



Alliance



Bundled Advisory Services Kits for Enabling Transformation (BASKET)

Use Case for World Cover-Ghana

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CPCN Webinar

2nd June 2021



Presentation outline



1. Background of the World-Cover-Ghana Use Case

2. Why bundled agro-advisory support is a game changer

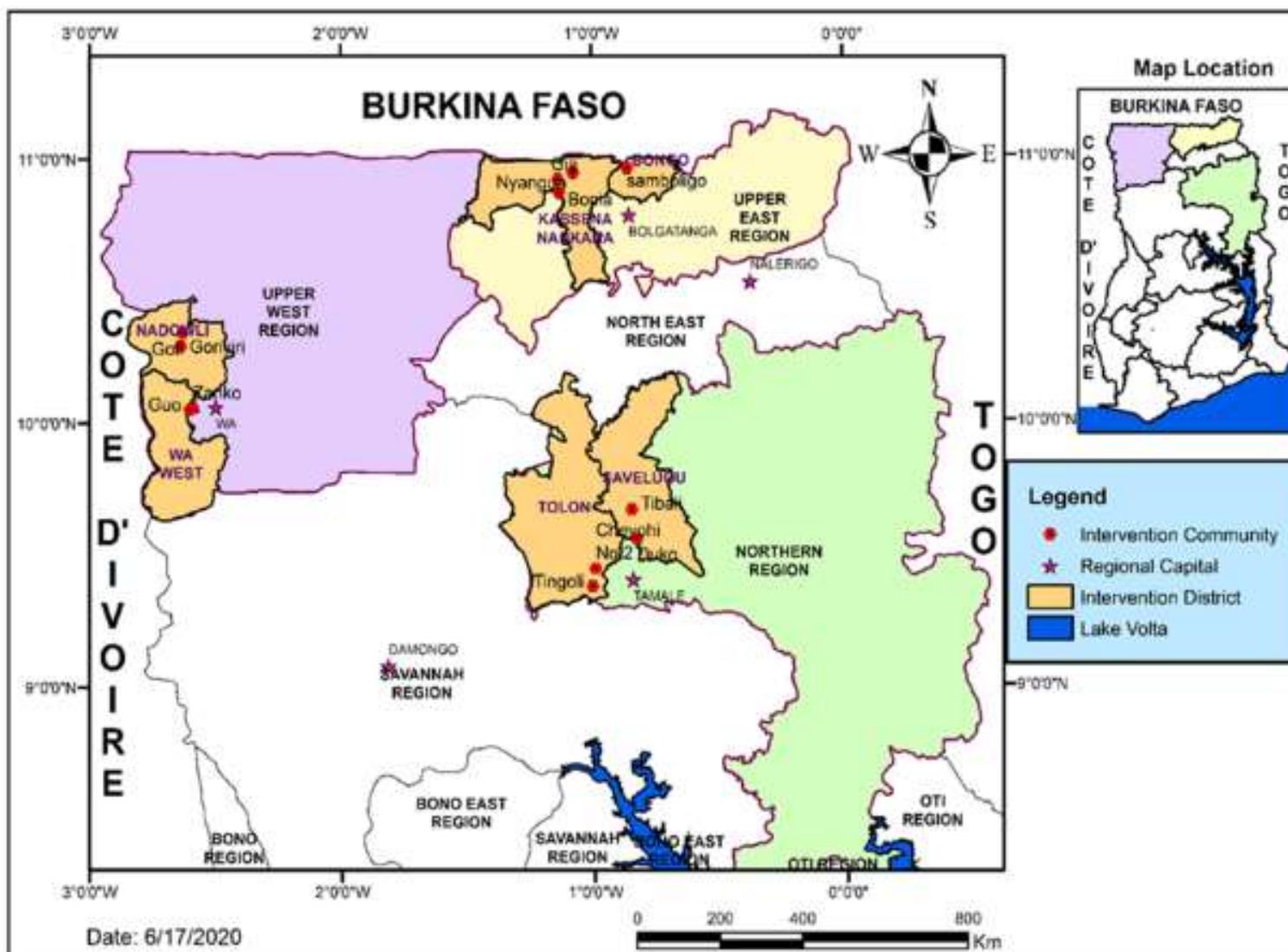
3. An example of bundled agro-advisory support

4. Refining advisories through mapping trends of onset and cessation dates length of growing period

5. Verifying use, applicability and validation

6. Recommendations and Conclusion

Location of communities



Challenges and opportunities

- **Challenges**
 - ❖ Inability towards informed decision making
 - ❖ Production constraints: Weather and soils
 - ❖ Land tenure and property rights are bottlenecks
 - ❖ Access to input and output markets
 - ❖ Gender inequities
- **Opportunities:**
 - ❖ Refine advisories for better targeting
 - ❖ Training to reduce information access gaps
 - ❖ Inclusion of men in gender mainstreaming “so that she can support you”
 - ❖ Improve income and skills levels of women e.g. Community women Seed Managers

