

Empowering Farmers through Inclusive Innovation



SEED AI



PITCH 2024

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Sustainable

Economic

Empowerment

Development AI

Our Challenge



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“Malaysia aims to harness **AI technology to drive **inclusive socio-economic growth**, as outlined in **National AI Roadmap (2021-2025)**”**

Gulf of Thailand

Sihanoukville
(Kampong Saom)

Rach Gia

Bac Lieu

Ca Mau

Mui

Ca Mau

Surat Thani

Nakhon Si Thammarat

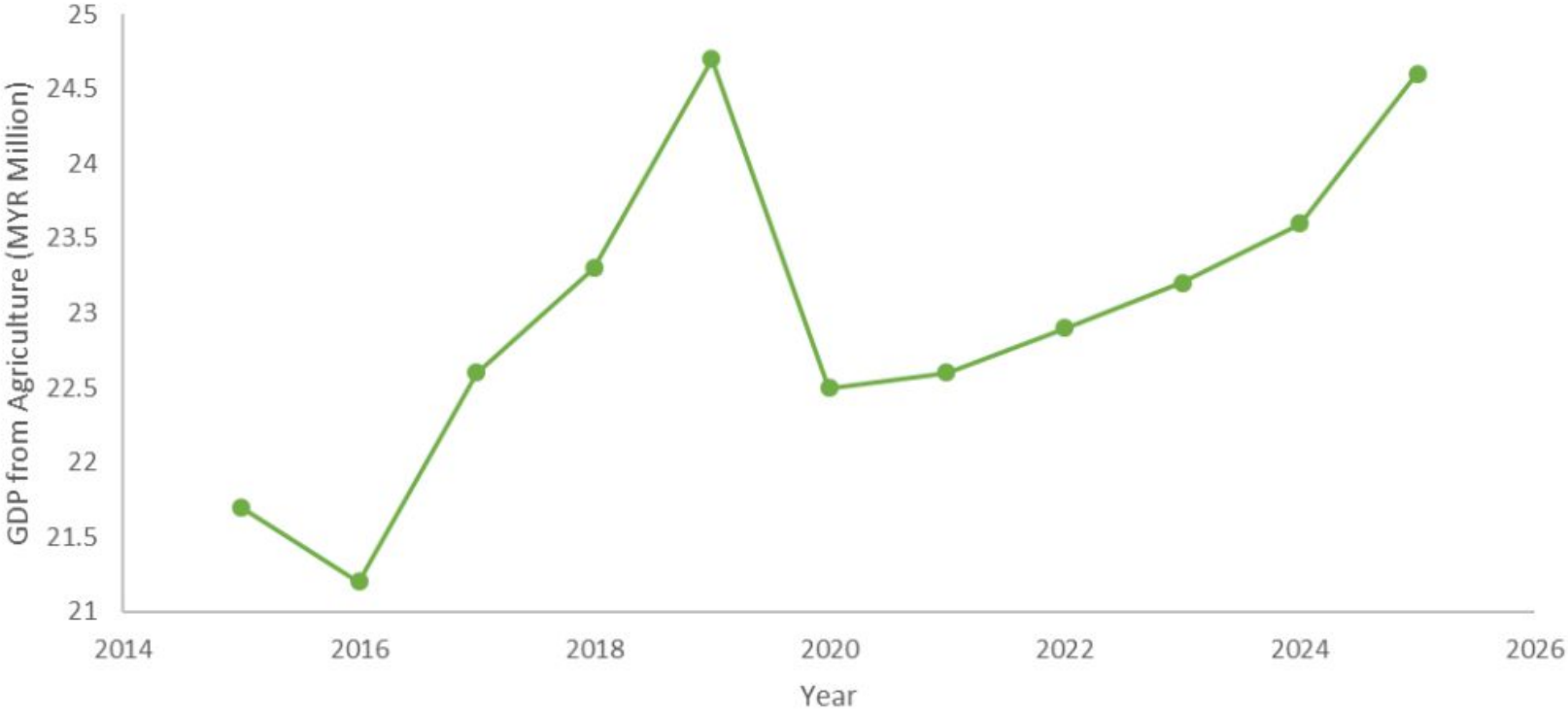
Phatthalung

Songkhla



Storyblocks

Small-hold farmers in Malaysia's supply chain



96% cocoa
94% rubber
45% palm oil

Economic contribution



41st globally
2nd S.E Asia

Food security index

Proposal to empower **smallholder** farmers

T. C. Khor

25-03- 2024 12:00 PM



Plantations minister: Ministry envisions feasible business model to help **smallholders** increase palm oil yield



Small Farms Hold The Key To Sustainable Food Production

Small farms hold the key to sustainable food production

Malaysia's tropical climate is conducive for the cultivation of a wide variety of crops, including oil palm, rubber, paddy, cocoa, pepper and fruit. In addition to crop cultivation, the agriculture sector encompasses livestock farming, aquaculture and forestry, all of which are crucial components of the country's economy.

