

➤ Niger climate information platform

Final Report



For Public Release

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NB: Names of institutions, companies and products in the report have been replaced with letters e.g. Company A, B, C or Product 1, 2 3 in order to maintain confidentiality of stakeholders, companies and products involved.

Annexes

Annex A: Overall approach

Annex B: Niger context

Annex C: Additional supply and demand charted data

Annex D: Study of global models of climate information platforms

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Executive Summary (1/3)

Dalberg was engaged to conduct a study on the feasibility of establishing a commercial climate information platform in Niger. A study of demand and supply helped to assess needs and gaps. Dalberg sought input from three key stakeholder groups for the three following components:

- Assessment of existing climate information networks in Niger and global best practices
- Assessment of private sector demand for climate information in Niger
- Recommendations on a climate information platform to be piloted in Niger

Three stakeholder groups were consulted – farmers, suppliers of climate data and information, and policymakers/donors:

- Interviewed over 400 farmers across six regions: Dosso, Maradi, Niamey, Tahoua, Tillabéri, and Zinder
- Surveyed companies in the private sector
- Engaged the donor community and the Government of Niger

A landlocked nation nested between the Sahara and the rest of the Sahel, Niger's economy is dominated by agriculture:

- Niger boasts the lowest GDP per capita across comparable countries with 60% of the population living below the poverty line and 80% of the population living in rural areas relying on agriculture for their livelihood, thus it is critical to increase agricultural resilience to tackle poverty
- Even though Niger shows high potential in terms of production, poor climate resilience impacts negatively on its growth
- In fact, the climate situation has gotten worse in the recent past, making climate resilience even more critical

The analysis takes into account four main sections: demand, supply, global models and business models

Executive Summary (2/3)

The demand analysis is based on four dimensions: Size/Profile (S/P), Awareness (AW), Affordability (AF), and Expectations (E)

- (AW). 87% of the surveyed farmers understand the meaning of climate change and recognize its impact through decreasing rainfall and production; 83% of farmers are using climate information but mostly as baseline weather information such as rainfall, wind, and temperature. Also, farmers mostly use TV and radio to access climate information with a clear preference for daily updates on climate information
- (AF). About 85% of the farmers are ready to have access to climate information in order to better plan and boost production and are willing to pay for this information; however, as many as 65% of those surveyed established a ceiling of \$12 per year, with about 43% at the \$6 per year or less mark
- (E). Surveyed farmers have very precise information needs and are mostly interested in the reliability of the information provided . About 70% of the farmers believed the climate platform would be successful mainly on the premise that they needed such a tool and clear focus on awareness raising, ensuring affordability, and quality of services

The supply chain analysis focuses on three components: Data Collection (C), Processing (P), and Distribution (D)

- (C). ACMAD and AGRYMHET are well positioned to serve as primary data collectors in addition to National Meteo
- (P). ACMAD, AGRYMHET, and INRAN are well positioned to serve as primary data processors
- (D). TV, radio, and farmers' organizations are the main distribution channels today, while mobile seems to be a new channel as access to telecommunications is still in its growth stage

Executive Summary (3/3)

For the business model, three different options emerged:

- Option 1 - Adopt current model, where data collection/processing is conducted by current actors such as National Meteo; distribution by radio/TV/newspaper – This model is least likely, but addressing the capacity gap of current players both financially and technically is crucial
- Option 2 - Introduce a new distribution channel to the current model – with the integration of a mobile platform using an existing telecom network(s). Mobile based platforms provide both great opportunities and challenges with respect to Niger, and possibly hold the greatest promise
- Option 3 - Introduce data bundling/ service bundling such as other information products to Option 2, where climate information is bundled with other products/services and distributed/sold via a mobile platform

Options 2 and 3 were analyzed in depth, and found not to be commercially viable, mostly because of low subscription rates assumed, and low pricing. Option 3 however, may be pursued assuming additional grant support from donors or other low cost funds as impact investing

If pursued, the proposed platform model will require commitment from all actors and strong financial support and human capacity building of current and potentials stakeholders

- Engage stakeholders early in the process to increase their level of commitment before the implementation phase
- Continued donor support is paramount to make up for low governmental resources, and low disposable income in Niger, until the platform is truly “commercially viable”

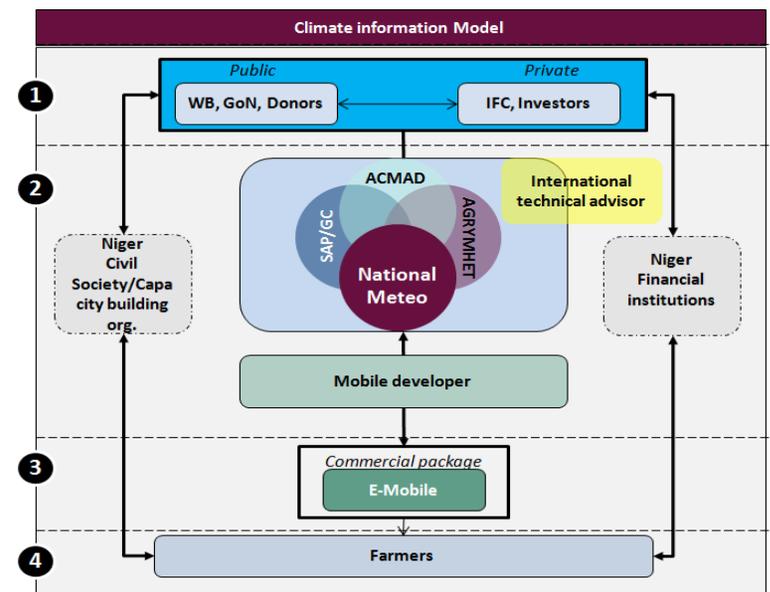


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Consultations with three key stakeholder groups anchored the analysis of supply and demand, and confirmed the existence of an ecosystem for climate information

Objectives

1

Assessment of private sector demand for climate information in Niger

2

Assessment of existing climate information networks in Niger and global best practices

3

Recommendations on a climate information platform to be piloted in Niger

Stakeholders

Private sector (agriculture – demand side)
Farmers, farmer organizations, large producers

Supply side
(meteorological organizations, research institutions)

Public sector and donors
(relevant ministries, semi-public and public institutions)

Themes

Need for improved climate information and current level of satisfaction with climate information

Demand for information and other key challenges

Supply of information and gaps affecting delivery of climate information

Design options and characteristics of the platform

The ecosystem is made up of key stakeholders that each have a specific role to play in the provision of climate information to Niger's farmers

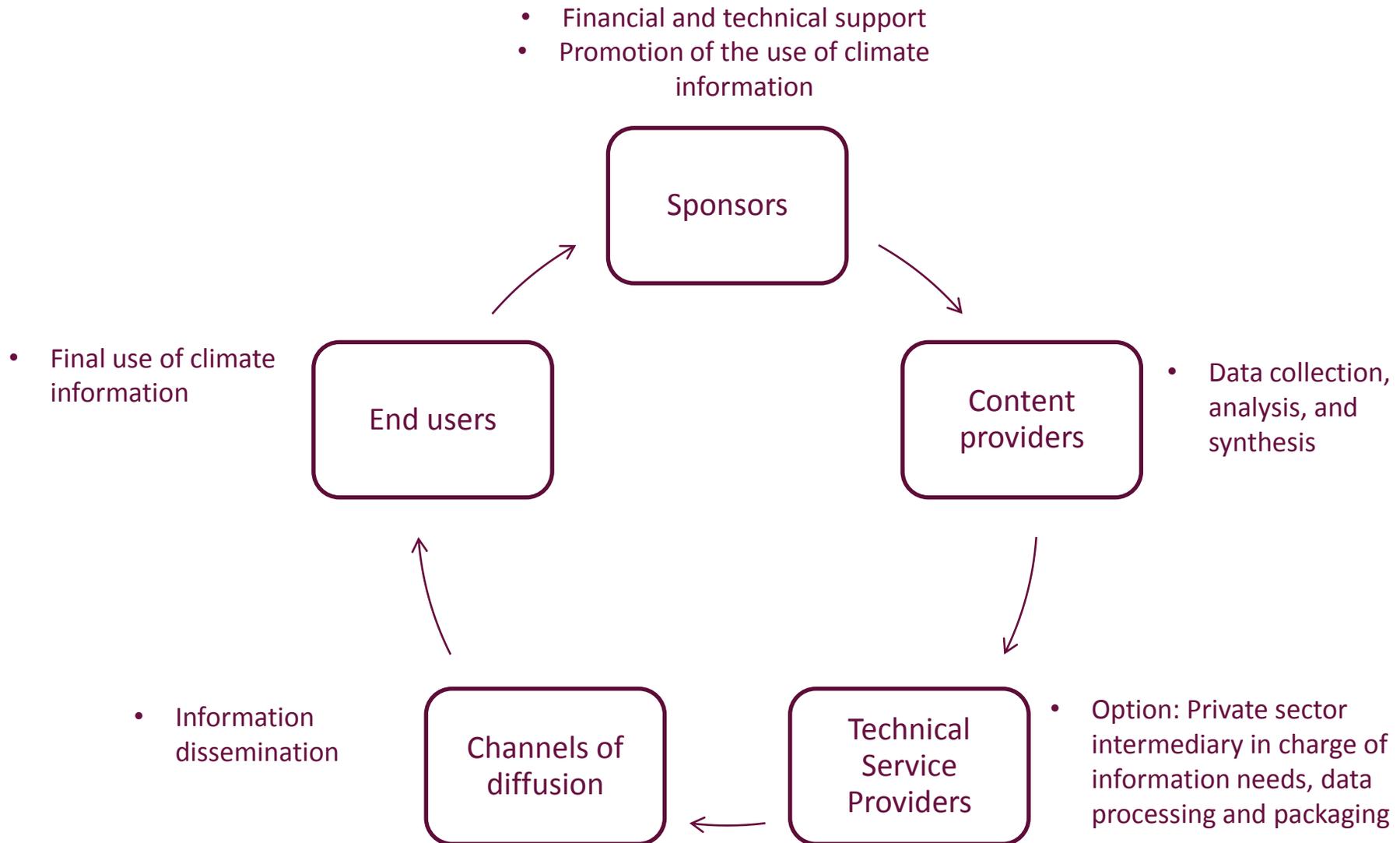


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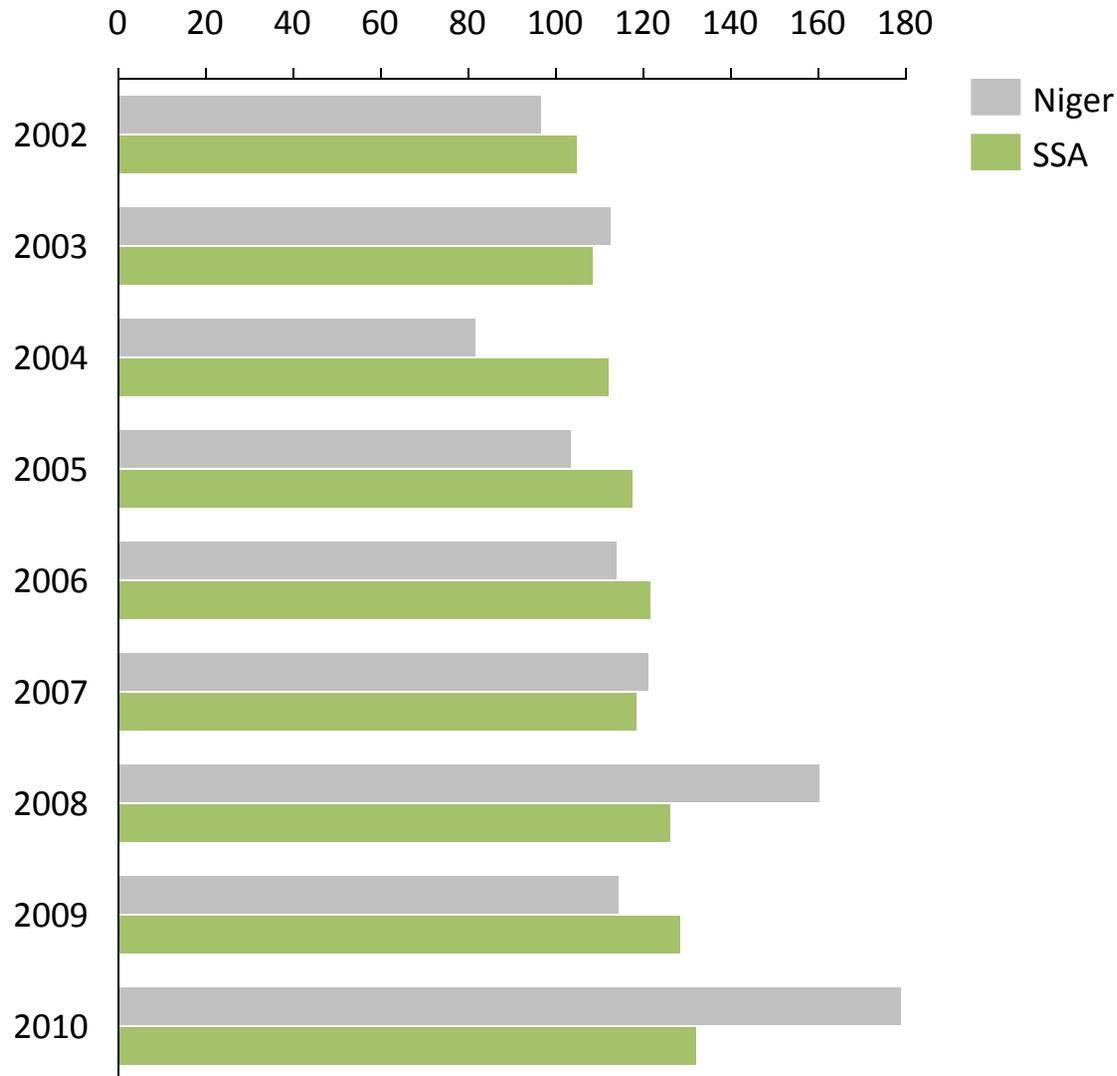
Financial analysis

Implementation plan

Even though Niger shows high potential in terms of agricultural production, poor climate resilience impacts negatively on its growth

Crop production index (2004-2006 = 100)

Ratings range from 0 to 100. The higher numbers indicate higher production potential.



