods, Human wellness and vitality.

**If you had greater capacity, which additional sectors would you like your solution to target - either through expansion, partnership, or thought exchange?**

Healthy environments, Nutrient-rich farming, Full nourishment foods, Human wellness and vitality.

**How specifically would this added capacity help you improve the quality, efficiency, or sustainability of your existing product or service?**

The bigger our project will grow, and the more insects produced, a highly nutritive and environmental efficient feed solution, the less the feed industry will need to rely on traditional feed meals (ex: fishmeals) that have a harmful effect on the environment and health. Further, as we will grow we will see our social impact increase (organic insects farms network will expand and bring wellbeing ), and the product range become wider (besides feed solution for pet, livestock and fish farms, we will also target the human food industry as the insects revolution is just at its inception).

**Source URL:** <https://www.changemakers.com/nutrientsforall/competition/entries/insects-farms-food-security-rural-development#comment-0>