Use Case Approach

- ❖ The Use Case is engaged in a 3-way partnership (Agro-dealers, agro-advisory support tips, financial services).
- ❖ Among these components, the weakest links are offering of agronomic services through cropping calendar advisories; the EiA incubation phase assists in strengthening these advisories.
- ❖ The planting date advisories are coupled with evidenced-based precision around fertilizer recommendations that are location specific while strengthening the ability to predict monthly rainfall variability patterns in collaboration with the Ghana Meteorological Agency and Weather Impact.
- ❖ The above are complemented by ICT messaging with an existent platform: MWANGA

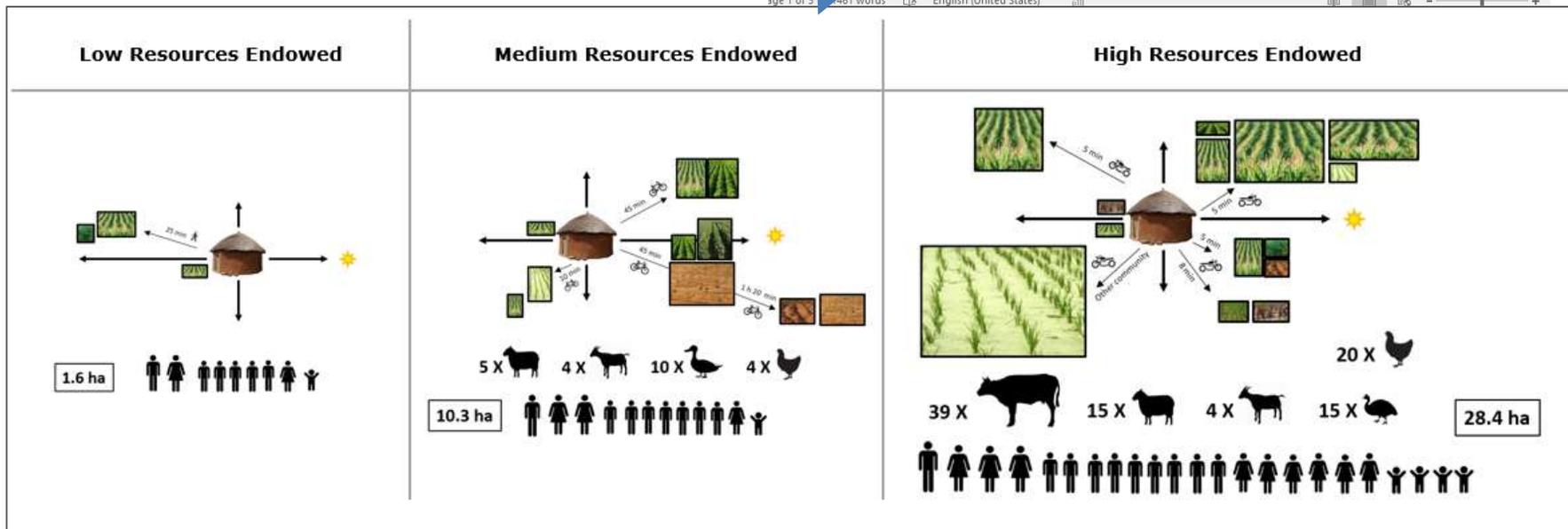
Setting the stage for bundled services

Legend			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	Northern Region	Maize												
Land preparation		Groundnut												
Planting		Soybeans												
Fertilizer App		Cowpea												
Weeding														
Flowering														
Drought stress	Upper East Region	Maize												
Harvesting		Groundnut												
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EIA Survey instrument for the WorldCover Ghana Use Case

Introduction: To improve access to quality seeds of *Abrusmexicanus* and *Obatara* at farmer and community levels, the EIA initiative in partnership with Seed Producers Association of Ghana (SEDPAG) and WorldCover, will explore how best to characterize and scale out promising agronomic options such as use of high yielding quality seeds, use of improved fertilizers, as well as the characterization of the management systems such as organic resources use and soil and water conservation measures on the farms. The initiative will look into gender dimensions with the aim of providing entrepreneurial projects for women in strong partnership with the private seed sector to increase and diversify their income sources while using improved seed. WorldCover will insure farmers against crop failure from disaster such as drought and excess rain. The premise is to promote promising agronomic innovations to make farmers less risk averse while helping to scale out these technologies. This survey is aimed at profiling the beneficiary farmers on current farming practices and their level of knowledge with regards crop insurance, access to information as well as explore dynamics around input and output markets and services.