Observations

- The agriculture sector faces numerous challenges and is highly volatile as it is susceptible to changing weather conditions
- Although Niger shows high growth potential in its production during the last few years, this growth has shown inconsistency due to climate variations

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The demand study was carried out in order to find out more about the customer base's expectations, needs, and disposition to buy climate information

Key questions of demand analysis

- What is the actual size and profile of the potential customer base?
- What is the level of awareness of farmers of the importance of climate information?
- How much are farmers willing to pay for climate information?
- What are farmers' expectations with product design?

A survey of 414 famers in 6 regions of Niger confirmed farmers' awareness, interest, and willingness to pay for climate information

Size/Profile

- About 83% of farmers are using climate information but mostly as baseline weather information such as rainfalls, wind, and temperature. This was a result of our survey of 414 farmers across Niger

Awareness

- 87% of the farmers understand the meaning of climate change and recognize its impact through decreasing rainfall and production
- Insufficient erratic rains and lower production levels are the most often cited reasons by farmers surveyed as evidence of climate change

Affordability

- 83% of the farmers are willing to buy climate information while the remaining farmers can't, citing affordability as a main driver
- Farmers are willing to pay to access climate information but as many as 43% of those surveyed established a ceiling of \$6 per year
- Today, climate information is a public good accessed freely

Expectations

- About 62% of the farmers are interested in information about rain due to the characteristic of their crops and low capacity in terms of irrigation
- They are marginally interested in a few other indicators such as temperature, wind, or pests that they deem complementary
- In general, when asked about expectations reliability is identified as a main driver of their buying criteria, and the most important element according to farmers

The supply analysis was carried out in order to find out more about the availability and quality of climate information in Niger

Key questions of supply analysis

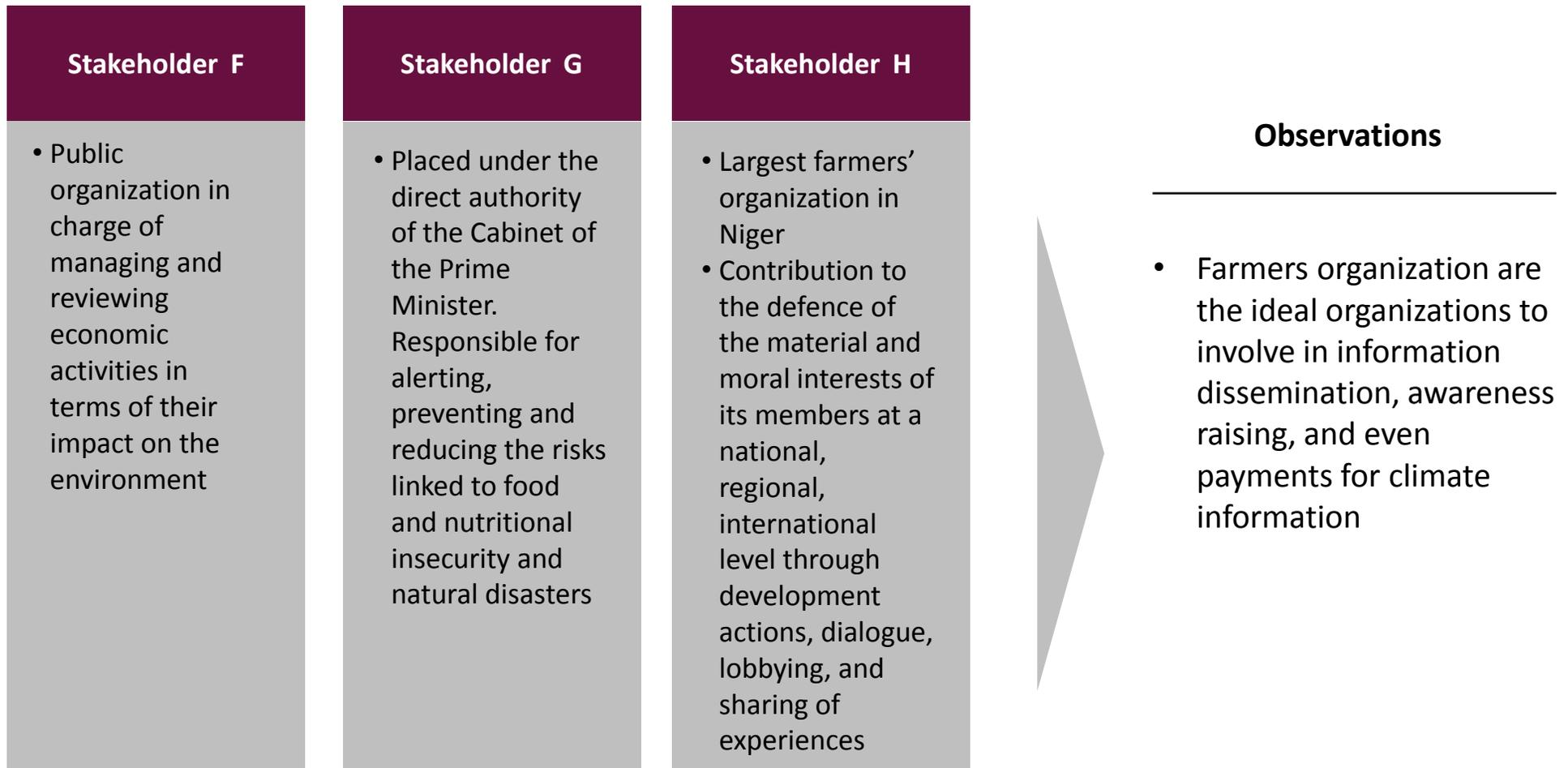
- Who are the main actors involved in the supply of climate information?
- How can we ascertain their technical, and financial capacity?
- How could they contribute efficiently to the platform?
- What were their current needs with respect to their current capacity?

Many stakeholders are involved in the collection of climate information, each with specific strengths and weaknesses (1/2)

| Stakeholder A | Stakeholder B | Stakeholder C | Stakeholder D | Stakeholder E |
|--|--|--|---|---|
| <ul style="list-style-type: none">• Public organization in the Meteorology field• Statutorily, the DNM is the only organization in charge of making climate information available to the public | <ul style="list-style-type: none">• Collection, treatment and diffusion of scientific and meteorological data related to the fields of food security, water control and fight against desertification in the Sahel | <ul style="list-style-type: none">• Conception and implementation of agronomic research programs in all the sectors of rural development• Coordination and supervision of all agronomic research efforts in Niger• Contribution to the development of national policies in the field of agronomic research | <ul style="list-style-type: none">• Provision of weather and climate information and promotion of sustainable development (notably within the context of national strategies for poverty eradication), in the fields of agriculture, water resources, health, and public safety | <ul style="list-style-type: none">• Collection, treatment and dissemination of price information to farmers in the entire country |

- Levels of technical capacity vary across different climate information providers.

Many stakeholders are involved in the collection of climate information, each with specific strengths and weaknesses (2/2)



- F could only play a secondary role within the platform, while an organization like G can be involved at the onset

This required an assessment of the potential suppliers of climate information based on technical and financial capacity, experience , and existing end user portfolio

Financial capacity

- Financial capacity is without a doubt the most important indicator, as it tends to greatly affect all other indicators. It was important for us to know whether providers surveyed boasted high or low capacity in this regard, in order to better correlate it to their performance elsewhere

Technical capacity

- Technical capacity often derives from financial capacity, which allows greater technical means. However, technical capacity can be enhanced by high levels of human capacity, where able professionals can deliver great results by being more creative, in light of low technical capacity levels

Experience in climate

- Has the actor been involved in climate service/product provision in the past? How extensive or marginal is this experience?

End-user portfolio

- Access to a large base of potential customers

Experience in similar projects

- Similar to experience in climate although it supposes experience with multi-stakeholder projects in developing nations

The capacities of “producers” of climate information range, but overall require some strengthening to meet the needs of users

○ Very limited ◐ Limited ◑ Moderate ◒ No assessment

| | Financial Capacity | Technical Capacity | Experience in climate | End-user portfolio | Similar projects |
|---------------|--------------------|--------------------|-----------------------|--------------------|------------------|
| Stakeholder A | ○ | ◑ | ◑ | ◑ | ◐ |
| Stakeholder B | ◐ | ◑ | ◑ | ◑ | ◐ |
| Stakeholder C | ○ | ◑ | ◑ | ◑ | ◐ |
| Stakeholder D | ◐ | ◑ | ◑ | ◑ | ◐ |
| Stakeholder E | ◐ | ◑ | ◑ | ◑ | ◑ |

- Financial capacity or access to funding is the strongest need across all providers
- Actors such as B and C with strong international linkages appear to have the strongest capacity but would still require some support to perform efficiently
- While the A is at the center of the ecosystem of climate information, it is one of the institutions with capacity constraints
- Leveraging any of the existing providers of climate information will require investments
- Even as we consider a commercially viable climate information platform, grants may be necessary to support content providers

Some active stakeholders can support the strengthening needs of stakeholders in the climate information platform

Sponsors

- A number of stakeholders outside the World Bank Group have expressed interest in supporting agricultural resilience in Niger including other multilateral institutions
- While the IFC can provide financing, another development institution has pledged \$8 million in support of Stakeholder A to raise their technical capacity levels
- Additional grants and loans may be available through private sector participation (telcos are interested in participating financially as well as technically)
- Other international organizations have already committed more than \$100 million since 2008, but mostly for emergency relief
- Sponsors will be critical in providing the means to raise technical and financial capacity and support all actors within the project

Government of Niger

- The Government of Niger must also be involved in providing additional resources to the platform to ensure its sustainability
- Besides, the Government of Niger is the primary responsible for ensuring that the policy environment does not endanger the viability of the platform
- Through the PPCR, the Government of Niger has pledged resources to agricultural resilience and food security, and has also ensured that all the necessary support from public bodies would be extended with respect to setting up the climate information platform
- One recommendation within our implementation roadmap is to convene a roundtable with interested stakeholders and the GoN in order to harmonize action and agree on roadmap, ownership of key agenda items, and resources allocated by each organization

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The demand and supply analysis led to key design principles for such a platform to exist, including financial viability, strengthening of actors and demand-driven

Commercially viable climate information platform

- The overarching premise of our product design work lies in the fact that the climate information platform model we propose must be commercially viable
- Although our model requires some additional grant monies to support the ecosystem, it is by and large relying on payments from farmers, and as such, does not depend on continued grant injection to be sustainable
- It was important to reconcile the expectation of a commercially viable platform with the customer base's resources, so we were able to find out how much farmers were willing to pay

