

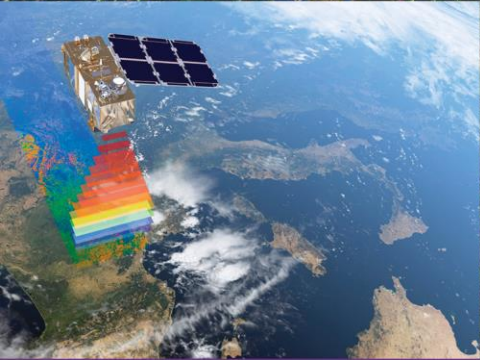


Geodata for Agriculture and Water: *Insights & Reflections from G4AW*

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Space for Agriculture in Southeast Asia
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G4AW
GEODATA FOR AGRICULTURE AND WATER

Netherlands
Space
Office



Geodata for Agriculture and Water ([G4AW](#)) improves food security in developing countries by using satellite data.



- 4,5 mio farmers
- 60 (+30) mio €
- 2014-2021
- 23 projects
- 14 countries

Netherlands Space Office (NSO) is executing this programme, commissioned by the Dutch Ministry of Foreign Affairs.



Topics

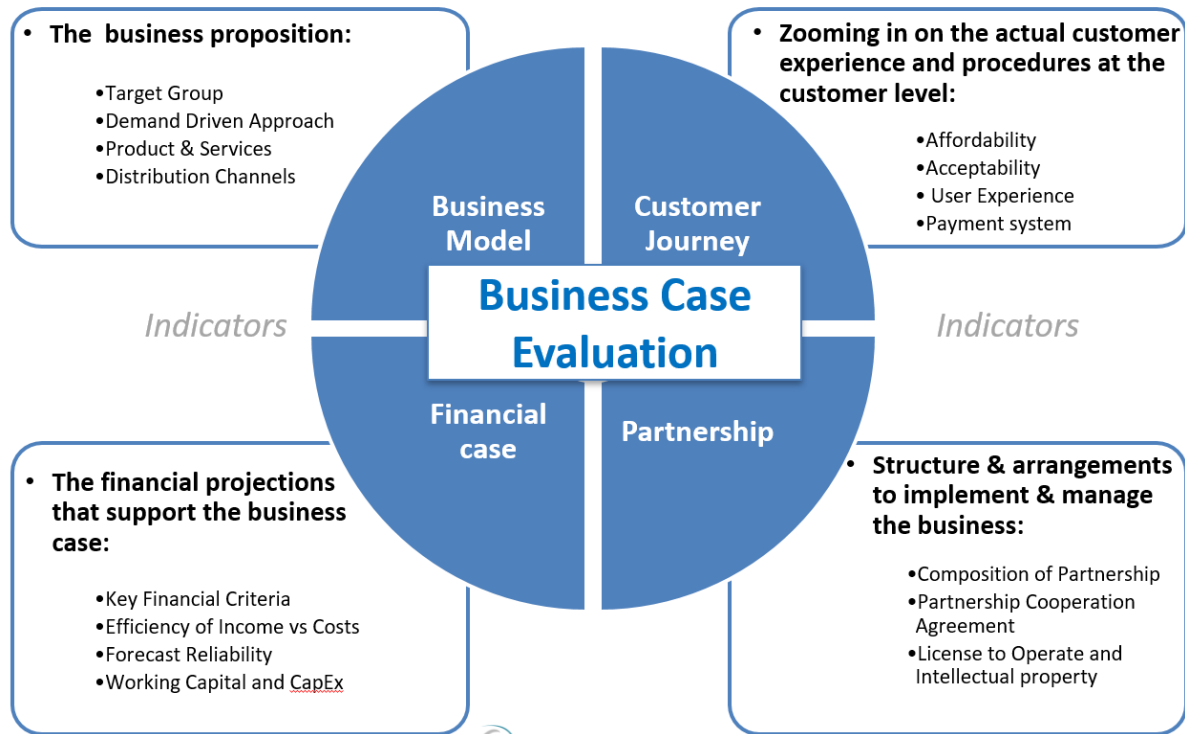
- Innovation process
- Project success criteria
- Business development
- Finance
- M&E
- Knowledge sharing & communications





From public-private partnerships to businesses

Not a straightforward road, many challenges & adaptations required





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Not a straightforward road, many challenges & adaptations required