- Name of community
 - (A) Staribogou
 - (B) Apele Yipala
 - (C) Dilow
 - (D) Jukuku
 - (E) Kulbonduli
 - (F) Limo
 - (G) Chevohi No. 2
 - (H) Tingoli
 - (I) Duiko
 - (J) Tibaili
 - (K) Samboligo
 - (L) Sia
 - (M) Nvangua
 - (N) Bonla
 - (O) Sae
 - (P) Sertviri
 - (Q) Sali
 - (R) Zanku
- Name of farmer



Profiling of farmers

EiA Survey instrument for the WorldCover Ghana Use Case

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1. Name of community
 - (A) Koatari bogu
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 - (F) Limo
 - (G) Cheyohi No. 2
 - (H) Tingoli
 - (I) Duke
 - (J) Tibali
 - (K) Samboligo
 - (L) Gia
 - (M) Nvangua
 - (N) Bonia
 - (O) Guo
 - (P) Goriwiri
 - (Q) Goli
 - (R) Zanko
2. Name of farmer

❖ Internal meetings

❖ Meetings with input credit dealers

❖ Building tools

- ❖ Inclusion of gender by design helped to elicit lessons on acceptability, ease of application
- ❖ Improving women's access to financing options
- ❖ Linking farmers to agro-dealers
- ❖ Assess associated costs of input and labor requirements in relation to increased yields and improvement of soil fertility

Profiling of farmers

I refer to our conversation this afternoon and comment as follows:

Please provide the following in Excel Format:

1.

Farmer	Longitude	Latitude	Planting Date	Harvesting Date	Expected Yield	Insured Value	Expected Premium
1							
2							
3							
4							
5							
n+							

2. The Index Structuring and Pricing and the underlying data (Excel Sheet).

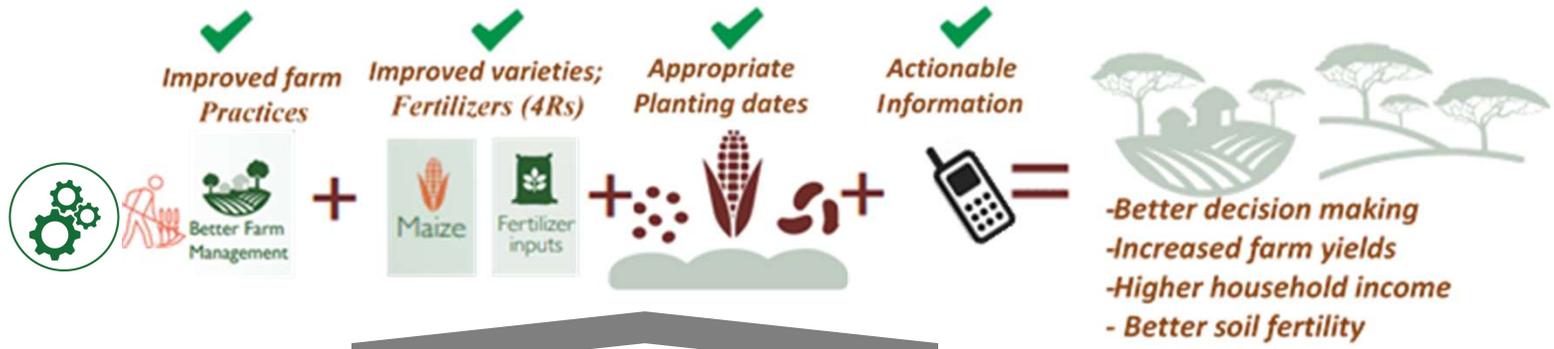
3. The Data Source

4. 5 year projection of Number of Farmers, Planted Area, and Sum Insured (Exposure)

