

IDAKTI – SMP India

Investigating opportunities for **D**utch **A**griFoodTech **K**nowledge to help
Transform **I**ndian AgriFood systems

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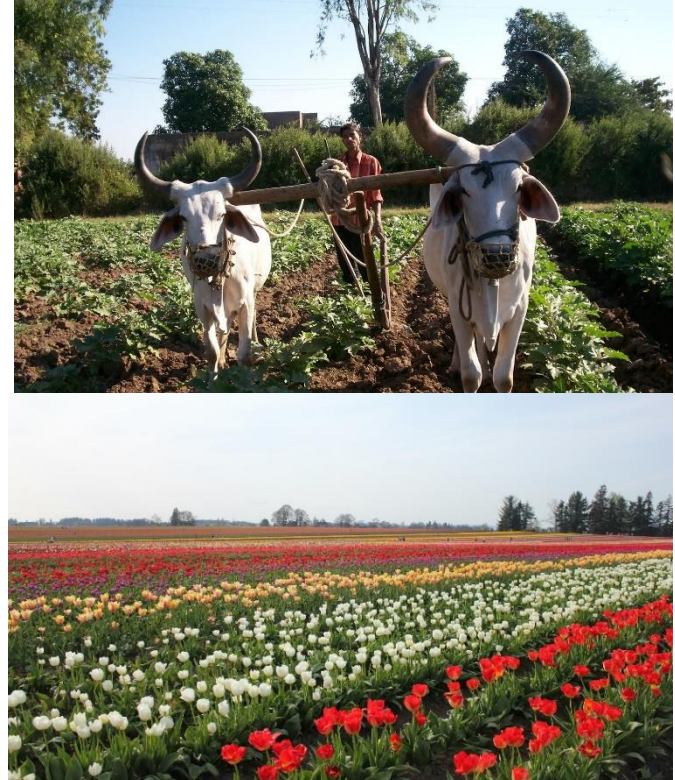
Outline

- Introduction
- Key project takeaways
- Project output 2020
- Outlook 2021
- NL-India Innovation mission



Introduction

- Goal: Opportunities for High-tech emerging solutions from Netherlands, suited to Indian context
 - Primary focus on Advanced Sensing, AI and Automation/Robotics



Stake-holders

Netherlands

- WUR
- OnePlanet / IMEC NL
- Polariks
- Dutch Greenhouse Delta
- Berg Hortimotive
- Greenport West-Holland
- SAIA Robotics

India

- LT-Foods
- Precify
- Digiotal
- ICRISAT, IN
- Simply Fresh
- SKLT Horticultural Univ.
- Confederation on Indian Industries (CII)

- RVO: Dutch-India Innovation Mission
Climate Smart Agriculture



Key Project take-aways

Take away I – High-tech in Agri

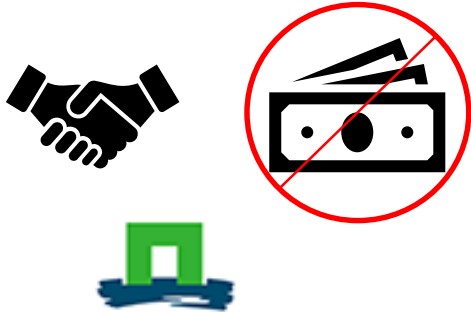
Digital **Agri**: rapidly evolving in the Indian Agri sector (primarily open-field*), and so are local solutions



- Start-ups and large companies
- Enablers: Software expertise, ICT infrastructure, remote sensing data access and pervasiveness of mobile phone technology
- Very diverse service oriented industry, primarily for decision-support advise to farmers
- NL: Pairing-up with Indian industry in this sector is the way ahead

Take away I – Partnership situation India

Start-ups



SME



Large companies



Take away II (High-end) Greenhouse Infrastructure

■ **Greenhouse** sector in India:

- Small compared to open-field
- Reasons: need for knowledge and infrastructure, high initial investment



■ Socio-economic trends:

- Middle class growth (80 million (2018) to 580 million (2025))¹
- Concerns on food safety and quality
- Increase demand of premium products

Take away II (High-end) Greenhouse Infrastructure

Potential for Dutch industries:

- Greenhouse equipment and technologies:
 - from quality substrate to software
- Consultancy
- Investments

Possible advantages of initial investments:

- Early market access and
- Long-term lead



Take away III – (High-end) High-tech

Agri **industry**: Sensing, AI and Robotics

- AI applied to digital agri/horti is gaining traction:
 - start-ups and large ICT companies (IBM, Microsoft etc.)
- Explorative technologies (advanced sensing and robotics) do not have many takers in Indian Industry
- Key hinderance: costs and the explorative nature of technologies



Take away IV – (High-end) High-tech

Agri **knowledge institutes**: Sensing, AI, Robotics

- Significant interest in these areas, especially with focus on precision farming
- Precision farming and phenotyping garnered attention
- Interest in collaboration, but directed primarily at WUR



Project output 2020

- 2 CII whitepapers: Digital agriculture, Agri-Robotics*
 - Positioning NL as a key-player in Agri-tech domain
- CGIAR Inspire Challenge proposal (OnePlanet/IMEC, WUR, ICRISAT)
- NWO-DBT: Proposal with ICRISAT and local partners
 - Cancelled due to lack of industry interest and thus lack of co-financing



*In preparation

Outlook 2021

- SMP follow-up discussions
- **Mahindra:** B2B ideas Mahindra and WUR on digital support system for precision fertilizer application using soil maps
- **Bayer, India:** Discussions in progress on potato blight regional decision support in Indian farms
- Wapappsys - Water extensive agriculture project (with Dutch embassy as one of the key leads)
- EU-India Greendeal: Early discussions with ICAR (NRCB) led Indian consortia

NL-India Innovation mission 2020



- Mission: Climate Smart Agriculture
- Covid-19 Impact: Travel plans cancelled
- Change of plan: Leveraging the digital platforms
 - Webinar series pitches to Indian parties (April-June)
 - Digital booth at CII conference on *Advanced technologies reshaping Indian Agriculture*
 - Round table and networking sessions

NL-India Innovation mission 2020



“ [...] partners also joined the consortium [...] the innovation mission climate smart agriculture to India [...] He had a chance to talk to quite some relevant stakeholders from different sectors in India. [...] he made the most of the more challenging circumstances this year for the SMP [...]”