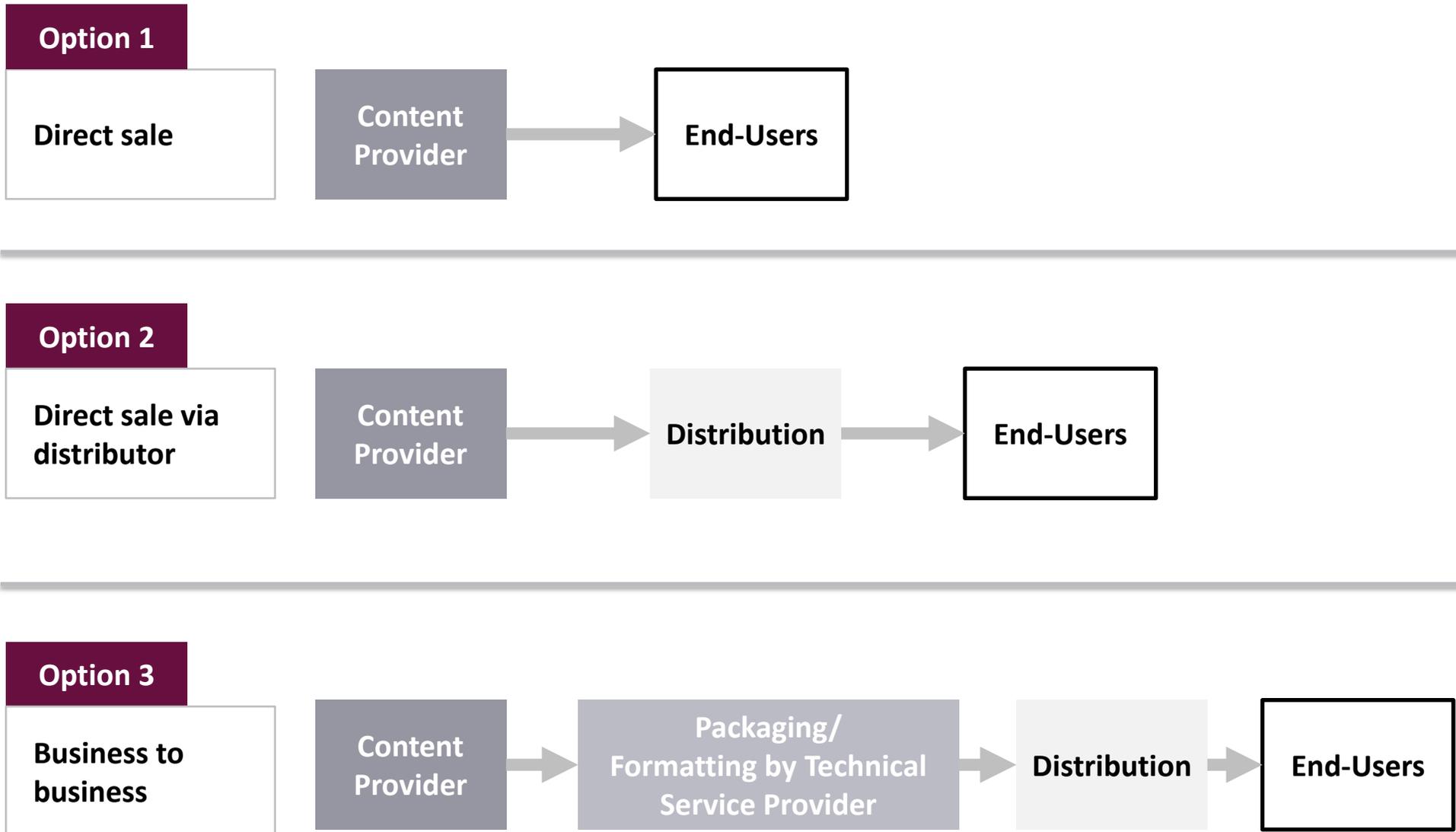
Embedded technical assistance to content providers

- Success for the climate information platform is contingent on technical assistance being available to content providers
- Our surveys have identified quality and reliability of the data as the main deal breakers as far as customers are concerned. Hence, the climate information platform will not work, if the quality of data is not above its current level
- Such a result may only be obtained if content providers are supported to be able to deliver better information

Product design with customers' expectations and needs in mind

- Through our surveys, we were able to find out many of the expectations and needs of customers beyond just reliability and quality
- The specific information needs of farmers are known and informed our "bundling" approach
- Frequency of access, means of access, key information, are all variables that can inform product design insofar as farmers have very specific information needs at specific times during the agricultural cycle

Three different models emerged depending on the intermediaries required to package and deliver the information to end users



Direct sale is least likely, as it may be necessary to have a distributor or other intermediary to ensure rapid, and scalable delivery

Option 1 – Direct sale



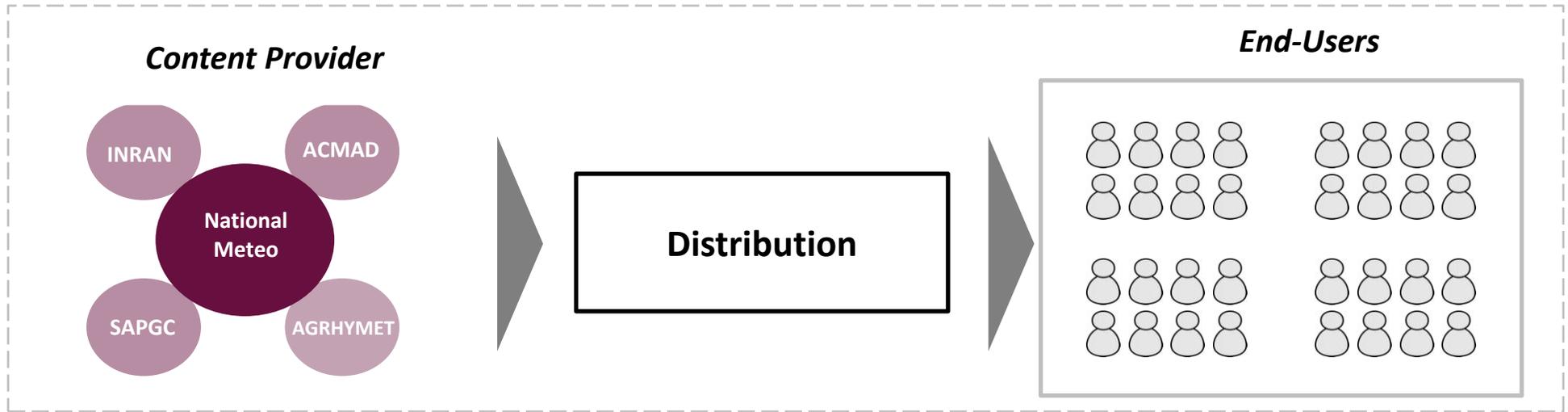
High ● Low ○

| | |
|----------------|--|
| Finance | <ul style="list-style-type: none"> • Heavy cost driven ● • Payback control ◐ |
| Data | <ul style="list-style-type: none"> • Control on quality ◐ • Control on delivery timing ◐ |
| Access | <ul style="list-style-type: none"> • End- user reach ◐ • Ability to scale ◐ • Affordability ◐ |

- This option allows a significant reduction of transaction costs within the platform but remains risky, as a breakdown between the content developer and the end-users would render the platform useless
- However, one must also note that all of these content developers boast extensive experience working directly with farmers

Direct sale via distributors seems a sensible option as many companies could be qualified to play this role

Option 2 – Direct sale via distributor



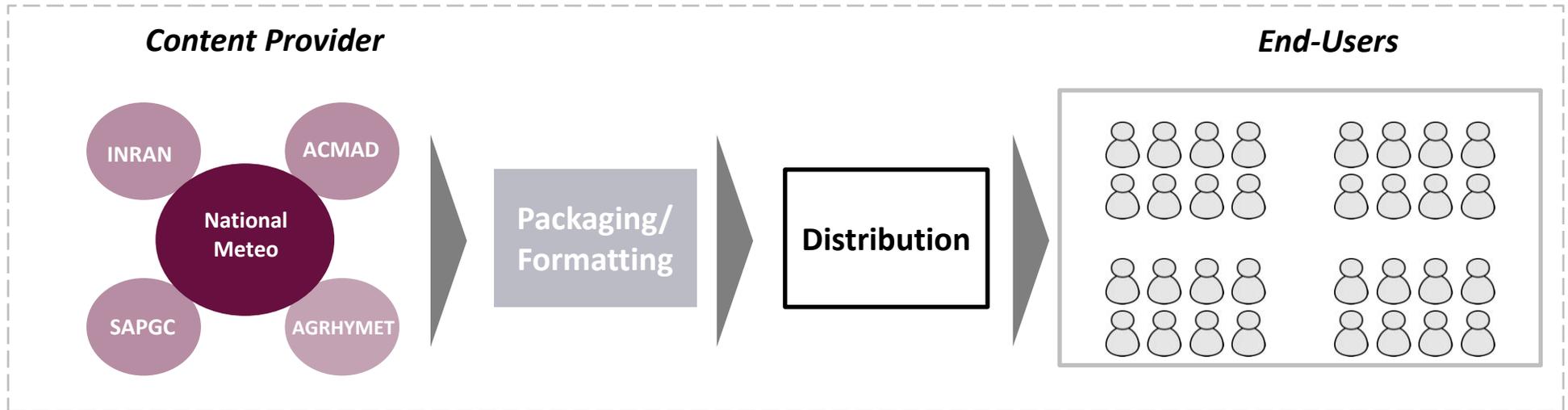
High ● Low ○

| | | |
|---------|--|----------------------------|
| Finance | <ul style="list-style-type: none"> • Heavy cost driven • Payback control | <p>●</p> <p>●</p> |
| Data | <ul style="list-style-type: none"> • Control on quality • Control on delivery timing | <p>●</p> <p>●</p> |
| Access | <ul style="list-style-type: none"> • End- user reach • Ability to scale • Affordability | <p>●</p> <p>○</p> <p>○</p> |

- In terms of access to the customer base, companies with a large customer base may be well positioned to distribute
- The insurance sector, while interested may be difficult to get onboard at the onset especially because of the novelty of the approach and inherent risks for them
- A real opportunity, however, exists with telecom operators

Business to business may be required as neither content providers nor delivery agents have the capacity to package and format the information for distribution

Option 3 – Direct business to business



Status High ● Low ○

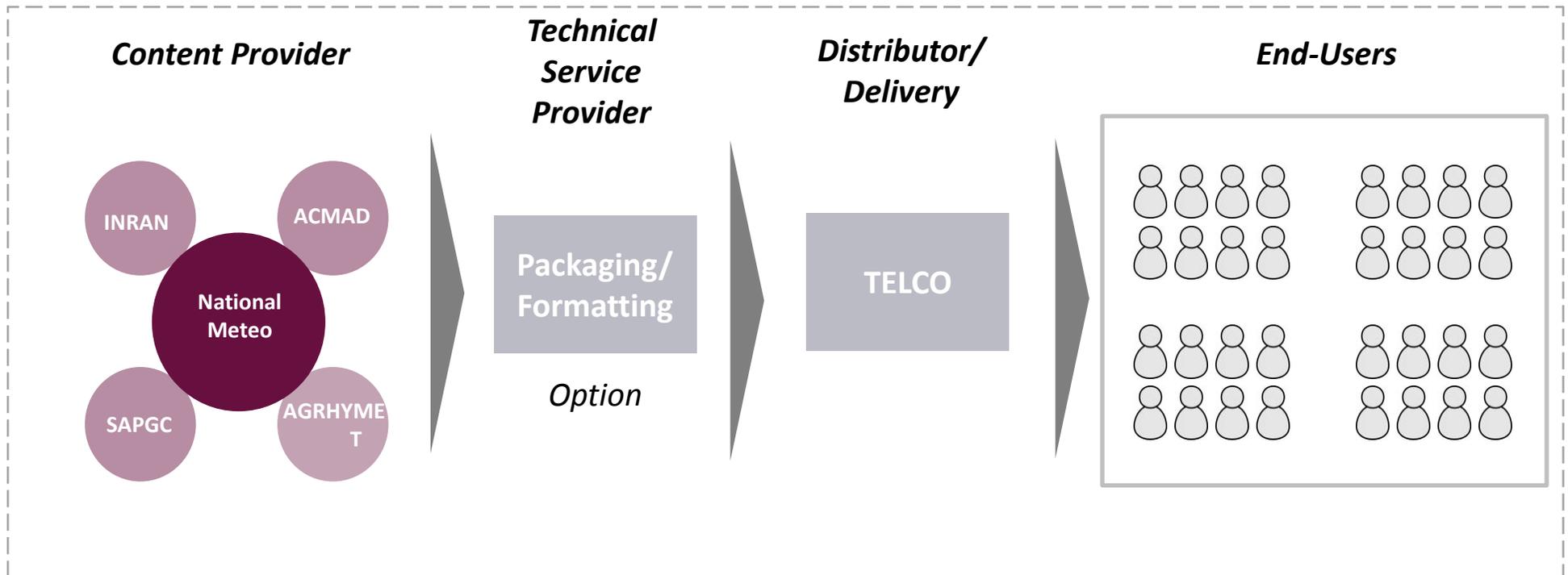
| | | |
|---------|--|---|
| Finance | <ul style="list-style-type: none"> • Heavy cost driven • Payback control | <ul style="list-style-type: none"> ● ◐ |
| Data | <ul style="list-style-type: none"> • Control on quality • Control on delivery timing | <ul style="list-style-type: none"> ◐ ◑ |
| Access | <ul style="list-style-type: none"> • End- user reach • Ability to scale • Affordability | <ul style="list-style-type: none"> ◑ ◒ ◓ |