Reflections on G4AW & innovation process

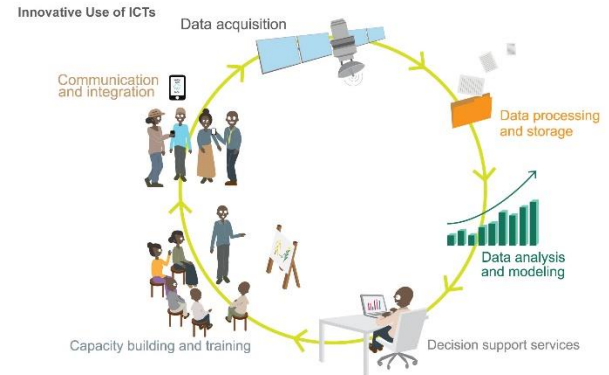
- (Too) ambitious
- Revolutionary approach to stimulate business-driven activities in emerging economies
- Farmers seen as client, not as aid beneficiary





Reflections on G4AW partnerships

- Average 6 partners is considered effective, essential roles
- User engagement & training
- Suppliers (EO data, field data, Ag / Fin. Models)
- ICT integration
- Service provider





Partnerships / business development: evolution over 3 tenders

- 1st (2014): knowledge/research supply driven
- 2nd (2016): socio-economic development driven (NGOs)
- 3rd (2017): business driven





Reflections: Opening new markets

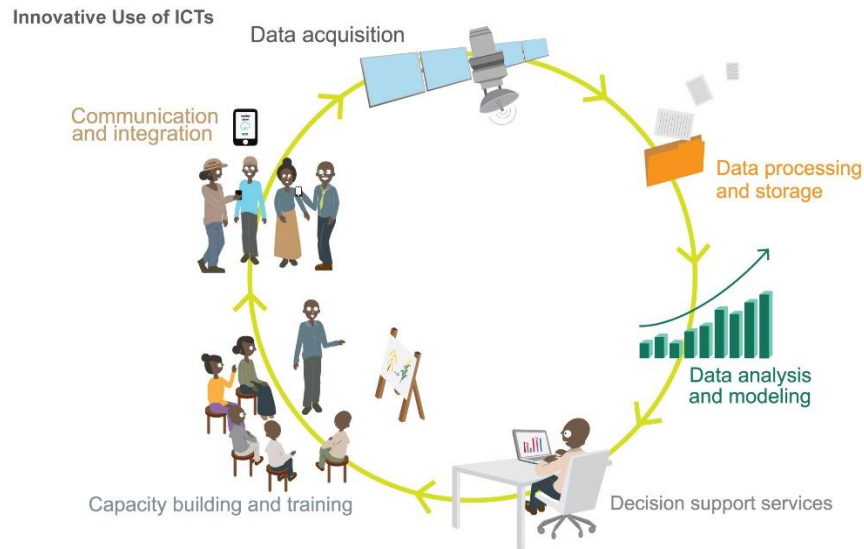
- Scale potential (satellite, mobile/ICT connectivity)
- Attracting new agri & finance businesses
- Much appreciation, many innovations would not have started without G4AW subsidy





Success criteria: customers & clients

- Customer intimacy is crucial
- Smallholder willingness to pay is low
- B2B clients





Services offered (initial survey)

- **Weather**-related: local forecasts, warning extreme events
 - **Finance**-related, including insurance: credit profiling, risk reduction
 - **Market**-related: information on market prices & buyers & sellers (not geodata related, but high priority of farmers)
 - **Certification**-related: advice + sustainability monitoring
 - **Disaster**-related: weather & flood risk assessment & early warning
 - **Good Agricultural Practices**-related: e.g. pest & disease
- + Climate-related: climate adaptation advice









Reflections: Product-Market fit

- Customer uptake only with proven added value
- Growing season: >half year
- Use of 3G/4G connectivity allows for two-way communications
 - Farmer profiling
 - Verification (agile development)





Reflections: Use of geodata

- Needs substantial development, testing & verification
- Insurance service: 
- More localized weather forecasts: 
- Agro-advisory:  but also  
- Financial: 