Bert van der Heide, RVO,
Coordinator Dutch-India Innovation Mission 15

What are your take-aways!

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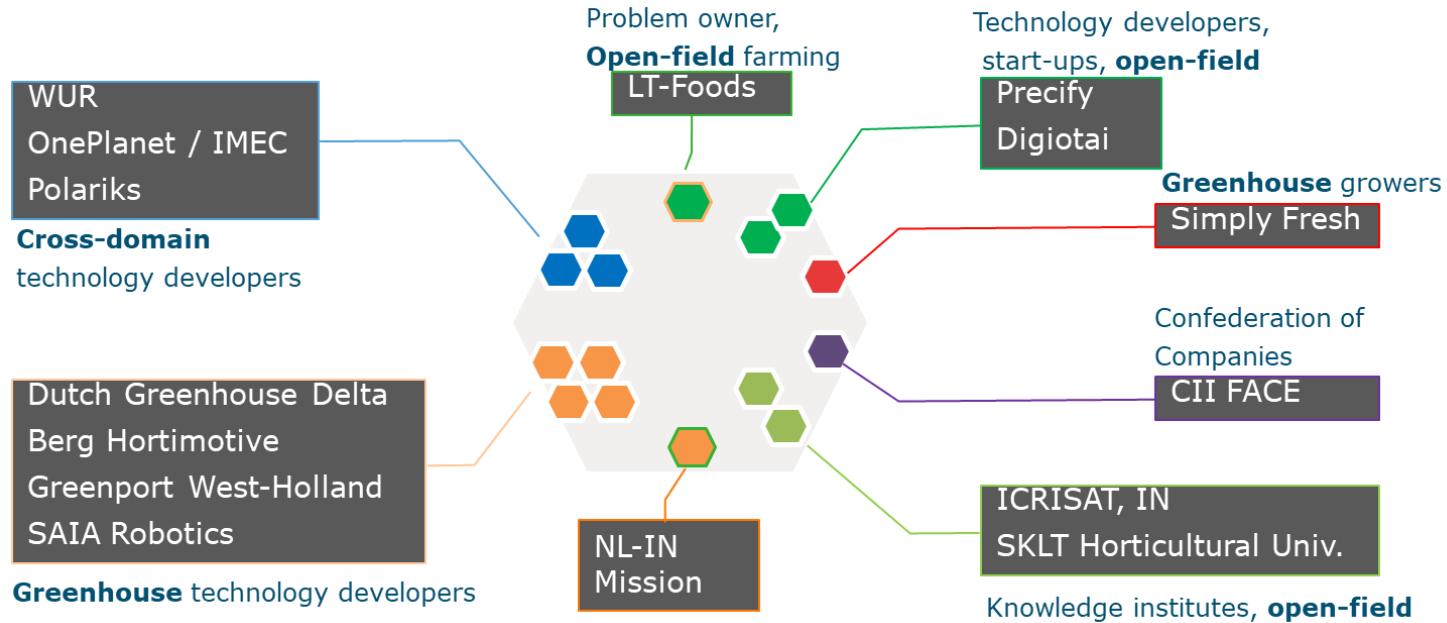


Supplementary slides

References

- FAO: <http://www.fao.org/countryprofiles/index/en/?iso3=IND>
- Constable, T. 2018, <https://www.afr.com/policy/indias-rapid-rise-and-growing-middle-class-creates-hunger-for-commodities-20181121-h185wl#:~:text=India's%20middle%20class%20is%20set,and%20power%20homes%20and%20industry.>

Stake-holders



Dutch embassy, India



Project take-aways I

- Majority of the networking opportunities connected us to companies addressing open-field farming challenges
- From technology (Sensing, AI and Robotics) perspective, open-field farming is the most significant market segment in India, with significant market growth potential in
 - Mechanization [1]
 - ICT in agriculture [2]
- In several regions of India, Green Revolution is still to arrive!

[1] Farm mechanisation: Ensuring a sustainable rise in farm productivity and income, PWC and FICCI, 2019.

[2] Kaka, Noshir. *Digital India: Technology to transform a connected nation*. McKinsey Global Institute, 2019.

Beyond the mission

- CII online masterclasses (technology and knowledge promotion):
 - Digital Agriculture and Agri-robotics
 - **Output:** Resulted in white paper contributions from WUR on both topics
- SMP networking workshop
 - 7 industrial partners joined, 1 Dutch and 6 Indian

Potential next steps

- Stake-holder analysis for mutual cooperation
- Targeted NL-India missions (in addition to broad missions)
 - Market segment specific | Application domain specific | Knowledge cooperation specific | Global-challenge specific
- *Right* instruments to support *right* cooperation
 - Is Dutch industry in agri domain interested in PPP construction in India?
 - Is Indian industry interested in govt. (India/NL) assisted cooperation (PPP or otherwise)?