- We first considered this option with agribusiness companies in mind, but it seems this option drives the total costs up as it would require significant volume to reach the economies of scale necessary to keep costs down
- However, other existing distribution mechanisms such as mobile could reduce costs

Mobile telecommunication are the best positioned to play the distributor role in the climate platform

| | | Mobile Telecoms Provider | Agricultural Input Provider | Insurance Provider | Microfinance Provider |
|------------|-------------------------------|--------------------------|-----------------------------|--------------------|-----------------------|
| Finance | • Financial capacity | ● | ◐ | ● | ◐ |
| | • Payback control system | ◐ | ◐ | ◐ | ◐ |
| Data | • Quality assurance | ◐ | ◐ | ◐ | ◐ |
| | • Automatic process | ◐ | ◐ | ◐ | ◐ |
| | • Push technology | ● | ○ | ○ | ○ |
| Access | • End-User easy to reach | ◐ | ◐ | ◐ | ◐ |
| | • Easy to scale in country | ◐ | ◐ | ◐ | ◐ |
| | • Affordable | ◐ | ◐ | ◐ | ◐ |
| Experience | • Data packages' distribution | ◐ | ◐ | ◐ | ◐ |
| | • Climate information | ◐ | ◐ | ◐ | ◐ |
| | • Building external platform | ◐ | ○ | ◐ | ○ |

Mobile based platforms provide both great opportunities and challenges with respect to Niger, and possibly hold the greatest promise



- Mobile based platforms could be the best entry point although challenges such as, low penetration rates, and a lack of access to technology remain
- However, it must be noted that Niger knows exponential growth in mobile phone penetration and is likely to boast similar rates as its neighbors in only a few years (5-7 years)
- Specific provisions might be needed in the case of Airtel because of their overexposure with IFC

A Technical Service Provider is required in Niger to serve as intermediary to process the data from Content Providers, conduct quality control, and interface with end users

Additional technical content provider

- An additional private sector actor may be necessary for additional information needs, packaging and value addition to the climate information

Role

- This private sector actor would be responsible for running the climate information platform as opposed to the distributor, only responsible for dissemination

Criteria in selecting this actor

- High levels of technical capacity in order to run the platform
- Experience with similar projects
- Experience producing, analyzing, and distributing large amounts of data

Examples

- Company G is a company specialized in agri-VAS, and boasts significant experience developing tailored information platforms for the agricultural sector in West Africa. Other companies with similar experience and some interest in this platform include Company Y, Company X , and Company U
- These companies can develop a number of value added information products and run the platform

Mobile platforms offer the opportunity to share a wealth of information, requiring prioritization and a balance of needs, availability of information and financial feasibility

Product offering 1: Climate information is sold alone

- The information is created by content providers and transferred to technical service providers
- The end product from technical service providers is formatted, packaged and transferred to a telecom operator for distribution, likely through a platform the telco creates

Business model

- Only climate information is sold by the distributor to the farmer on a subscription basis or on a per sms basis

Product offering 2: Climate information is sold bundled with several information products

- In this option, climate information is bundled with several other information products such as:
 - Market information in real time on a wide range of agricultural produce on local and international markets
 - Information on input acquisition
 - Information on commercialization of agricultural produce on local and international markets
 - Information on traceability of products for export markets
 - Classification and continued monitoring of farms
 - Information on access and management of credit

Business model

- Combination of priority products for sale and “freemiums”. Only one or two of the information products would be commercialized, while the others would be available as “freemiums”, raising the overall interest level for the entire platform
- Priority products are based on farmer subscriptions for a fee to receive sms

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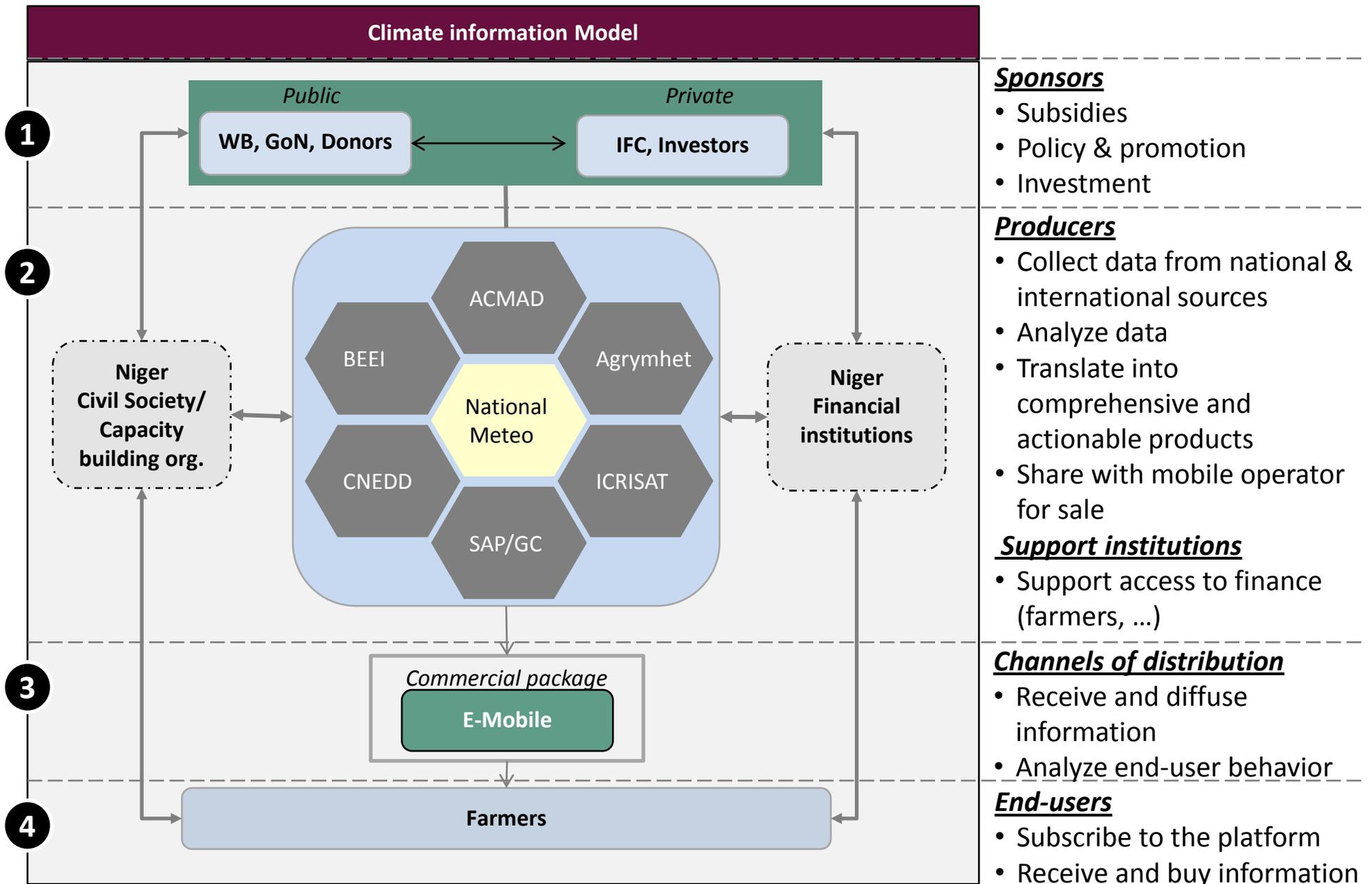
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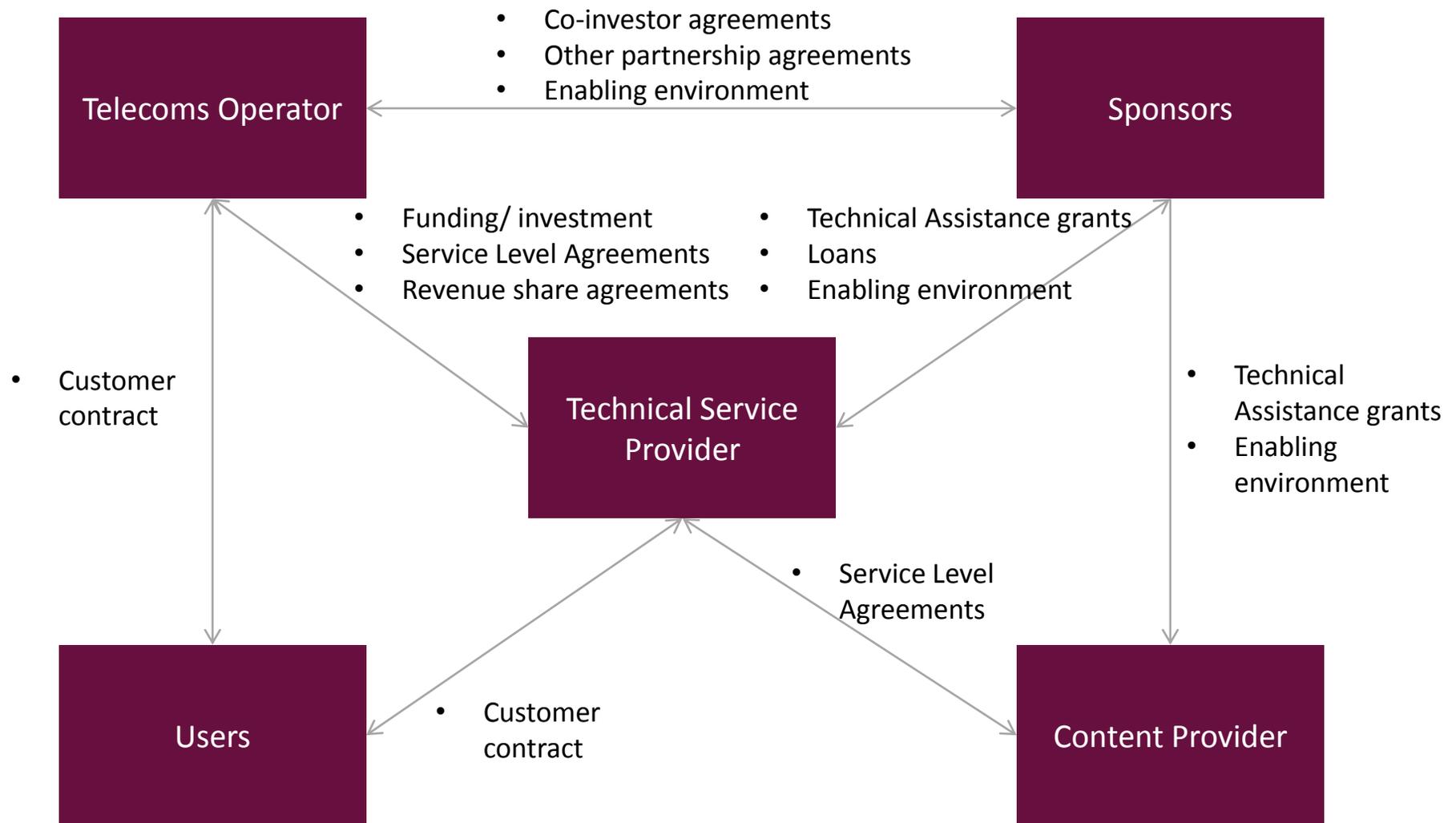
Financial analysis

Implementation plan

The climate platform models we propose will require strong commitment from all actors



There are several options to consider with regards to structuring the relationships or partnerships within the platform



- The Technical Service Provider can be an existing entity, or one that is created; it can also be a Joint-Venture between various entities
- The Technical Service Provider can be selected through an open competition

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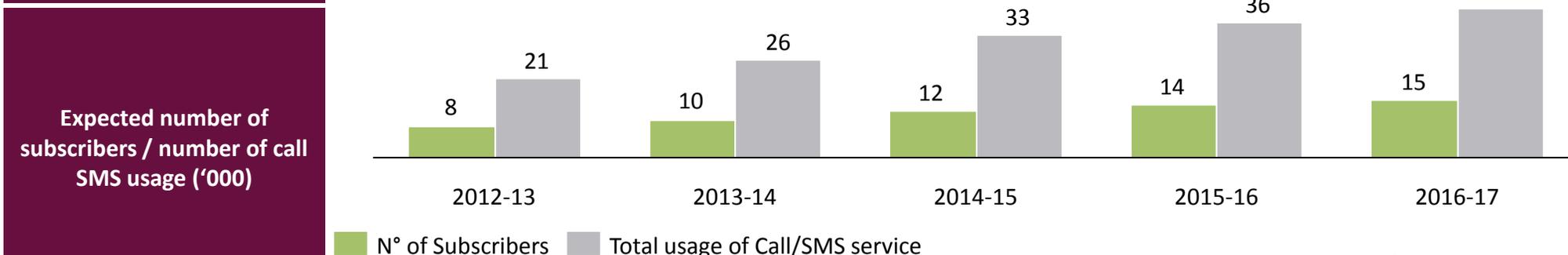
The financial models include core assumptions about consumption, CAPEX and OPEX (1/3)