The agriculture sector provided 12.3% of employment opportunities and contributed 7.1% to the country's gross domestic product in 2021. Despite its significant contribution to the economy, the sector faces several challenges, including an ageing workforce, low productivity and the effects of climate change. Additionally, small farmers, who produce most of the food crops, face numerous obstacles, such as limited access to capital, technology and knowledge, and marketing challenges.

Currently, about 8.6 million hectares of land in this country is dedicated to agriculture, with 5.8 million hectares primarily utilised for oil palm planting. The remaining area is used for growing rubber and food crops such as paddy, cocoa, pepper, vegetables and fruit.

These commodities are mainly cultivated by small-scale farmers. For instance, paddy farming alone occupies 645,000ha of land and is managed by roughly 600,000 farmers, who typically



BY NUR AMEERA A IAZ AND SHAUFIQUE F SIDIQUE

“

The low productivity of small farmers in Malaysia can have significant consequences for both their livelihood and the economy.”

in Malaysia's ruminant sector can be attributed to a range of factors, including insufficient resources, high feed costs, inadequate quality breeds and import competition.

The low productivity of small farmers in Malaysia can have significant consequences for both their livelihood and the economy. With low yields, farmers may struggle to generate a profit or break even, which can cause severe poverty issues among small farmers. In addition, low productivity in the agricultural sector

agement techniques and gain access to high-yielding varieties that are more resistant to the vagaries of the weather, pests and disease.

The recent budget announcement outlines various measures to help increase the productivity of the agrofood industry, such as the financing scheme by Bank Negara Malaysia, tax relief on capital expenditure and tax incentive on modern agriculture projects.

However, it is important to note that increasing productivity in the agrofood industry often requires a combination of both financial support and investment in R&D. Although these measures are undoubtedly beneficial, it would have been ideal if the budget announcement had directly indicated an increase in R&D expenditure for agriculture to ensure a greater long-term impact on the industry.

While it is most probable that funding for agrofood R&D has been included in the overall budget allocation for the Ministry of Agriculture and Food Security, a specific R&D allocation would have provided greater clarity and focus on the importance of research and development in this area.