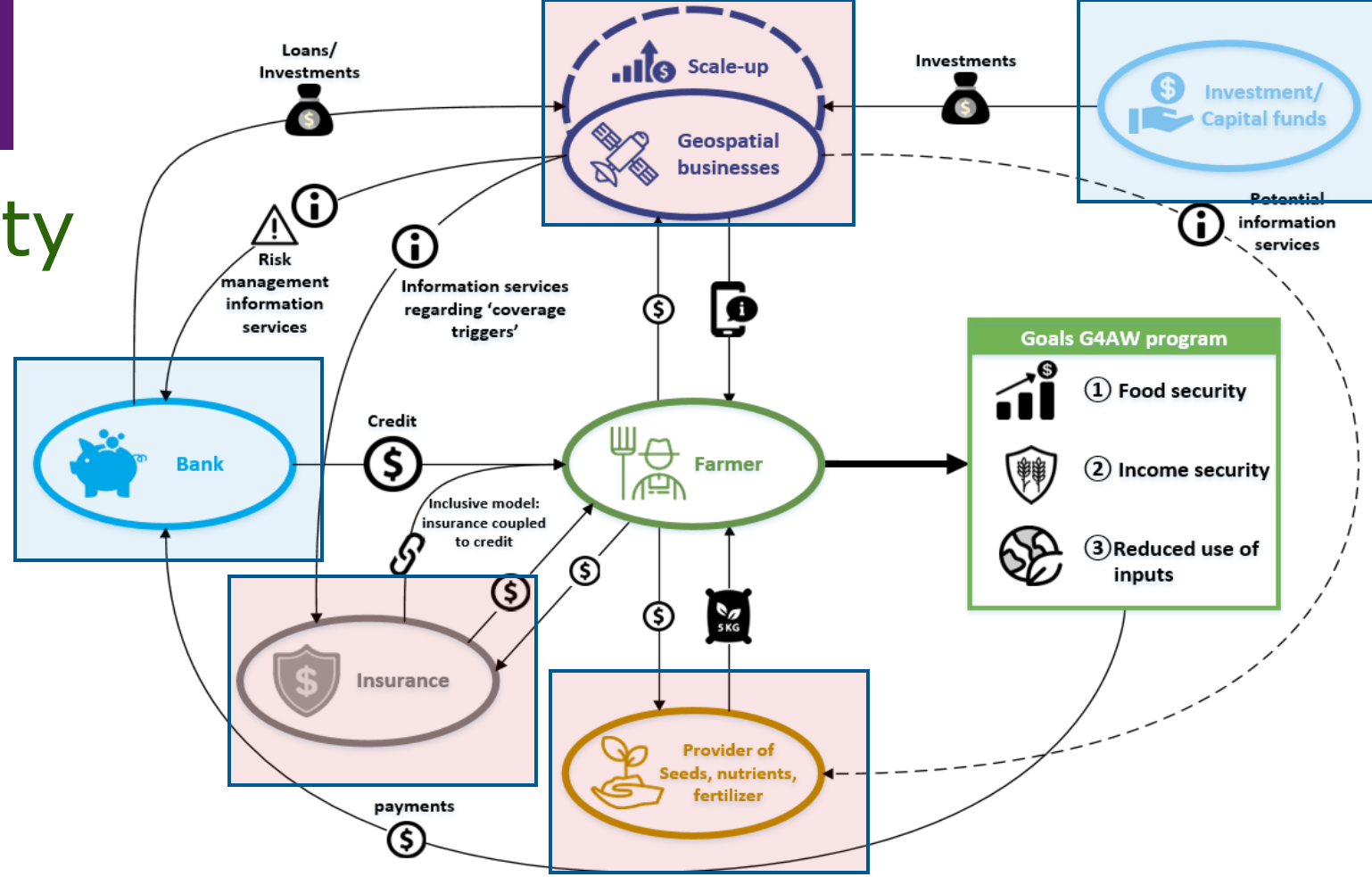


Success criteria: business

- Sustainable business models crucial (e.g. freemium, inclusive models)
- Local service provider & license-to-operate



Inclusivity





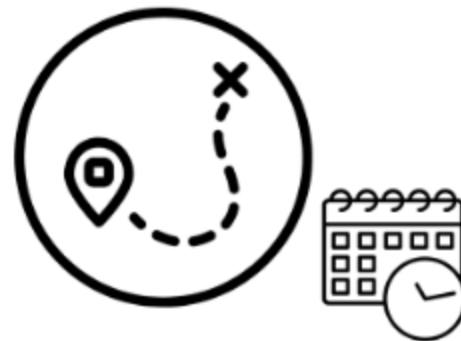
Business models in G4AW

- #1 • **Direct pay:** the customer pays for the service provided (on a subscription or case-by-case basis);
- #2 • **Freemium model:** free general service provision;
- #3 • **Loyalty model:** free service provision (add-on to another service)
- #7 • **Inclusive model:** the service is bundled with other services
- #6 • **Service model:** the customer pays a (subsidised) fee or no fee at all for service provision and another stakeholder subsidizes.