General assumptions

| | |
|-----------------------------------|---|
| Number of targeted farmers | <ul style="list-style-type: none"> • 3,854,670 farmers • <i>The FAO estimate of Niger’s farming population is 3,854,670 as of 2011. The FAO estimate relies on data from the National Statistics Office of Niger.</i> |
| Interested farmers | <ul style="list-style-type: none"> • 83% of farmers • <i>Dalberg surveyed a sample of 414 farmers across 6 regions and 4 crops in Niger. 83% of surveyed farmers expressed interest for climate information.</i> |
| Expected growth rate | <ul style="list-style-type: none"> • 2012 – 2014 : 25% • 2014 – 2015 : 10% • <i>Average between company X growth rate (30%) company Y growth rate (10%). 5% was added in the case of Niger where we assumed greater interest</i> |
| Inflation rate | <ul style="list-style-type: none"> • 1% • <i>The rate of inflation is assumed based on historical inflation trends in Niger in the past ten years. Except for a short-lived spike in 2008.</i> |
| Tax rate | <ul style="list-style-type: none"> • 15% • <i>15% tax deferral assumed from 30% official tax rate after discussions with Government</i> |

Consumer assumptions

| | |
|---------------------------------------|--|
| Take off rate | <ul style="list-style-type: none"> • 0.25% • <i>Average takeoff rate between Product 1 (0.2%); Product 2 (0.2%); Product 3 (0.4%) and Product 4 (0.2%)</i> |
| Price for subscribers | <ul style="list-style-type: none"> • USD 8 per year • <i>Subscription fee derived from Dalberg survey with farmers in Niger</i> |
| Charge for CI through call/SMS | <ul style="list-style-type: none"> • USD 0.8 per usage • <i>This level of charges has been seen for models such as Product 2</i> |



The financial models include core assumptions about consumption, CAPEX and OPEX (2/3)

CAPEX assumptions

Applications development cost

- USD 100,000

Data storage

- USD 50,000

Operating systems

- USD 50,000

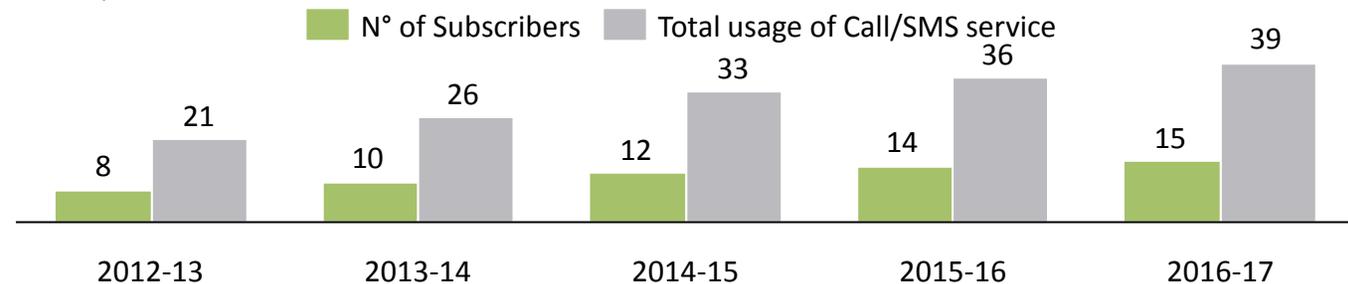
Data collected from Product 1 and 2. We mirrored the cost items of 1, .. Capital expenses represented a total cost of \$ 200,000. Reuters 1 proves much more transparent in sharing some information publicly on their website. In addition, the number of testimonies from customers that can be traced back is impressive.

OPEX assumptions

Numbers of time farmers access information per year ('000)

- 3 SMS per month for subscribers
- 1 SMS per month for Call/SMS users

As far as subscription was concerned we witnessed similar levels for 1 in India and 3 in Ghana



Cost per SMS usage

- USD 0.45

This was the cost in Niger for the 4 market information platform

Building rental

- USD 12,000

1,000 \$/month based on averages reported by Doing Business reports

Staff salaries

- USD 52,800

Average salaries for 8 staff's receiving each \$6,600 as annual salary

Recruiting cost

- USD 15,000

Hiring new staff for required skills (Fig in \$) - One time payment

Utilities

- 25% of direct cost

Estimation based on overhead rate paid to host institutions in the region

Data processing

- 2% of total costs

As witnessed for 1

The financial models includes core assumptions about consumer, CAPEX and OPEX (3/3)

Other assumptions

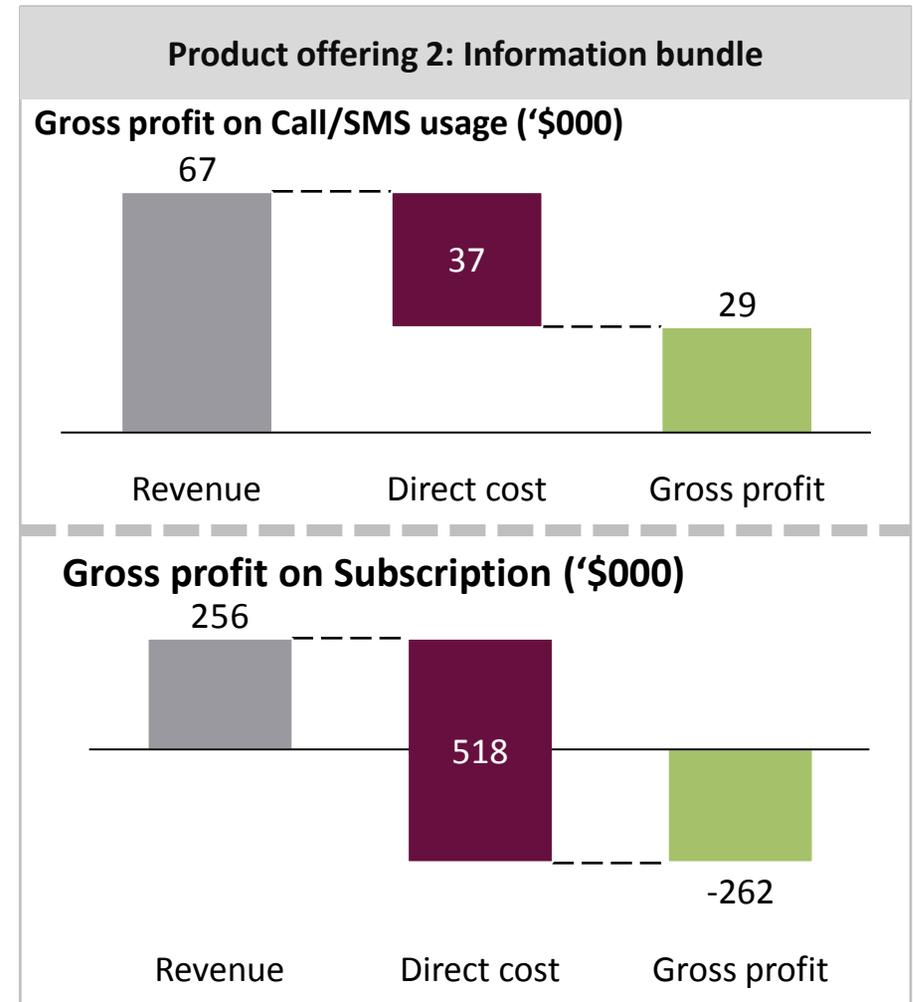
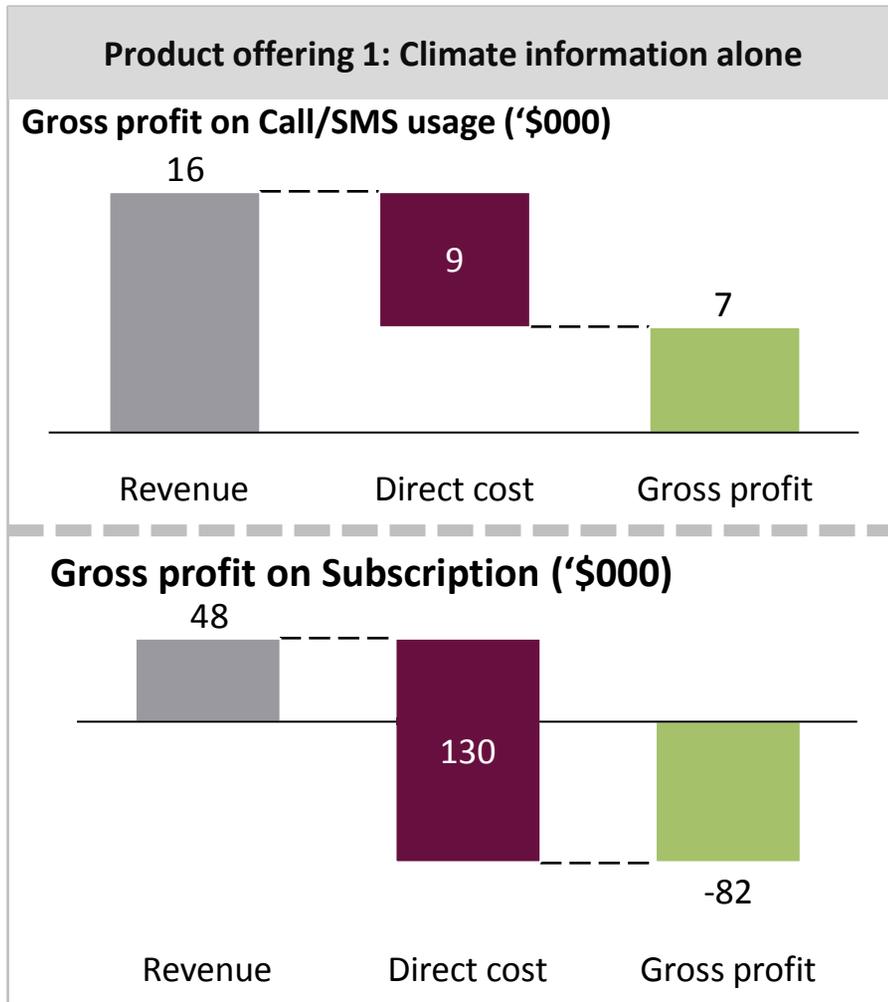
| | | |
|--------------------------|---|---|
| Loan | <ul style="list-style-type: none"> • USD 1,000,000 | <ul style="list-style-type: none"> • <i>Baseline information from IFC that the loan amount could vary between 1 and 2 million dollars.</i> |
| Interest rate | <ul style="list-style-type: none"> • 2% | <ul style="list-style-type: none"> • <i>IFC commercial loan is a low interest loan</i> |
| Fixed assets life | <ul style="list-style-type: none"> • 5 years | <ul style="list-style-type: none"> • <i>General baseline financial assumptions that can be made for a variety of projects of this scale</i> |
| Indirect revenue | <ul style="list-style-type: none"> • 3% | <ul style="list-style-type: none"> • <i>Benchmark from two global platforms (1 and 2) which estimate it at less than 5% of their total revenue. Types of indirect revenues we have encountered include insurance advertising, microfinance advertising, agribusiness advertising, and advertising from raw material suppliers. We chose to maintain the same trend for Niger and assumed 3% for indirect revenues as a percentage of total revenues.</i> |

Assumptions for the bundled product offering model

| | | |
|------------------------------|--|---|
| Takeoff rate | <ul style="list-style-type: none"> • 1% | <ul style="list-style-type: none"> • <i>Level of interest for multiple information products was logically assumed to be higher than interest level for a climate information platform alone.</i> |
| CAPEX | <ul style="list-style-type: none"> • USD 240,000 | <ul style="list-style-type: none"> • <i>A 20% increase on the CAPEX for the climate information platform was assumed, to take into account the additional platform needs</i> |
| Utilities | <ul style="list-style-type: none"> • 25% of direct cost | <ul style="list-style-type: none"> • <i>Estimation based on overhead rate paid to host institutions in the region</i> |
| Data processing | <ul style="list-style-type: none"> • 5% of total costs | <ul style="list-style-type: none"> • <i>3% of additional cost out of total costs was assumed to take into account the larger volume of data and the need to segment the larger amount</i> |
| Price for subscribers | <ul style="list-style-type: none"> • USD 8 per year | <ul style="list-style-type: none"> • <i>Subscription fee derived from Dalberg survey with farmers in Niger</i> |