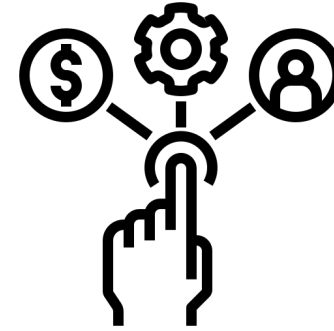
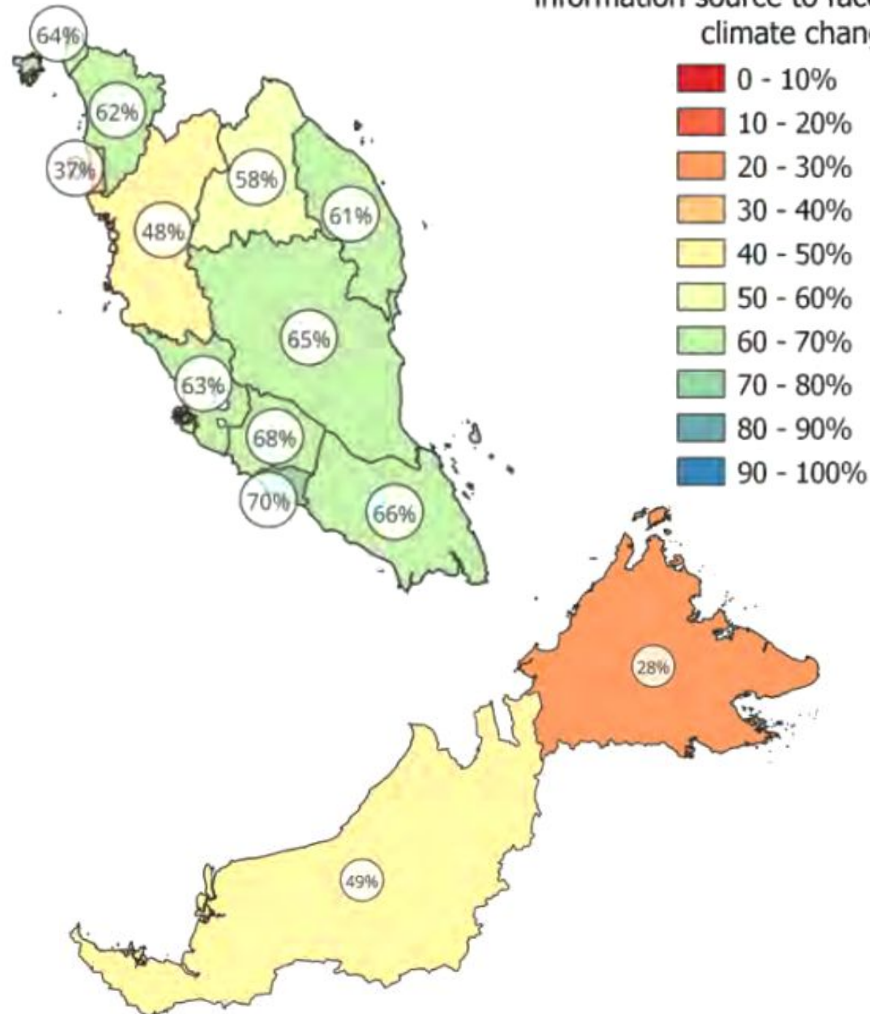
Finally, agrofood production would be more profitable and rewarding if farmers extend their value chain participation and become agropreneurs. Value chain participation refers to the process of adding value to farm outputs by engaging in activities such as processing, packaging and marketing.

Common challenges

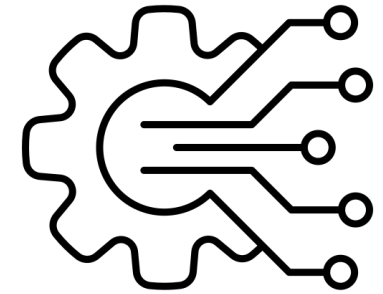


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Proportion of smallholders who have information source to face the effects of climate change



Limited access to resources



Digital divide



Lack of skill development

Challenge focus



Goal

Develop **scalable**, practical solutions that harness AI while promoting **inclusive** development, shaping a **balanced** socio-economic landscape for Malaysia's **future**.



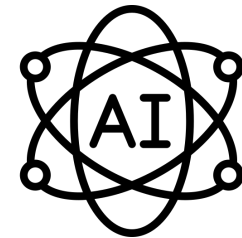
Objectives



Socio-economic uplift



Sustainable food production



Inclusive AI development

Meet Aminah



SEED AI



SEED AI: A farmer co-designed tool



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Transdisciplinary co-design team