Business development

- Business development takes time, >3 years
- Who is / will become business owner & service provider?
- More focus on B2B
- BC for each supplier in chain





Finance

- Too few attention on long term finance (Call 1 & 2)
 - Valley of Death
 - No scaling / investments plans
- Future: B2B and additional grants
- Access to finance difficult





Access to Finance

- Support through NpM website
- [URL](#)



CHOOSE REGION:

AFRICA

ASIA



SEARCH IN TABLE

FUND SIZE (M USD)	GEOGRAPHICAL REACH	INVESTMENT SIZE	INSTRUMENTS	SECTORS	G4AW	BDS	IMPACT FUND
<input checked="" type="checkbox"/> All	<input type="checkbox"/> All	<input type="checkbox"/> All	<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> All	<input type="checkbox"/> All	<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> All
<input type="checkbox"/> 0-25 M	<input type="checkbox"/> GLOBAL	<input checked="" type="checkbox"/> SMALL	<input type="checkbox"/> VENTURE CAPITAL	<input type="checkbox"/> AGRICULTURE ONLY	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
<input type="checkbox"/> 25-50 M	<input checked="" type="checkbox"/> ASIA ONLY	<input type="checkbox"/> MEDIUM	<input type="checkbox"/> DEBT	<input type="checkbox"/> MULTI-SECTOR	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
<input type="checkbox"/> 50-100 M	<input type="checkbox"/> EAST ASIA	<input type="checkbox"/> LARGE	<input type="checkbox"/> PRIVATE EQUITY				
<input type="checkbox"/> 100-250 M	<input type="checkbox"/> SOUTH ASIA		<input type="checkbox"/> GUARANTEES				
<input type="checkbox"/> 250-500 M	<input type="checkbox"/> SOUTH EAST ASIA		<input type="checkbox"/> TRADE FINANCE				
<input type="checkbox"/> 500-1000 M							
<input type="checkbox"/> 1000+ M							

FUND NAME

5 result(s)

Aavishkaar (several funds)	155	Asia only South Asia South East Asia	Small	Venture Capital	Multi-sector	Yes	Yes	Yes
Aavishkaar Frontier Fund	45	Asia only South Asia South East Asia	Small Medium	Debt Private Equity Venture Capital	Multi-sector	Yes	Yes	Yes
ICCO Investments (C4DF)	20	Asia only South Asia South East Asia	Small Medium	Debt Guarantees Private Equity	Multi-sector	Yes	Yes	Yes
Rebright Partners (several funds)	N.A.	Asia only South Asia South East Asia	Small	Venture Capital	Multi-sector	Yes	Yes	No
Spiral Ventures (formerly IMJ Investment Partners)	52	Asia only East Asia South Asia South East Asia	Small	Venture Capital	Multi-sector	Yes		No



G4AW M&E Results 2018

- Output:
 - # food producers direct reach: 959,000
 - # food producers trained: 179,000
 - # food producers indirect reach : 6.8 million
- Outcome:
 - # food producers with improved production: **523,000**
(2017: 67.000)
 - # food producers with less use of inputs: **395,000**
(2017: -)





Observations & insights from M&E



- *'Farmers reached'*



OUTCOME, IMPACT

- Field measurements & other citizen data important
- Specialist for M&E essential in partnership or business





Knowledge sharing

- Knowledge sharing within and between projects is key!
- G4AW is appreciated very much by stakeholders





Knowledge sharing & communications

- G4AW website
 - Blogs
 - Publications
 - Videos



- G4AW Linked 

- Twitter 

- Thematic and/or regional workshops





Looking forward

- G4AW “Transition Document” for projects ending
 - What is status of service & business
 - What supportive actions are needed?
 - > Political
 - > Business / market development (ownership, business case)
 - > Technical development
 - > Finance
 - Develop / scale-up / replication
- By project lead and NSO project advisor



Thank you

G4AW is a programme commissioned by



g4aw@spaceoffice.nl



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Cross-cutting categories



Type of service	Number of projects that apply this service in round 1 & 2 (17 projects)	Number of projects that plan to apply this service in round 3 (6 projects)	Total number of projects
Finance-related	4	4	8
Weather-related	11	5	16
Disaster-related (floods)	3	2	5
Market-related	5	2	7
Certification-related	1	2	3

Good agricultural practices



Type of service	# projects call 1 & 2	# projects call 3	Total number of projects
Crop monitoring	8	4	12
Crop selection & calendar	3	3	6
Fertiliser application	7	1	8
Pests & diseases	8	4	12
Harvest advice	0	2	2
Irrigation advice	2	2	4
Soil-related advice	5	4	9
Biomass availability & quality	2	0	2
Water availability	2	0	2