Gross profit

- Comparison of the 2 product offering options YEAR 1: 2013-2014

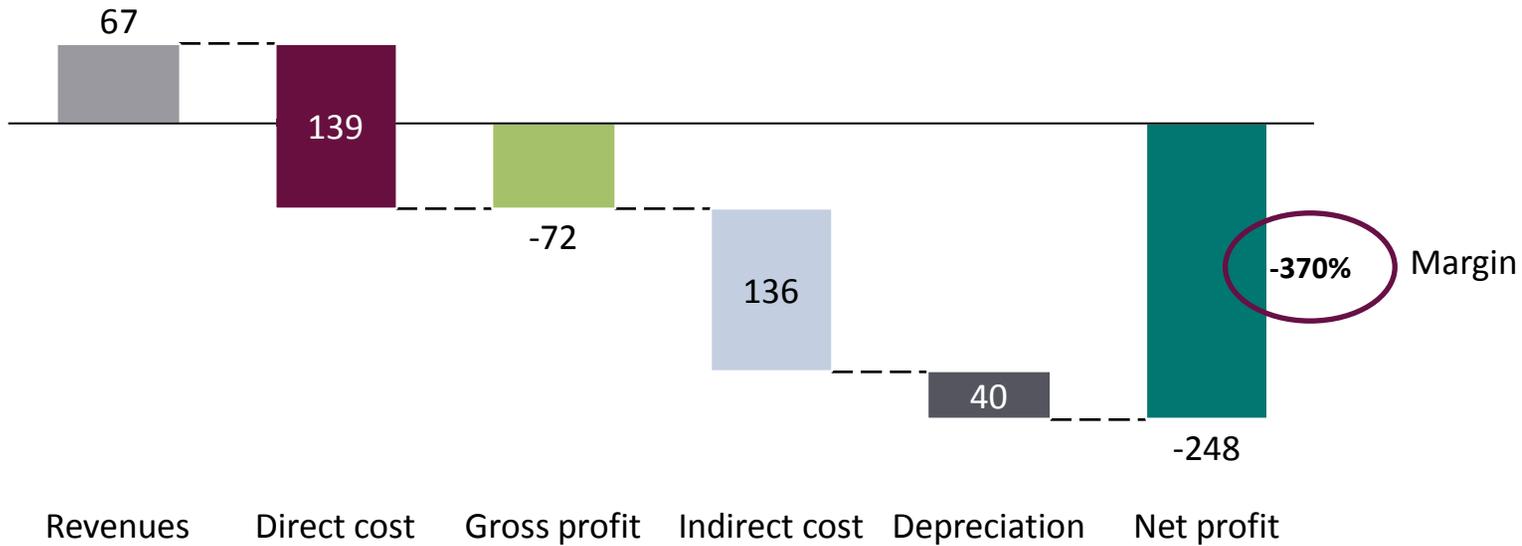


For both product offering options, gross profit is negative for subscribers, while it is positive for Call/SMS users
Profits are eroded by losses recorded on subscription model

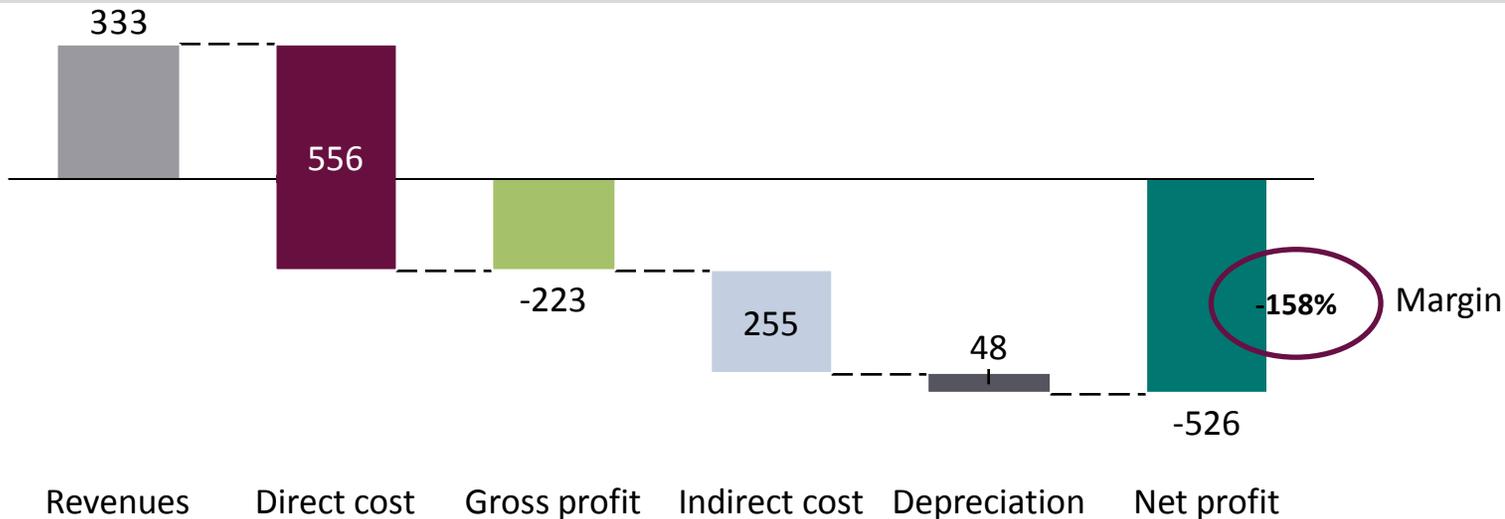
Net Profit

- Comparison of the 2 product offering options YEAR 1: 2013-2014

Product offering 1 (climate information alone): Breakdown of financials ('\$000)



Product offering 2 (climate information bundled with other services): Breakdown of financials ('\$000)

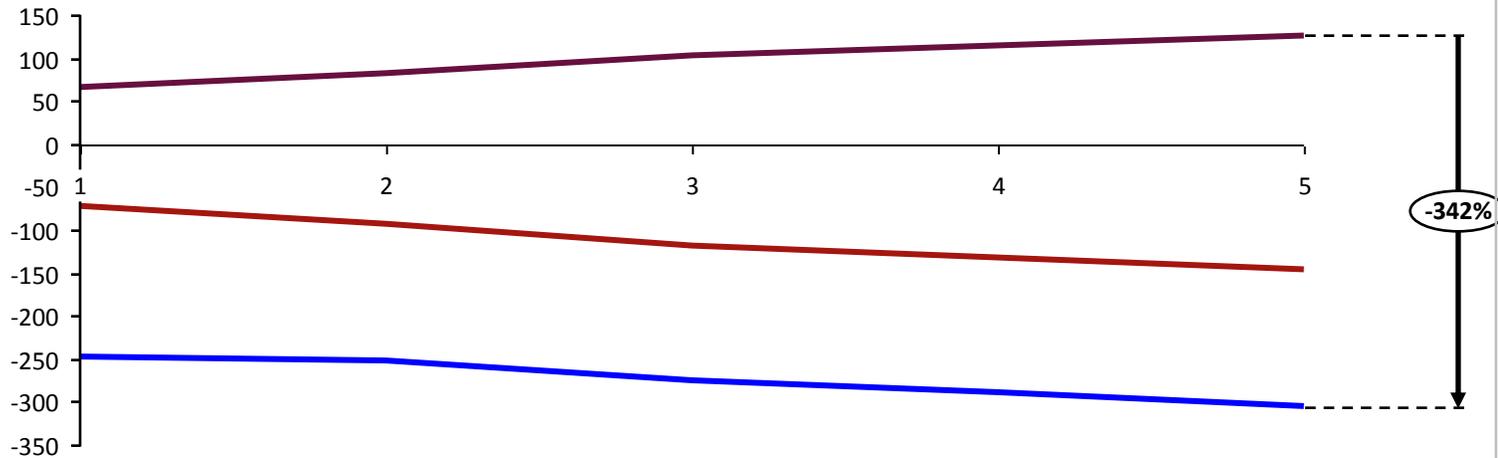


- For both models, gross profits and net profits are negative at inception

Financial trends

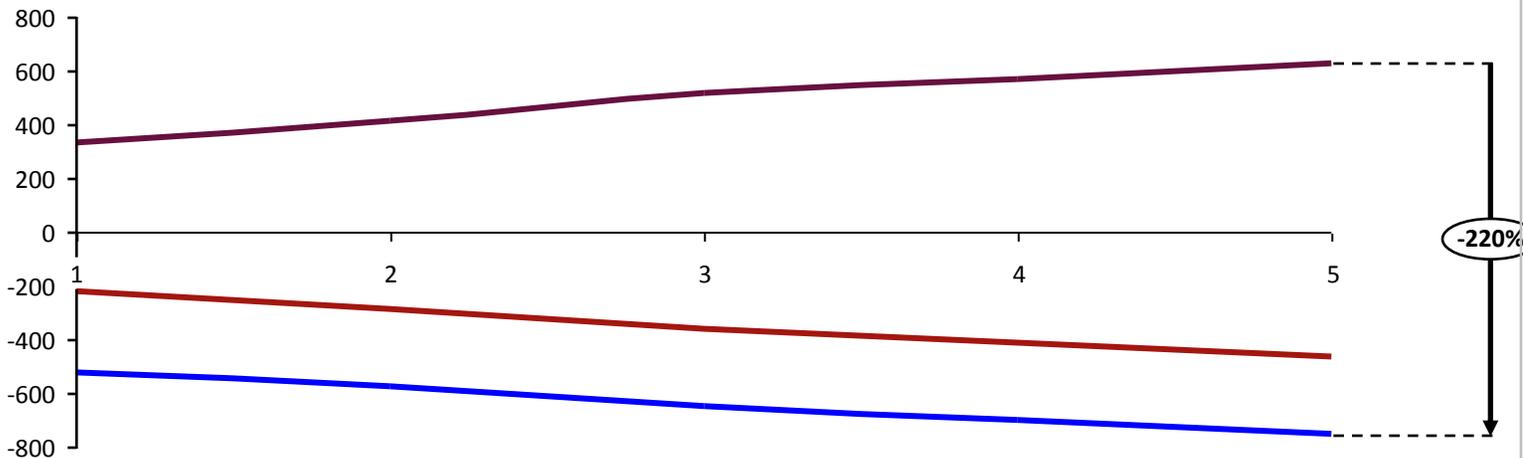
- Comparison of the 2 product offering options

Product offering 1: Trends on Revenue, Gross profit and Net Income over 5 years ('\$000)



Revenues
EBITA
Net income

Product offering 2: Trends on Revenue, Gross profit and Net Income over 5 years ('\$000)



- Even in the long term, trends show that the models are not economically viable
- The main data points that can change the models significantly are the take off rates, and the subscription rates

Key financial ratios of the financial analysis

Model 1: Climate information alone (Figures in \$ 000's)

Initial investment: \$1,000

Discount rate: 7%

| Year | 0 | 1 | 2 | 3 | 4 | 5 |
|-----------------|---------|---------|---------|---------|---------|---------|
| Cash flow | (1,000) | (300) | (305) | (332) | (347) | (364) |
| PV* factor | 100% | 93% | 87% | 82% | 76% | 71% |
| PV of cash flow | (1,000) | (280) | (267) | (271) | (265) | (259) |
| Cumulative PV | (1,000) | (1,280) | (1,547) | (1,817) | (2,082) | (2,341) |

Key ratios

- **Net Present Value:** (\$2,341)
- **Profitability Index:** -2.34
- **IRR (Internal Rate of Return):** Negative
- **Accounting Rate of Return:** (32.9%)
- **Payback Period:** Not before 5 years

Model 2: Bundled information platform (Figures in \$ 000's)

Initial investment: \$1,000

Discount rate: 7%

| Year | 0 | 1 | 2 | 3 | 4 | 5 |
|-----------------|---------|---------|---------|---------|---------|---------|
| Cash flow | (1,000) | (570) | (619) | (702) | (750) | (805) |
| PV factor | 100% | 93% | 87% | 82% | 76% | 71% |
| PV of cash flow | (1,000) | (532) | (541) | (573) | (572) | (574) |
| Cumulative PV | (1,000) | (1,532) | (2,073) | (2,646) | (3,219) | (3,792) |