ARTIFICIAL INTELLIGENCE
HELP LINE

SEED AI

WE CALL
YOU
\$0

SEED AI
SERVICES
Agricultural tech advice

OUR AWESOME GOALS

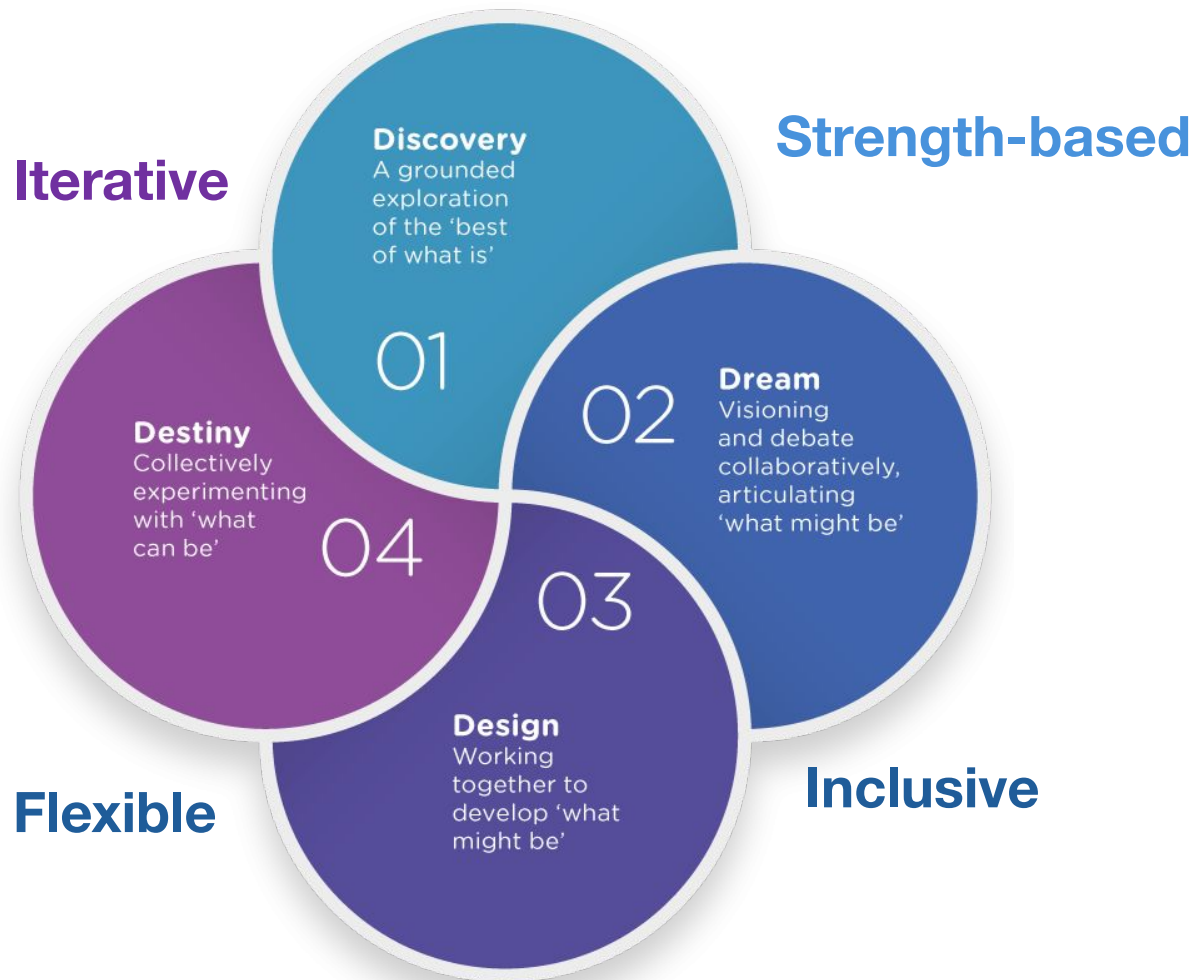
- ✓ Socio-economic up skill
- ✓ Sustainability
- ✓ Transparent and ethical AI
- ✓ Inclusivity

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Program Methodology



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“Appreciative Inquiry is a proven, researched and widely applied process for managing complex change at the individual, group, organisational, community and societal levels.”

TIMELINE

First biannual meeting

Discuss progress since the evaluation, share updates, address challenges, and plan for the continued integration of AI tools in farming practices.

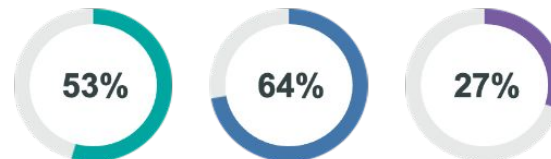


Pilot completion

Conclude the pilot by reviewing outcomes, achievements, and lessons learned. Discuss the sustainability plan for AI tool use and explore opportunities for scaling the program further.

Evaluation meeting

Review the pilot's progress, assess AI tool impact, gather participant feedback, and identify areas for improvement to guide the next phase.



Agriculture officer visit

The agriculture officer will visit to support and guide farmers, assess progress, and provide tailored advice on using AI tools. The visit aims to build trust, address challenges, and ensure smooth integration into farming practices.

First quarterly meeting

Review progress, share feedback, address challenges, and outline next steps for improved AI tool integration.

Kick-off meeting

Introduce program objectives, stakeholders, and AI tools. Outline the pilot process, distribute toolkits, and foster collaboration, ensuring clarity and participation.