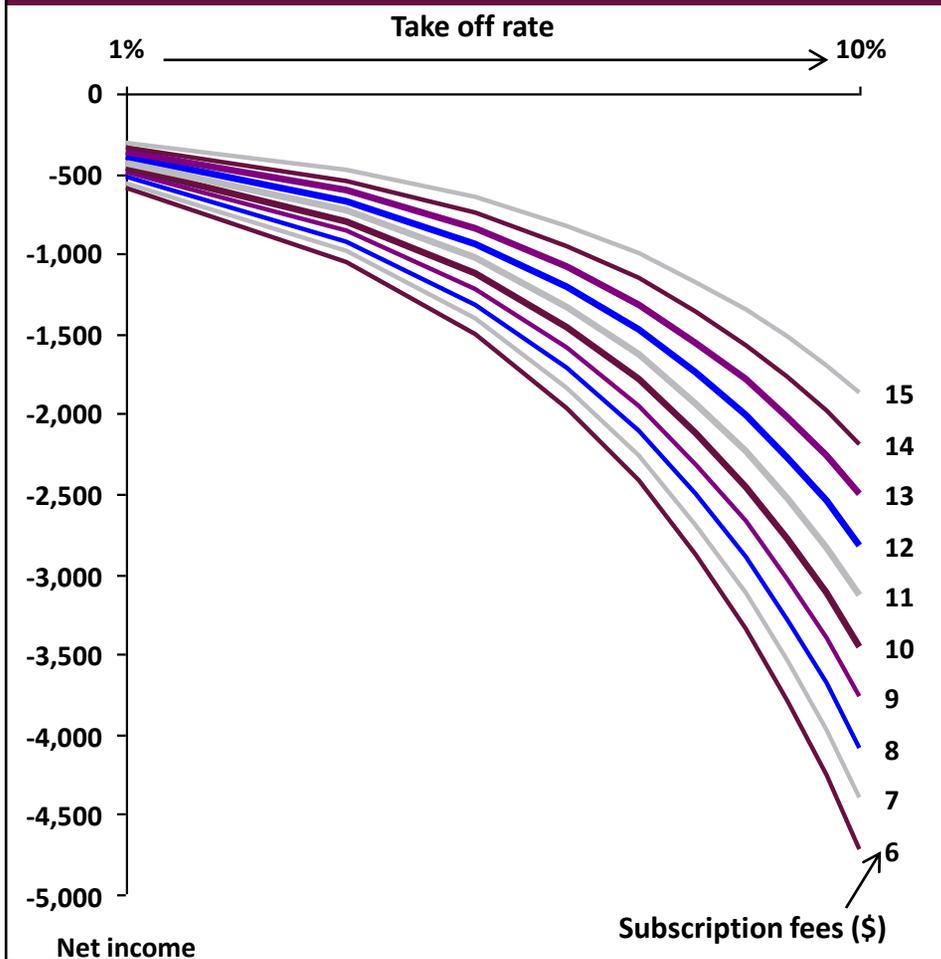
Key ratios

- **Net Present Value:** (\$3,792)
- **Profitability Index:** -3.79
- **IRR (Internal Rate of Return):** Negative
- **Accounting Rate of Return:** (68.9%)
- **Payback Period:** Not before 5 years

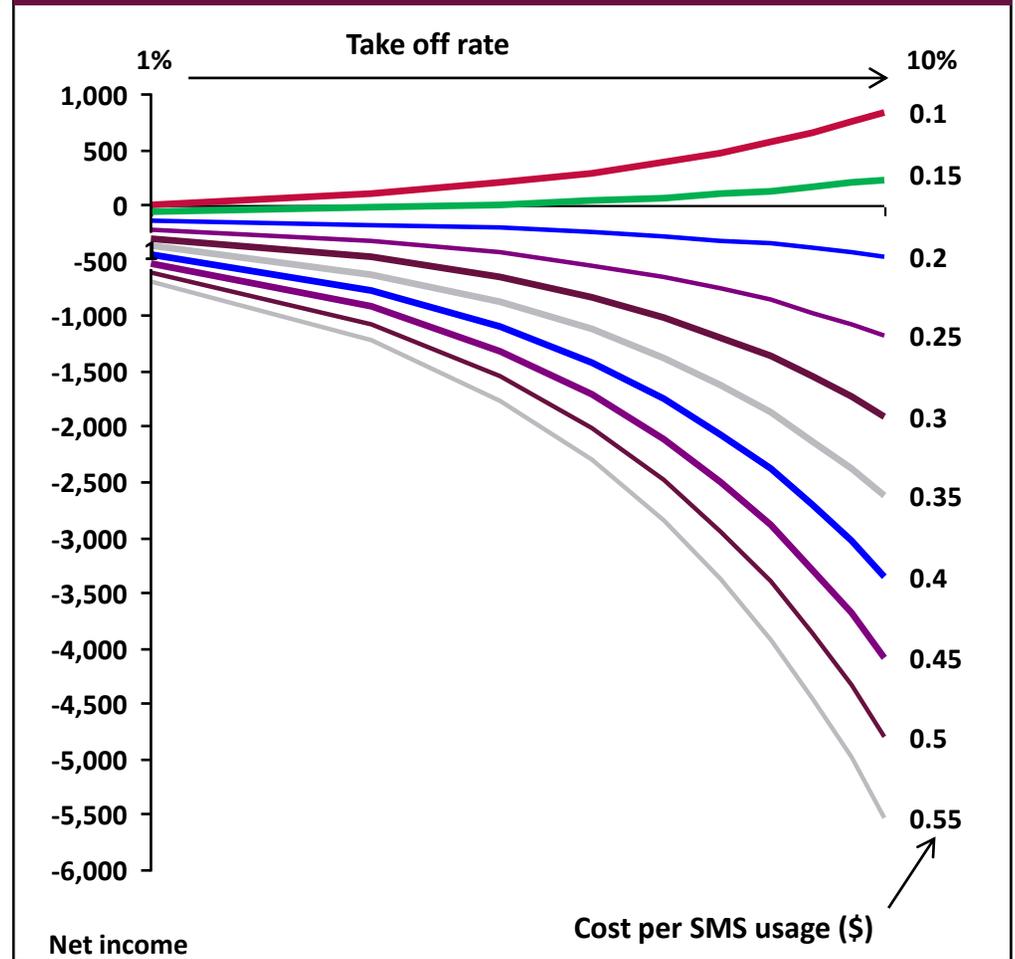
- Additional grant money, and subsidies can render the platform sustainable in the long term
- Over a ten year horizon, the models will still not be profitable as they stand since gross profit margin trends are negative and will continue to trend lower

The net income is sensitive to the « Cost per SMS usage » which should remain less than \$0.16

Sensitivity of net income relative to the variation of both “take off rate” and “subscription fee”

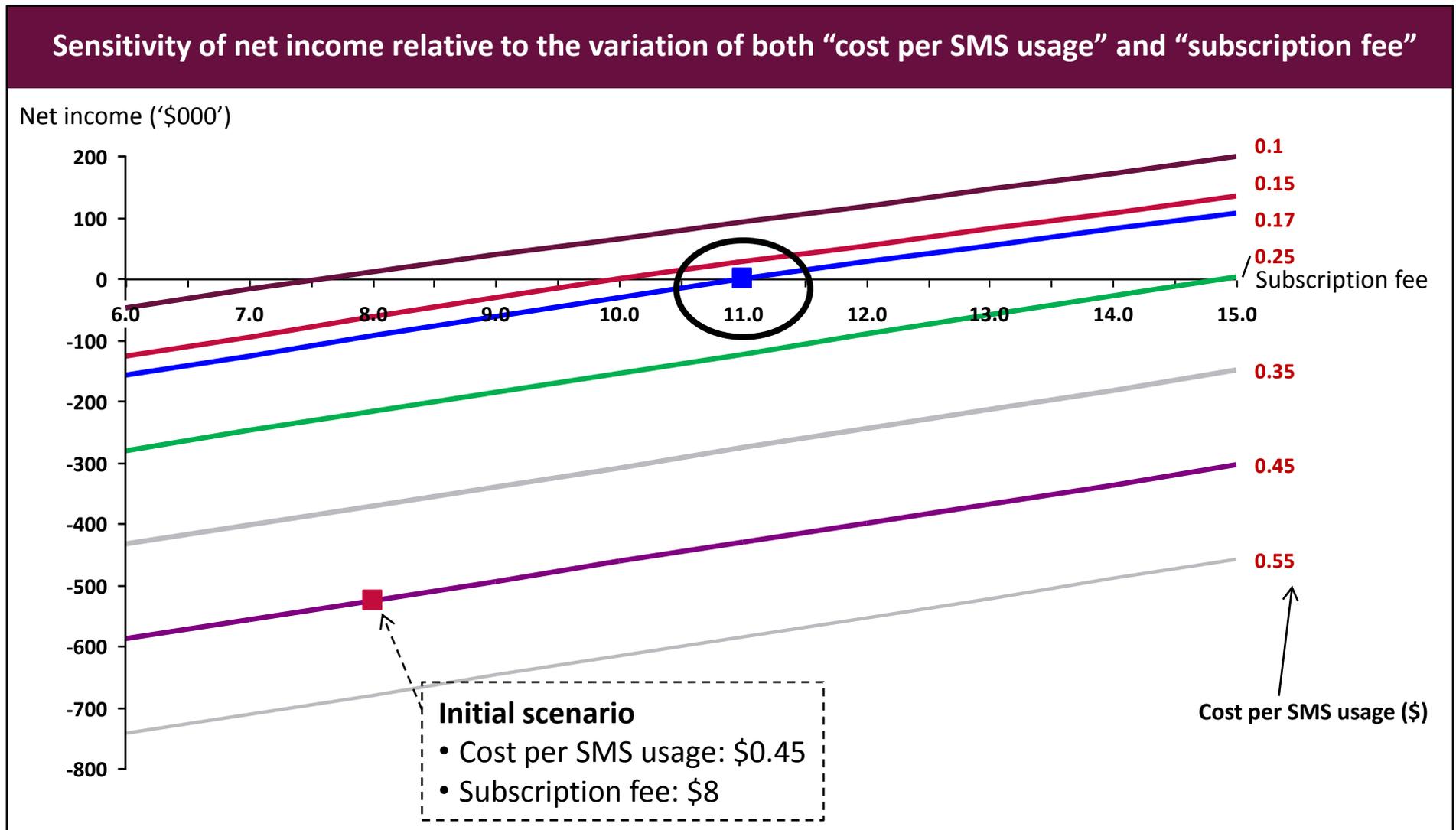


Sensitivity of net income relative to the variation of both “take off rate” and “cost per SMS usage”



- Even if the “subscription fee” and the “take off rate” increased simultaneously, the net income tends to be negative
- The “cost per SMS usage” is the main driver affecting positively and negatively the net income
- In order to be profitable, the “cost per SMS usage” should be minimized

For a “Cost per SMS usage” higher than \$0.16, the “subscription fee” should be at least equal to \$11 to reach the break even point



- The profitability of the model depends mainly on two variables: the “cost per SMS usage” and the “subscription fee”
- The model will be profitable by either decreasing the “Cost per SMS usage” or increasing the “subscription fee”

A commercially viable climate information platform is not yet feasible in Niger. However, the opportunity to complement revenue shortfalls through grants should be explored

Conclusions

- The bundled information product package is the better option to implement, as it can raise more interest among farmers and provide more value across the agricultural value chain – this is all dependent on the ability of the platform to raise grants or very low cost funding
- Another reason to support Option 3 lies in the fact that as it provides more value, it may command much higher take off rates than those assumed, especially in light of the high interest farmers have shown for all the information products contained in the information bundle
- Take off rates and subscriptions rates are assumptions and can change the profitability of the models significantly
- While the models with current subscription assumptions are not profitable, a pilot platform could inform on the likely takeoff rates, and acceptable subscription rates for farmers in Niger, and allow to recalibrate models

Mitigations strategies

- Additional grant money , and subsidies can render the platform sustainable in the long term, as commercial viability is not ensured at inception
- More resources from additional donors involved in Niger need to be identified
- Impact investors may be interested in investing in the platform in Niger, in spite of the low revenues at inception
- Private sector actors are willing to consider contributing funds to the platform as part of their CSR portfolio
- Additionally, more donor support can be secured if potential impact is seen as greater than mere climate information
- Take off rates may be higher, and subscription rates may need to change to include only one SMS per subscriber/month
- Alternatively, the subscription model can be eliminated altogether and the platform can start operations only on a call/sms basis

Table of contents

Executive summary

Objectives of the study and methodology

Niger context and overview

Study findings and implications for design

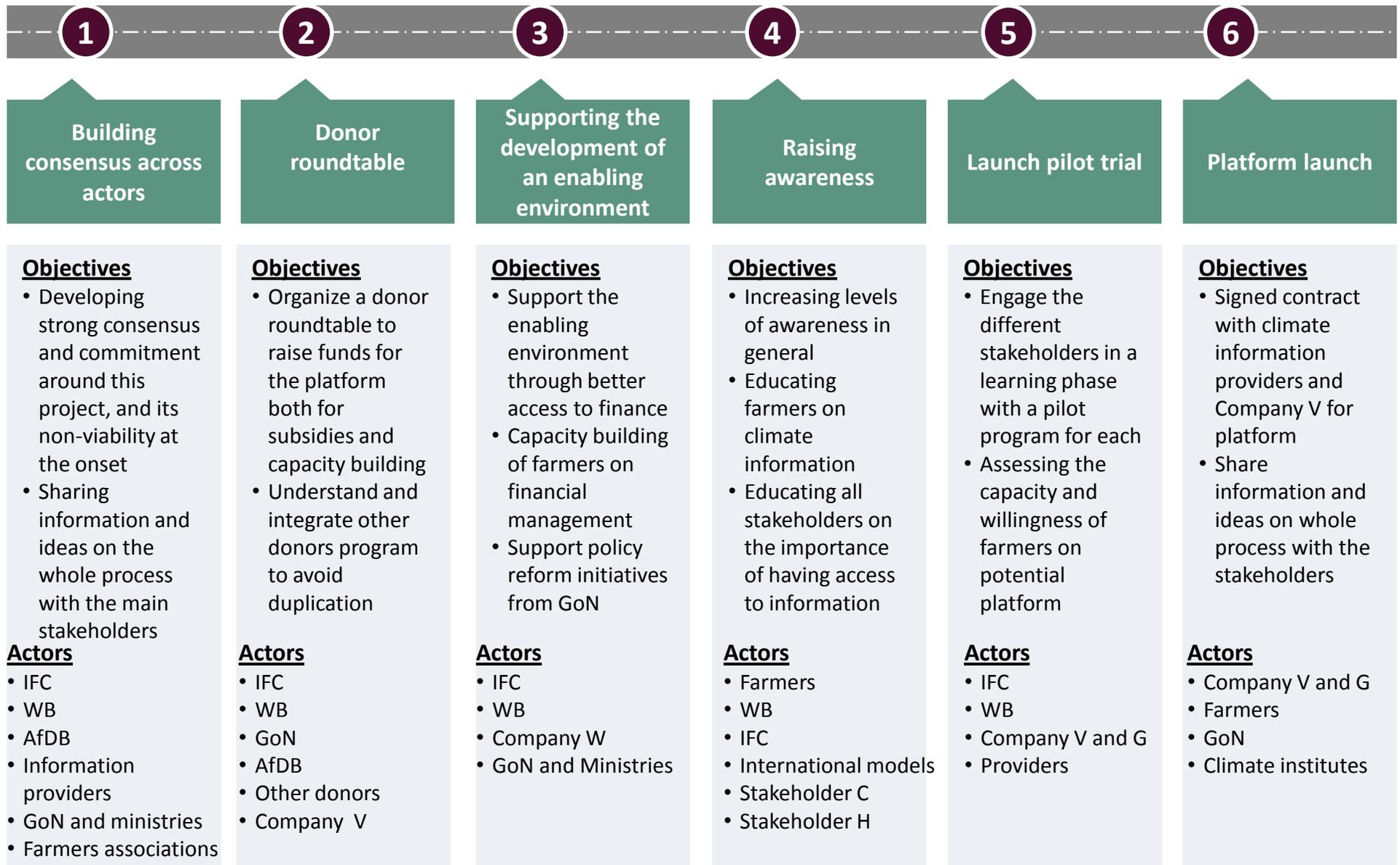
Analysis of options

Platform design

Financial analysis

Implementation plan

Implementing the climate platform will require six major steps in the following order



Building a strong consensus across stakeholders will be crucial for the success of the climate platform



Building consensus across actors

Objectives

- Developing a strong sense of commitment around this concept
- Sharing information and ideas on the whole process to the main stakeholders

Actors

- IFC
- WB
- AfDB
- Gov and ministries
- Farmers associations

- **Lead:** Cabinet of Prime Minister, Ministry of Planning, WB, AfDB, Stakeholder C and D.
- **Timing:** 7 months
- **Starting date:** October 2012
- **Due date:** May 2013

It's important at the beginning of the implementation phase to have the commitment/adhesion of all key actors in order to support the project. After the validation workshop, IFC should produce a memorandum that would be shared with all the stakeholders in preparation of actual field visits. The objective of such a visit will be to reach a final consensus with all actors in Niger and sign an MoU.

| Activity | 2012 | | | 2013 | | | | |
|--|------|-----|-----|------|-----|-----|-----|-----|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May |
| Develop a memo | █ | | | | | | | |
| Share Memo with stakeholders | | █ | | | | | | |
| Receive feedback | | | █ | | | | | |
| Integrate feedback | | | █ | | | | | |
| Share final memo | | | █ | | | | | |
| Confirm a date for meeting with stakeholders | | | | █ | | | | |
| Draft MOU | | | | █ | | | | |
| Prepare field visit in Niger | | | | █ | | | | |
| Meet Farmers/Organizations | | | | | █ | | | |
| Meet stakeholder A and D | | | | | █ | | | |
| Meet Company V | | | | | █ | | | |
| Meet the GoN: Ministry planning, Agriculture | | | | | █ | | | |
| Meet WB, AfDB | | | | | █ | | | |
| Write field visit report | | | | | | | █ | |
| IFC internal debrief | | | | | | | █ | |
| Finalize MOU | | | | | | | █ | |
| Signed MOU with stakeholders | | | | | | | | █ |

Engaging current and potential donors is necessary in order to raise additional funds

1

2

3

4

5

6

Donor roundtable

- **Lead:** World bank, AfDB, UNDP, BID, JICA, other donors
- **Timing:** 16 Months
- **Starting date:** January 2013
- **Due date:** May 2014

Holding this session will help to bring together public and private donors to: 1) share information on existing funding programs, 2) consider Niger's funding needs for climate information and management efforts, 3) discuss alternatives for filling gaps in funding. IFC will have to involve all donors current and potential for more success

Objectives

- Organize a donor roundtable to raise funds for the platform both for subsidies and capacity building
- Understand and integrate other donors program to avoid duplication

Actors

- IFC
- WB
- GoN
- AfDB
- Other donors

| Activity | 2013 | | | | | | | | | | | | 2014 | | | | |
|--|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May |
| Preparing a teaser based on the report | ■ | | | | | | | | | | | | | | | | |
| Sharing with the potentials donors | | | | ■ | | | | | | | | | | | | | |
| Setting date for the donor roundtable | | | | | ■ | | | | | | | | | | | | |
| Agree on date and time | | | | | | ■ | | | | | | | | | | | |
| Prepare the logistics | | | | | | | ■ | | | | | | | | | | |
| Launch Conference | | | | | | | | | | ■ | | | | | | | |
| Write final report on next steps and MOU | | | | | | | | | | | | ■ | | | | | |
| Follow-up with donors and investors | | | | | | | | | | | | | ■ | | | | |

The IFC also needs to engage the GoN on key areas to adequately support the enabling environment....



Supporting the development of an enabling environment

- **Lead:** WB, Cabinet of Prime Minister, IFC, AfDB, GoN
- **Timing:** 15 months
- **Starting date:** March 2013
- **Due date:** June 2014

Supporting the enabling environment through A2F, Capacity building and Policy reform will facilitate the implementation of the project. IFC can lead some of the activities (A2F, SBA), and trigger the process for policy reform with other international organization such as the World bank. This component requires skills in negotiation and time management for stick to the deadlines and objectives.

- Objectives**
- Support the enabling environment through better access to finance
 - Capacity building of farmers on financial management
 - Support policy reform initiatives from GoN
- Actors**
- IFC
 - WB
 - Company W
 - GoN and Ministries

| Activity | 2013 | | | | | | | | | | 2014 | | | | | | |
|--|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|--|
| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | |
| Conduct assessment for Business lines | █ | | | | | | | | | | | | | | | | |
| Meet A2F actors for potential product | | █ | | | | | | | | | | | | | | | |
| Elaborate A2F status in Niger | | | █ | | | | | | | | | | | | | | |
| Define support propositions for A2F | | | | █ | | | | | | | | | | | | | |
| Sharing with WB current project Prodex | | | | | █ | | | | | | | | | | | | |
| Find an agreement to support A2F with WB | | | | | | █ | | | | | | | | | | | |
| Hold discussion with Farmer organizations | | | █ | | | | | | | | | | | | | | |
| Detailed farmers' needs in term of capacity building | | | | █ | | | | | | | | | | | | | |
| Elaborate a capacity building plan | | | | | | █ | | | | | | | | | | | |
| Discuss the policy reform needed with GoN | | | | | | | | █ | | | | | | | | | |
| Elaborate a policy reform planning support | | | | | | | | | | | █ | | | | | | |
| Share planning with the GoN | | | | | | | | | | | | | █ | | | | |
| Validate the final version | | | | | | | | | | | | | | | █ | | |

...While also raising the awareness of actors to allow for true ownership of the platform



Raising awareness

- **Lead:** Stakeholder H, E, D, NGOs, Ministry of Planning
- **Timing:** 7 months
- **Starting date:** December 2012
- **Due date:** June 2013

Consensus on meaning of climate information and its relevance will support ownership of the concept and a better understanding of its usage. IFC with the support of communication actors runs an education campaign for all stakeholders. This component requires a personalized approach to use from simple to more complex content depending on the stakeholder.

- Objectives**
- Increasing levels of awareness in general
 - Educating farmers on climate information
 - Educating all stakeholders on the importance of having access to information
- Actors**
- Farmers
 - WB
 - IFC
 - International models
 - Stakeholder C
 - Stakeholder H

| Activity | 2012 | | 2013 | | | | | | | |
|---|----------------------|-----|------|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug |
| Setup an awareness raising program | ████████████████████ | | | | | | | | | |
| Work with farmers on better ways to disseminate information | | | | | ████████████████████ | ████████████████████ | ████████████████████ | ████████████████████ | | |
| Meet NGO s on Environment/Agriculture | | | | | ████████████████████ | ████████████████████ | ████████████████████ | | | |
| Define potential support from NGO s/ Farmers Org. | | | | | | ████████████████████ | ████████████████████ | | | |
| Build a roadmap for educating farmers | | | | | | | ████████████████████ | ████████████████████ | | |
| Define workshop period to share information | | | | | | | | | ████████████████████ | |
| Hold workshop sessions (2 workshops) | | | | | | | | | ████████████████████ | ████████████████████ |
| Hold first discussion with global models | | | | | ████████████████████ | | | | | |
| Define ways and timing of involvement | | | | | | | ████████████████████ | ████████████████████ | | |
| Hold an exchange sessions with researchers | | | | | | | | | | ████████████████████ |



Launching the pilot test will give more insights on the technical feasibility and clear orientations on the expectations



Pilot program launch (Test)

- **Lead:** Company V, Stakeholder D and H
- **Timing:** 26 months
- **Starting date:** October 2013
- **Due date:** December 2015

Launching a pilot phase will allow to assess technical feasibility and identify potential issues early. It's a way for IFC to evaluate the best ICT platform based on their performance. The pilot test phase should involve a sample of farmers from different region and crops for a better result.

- Objectives**
- Engage the different telecom companies in a learning phase with a pilot program for each
 - Assessing the capacity and willingness of farmers on potential platform
- Actors**
- IFC
 - WB
 - Company G and V
 - Providers

| Activity | 2013 | | | 2014 | | | | | | | | | 2015 | | | | | | | | | | | | | | | | | | |
|--|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|--|--|--|--|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | | | | | |
| Prepare TORs for launching pilot phase | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Invite Company V | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Set agreement on the 1 year ICT platform test | | | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Define partnership with Stakeholder D, Farmers,... | | | | | █ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Launch the one year pilot phase | | | | | | | | | █ | | | | | | | | | | | | | | | | | | | | | | |
| Midterm evaluation | | | | | | | | | | | | | █ | | | | | | | | | | | | | | | | | | |
| Hold workshop for sharing results | | | | | | | | | | | | | | | | | | | | | █ | | | | | | | | | | |
| Reach consensus on the best platform model | | | | | | | | | | | | | | | | | | | | | | | | | | | █ | | | | |

The launch of the platform will require a participatory informative process to engage all stakeholders at the starting phase



Platform launch

- **Lead:** Company V, Ministry of planning, Farmers organization
- **Timing:** N/A
- **Starting date:** January 2016
- **Due date:** N/A

Objectives

- Signed contract with climate information providers and the best telecom companies for platform,
- Share information and ideas on whole process with the stakeholders

Actors

- Company V and G
- Farmers
- GoN
- Climate institutes

| Activity | 2015 | | | 2016 | | | | | | | | | | | | 2017 | | | |
|--|------------|-----|-----|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr |
| Finalize agreement with the telecom firms | ██████████ | | | | | | | | | | | | | | | | | | |
| Finalize agreement with Climate institutions | ██████████ | | | | | | | | | | | | | | | | | | |
| Finalize agreement with Farmers | | | | ██████████ | | | | | | | | | | | | | | | |
| Finalize agreement with Global models | | | | ██████████ | | | | | | | | | | | | | | | |
| Finalize product for A2F | | | | ██████████ | | | | | | | | | | | | | | | |
| Finalize all process with GoN | | | | ██████████ | | | | | | | | | | | | | | | |
| Launched climate platform | | | | | | | | | | | | | | | | | | | |
| Follow-up and monitoring | | | | | | | | | | | | | | | | | | | |

Annexes

Annex A: Overall approach

Annex B: Niger context

Annex C: Additional supply and demand charted data

Annex D: Study of global models of climate information platforms

Annex E: Additional supporting data for options proposed

Annex F: Engaging telecom operators , technical service providers, and the public sector