Program objectives & deliverables



Socio-economic uplift

+30% farmer incomes

60% AI competency

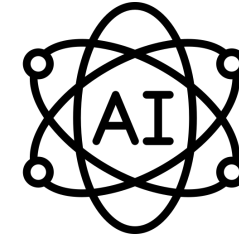
80% farmer satisfaction



Sustainable food production

+20% soil fertility

60% climate-smart practice



Inclusive AI development

Yearly bias evaluation

70% farmer contributed AI tool

Annual functionality upgrades

Aminah, Journal Day 1



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Daily Journal

Today we had the first meeting of our group. They talked to us more about the benefits of the program. I am excited but also unsure. Still, I will try out what they taught me in the next few days.





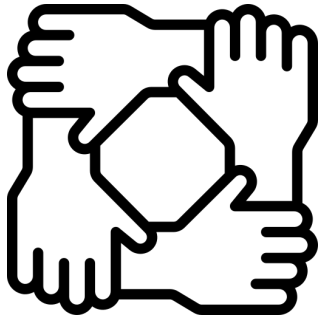
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AI without internet?

AI without internet.



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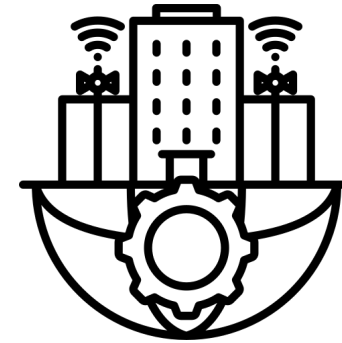


Inclusivity and accessibility

Bridging the digital divide

Equal access

Low-literacy access



Escalating digital infrastructure

Scalable and low cost

Catalyst for further investment

Aminah, Journal Day 365



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Daily Journal

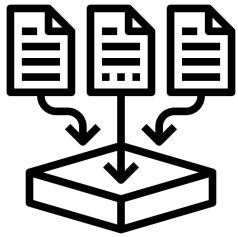
I can't believe it's already been a year. Today our group talked about how much the tool has improved. I am also happy about how much I have learnt. I remember at the beginning; I was very nervous and now I use it almost every day. Just 2 months ago, it helped me find out what was wrong and give me options which helped me save my crop.



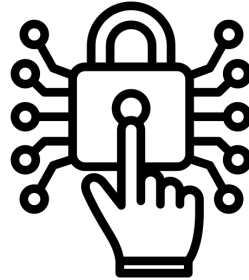
A co-designed AI tool



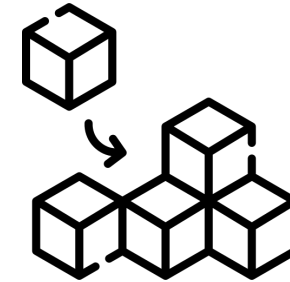
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**Real-time data
collection**



**Simplified access to
critical information**



**Modularity and
versatility**

Aminah, Journal Year 3



SEED AI

Daily Journal

The project has finished, but I will keep using the tool. I've started working with some friends who are also excited to use it on their farms. We've decided to stay in touch, share ideas, and even think about starting a co-operative to sell our produce directly to customers, even abroad. With help from experts, we are also talking about processing our own cacao beans. We are just getting started, but I feel very hopeful for the future of my



Scalability and business model



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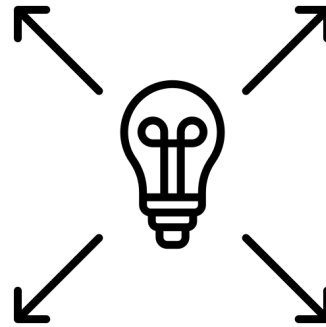


Current costs

Tech : 2 MYR/call

Tech : 90 MYR/month for chatbot (unlimited access]

**Per Diem :
2700 MYR/Farmer**

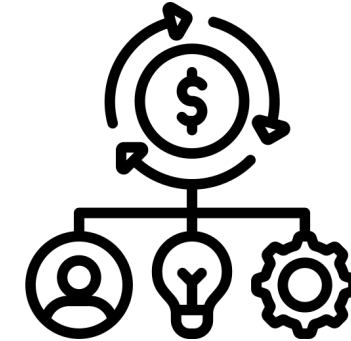


Modular and versatile

Circular economy

Global trade access

Supply chain integration



Financial pathways

Govt/International program

Research Institutes

Micro-financing



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Unlocking Malaysia's full potential through inclusive innovation

THANK YOU.



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With love,
Aminah and group 3