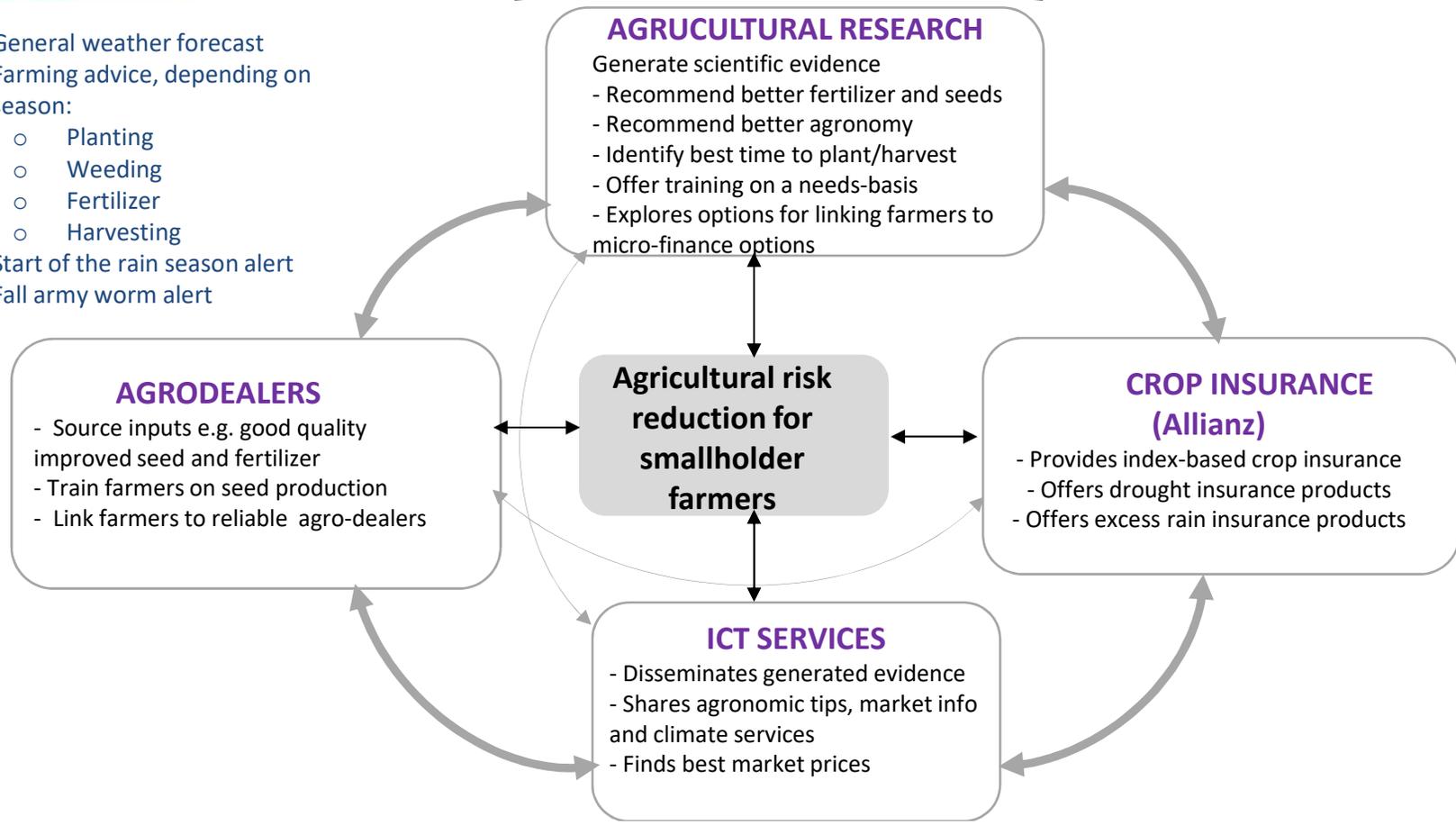
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Read me Notes													
2	The number of acres represents the acres that the farmer is willing to insure													
3	Farmer information is anonymized to protect their privacy													
4	Insurance is open to multiple crops and not restricted to Maize alone depending on the location of the farmer													
5	The Key Hypothesis is that Cropping advisors help to overcome agronomic limitations from nutrient, climate and market bottlenecks which in turn result in 30% increase in crop yields													
6	Although the production cost per acre is higher than when no cropping advisors are used, the reduced risk and increased productivity results in higher revenues, more food on the family table while promoting a viable business model for the private sector													
7	If a potential maximum payout is to be given, this is equivalent to the sum insured based on the expected revenue													
8		Gender	Location	Crop	Number of Acres	Production cost per acre		Estimated revenue per acre		Sum insured based on production costs		Sum insured based on expected revenue		(depends on sum 20% of the sum)
9	Farmers details													
10	A	Male	Tamale, NR	Maize	3	No ACAS	ACAS	No ACAS	ACAS	No ACAS	ACAS	No ACAS	ACAS	No ACAS
11	B	Female	Duko, NR	Groundnut	2	17.5	25	65	65	35	50	91	130	18.2
12	C	Female	Budo, LR	Groundnut	3	14	20	66	80	42	60	168	240	33.6

Why bundling is a game changer

Farmers Crop Insurance



- General weather forecast
- Farming advice, depending on season:
 - o Planting
 - o Weeding
 - o Fertilizer
 - o Harvesting
- Start of the rain season alert
- Fall army worm alert



Agricultural risk reduction for smallholder farmers

Bundling for resilience

Agricultural expertize



+

Climate information services



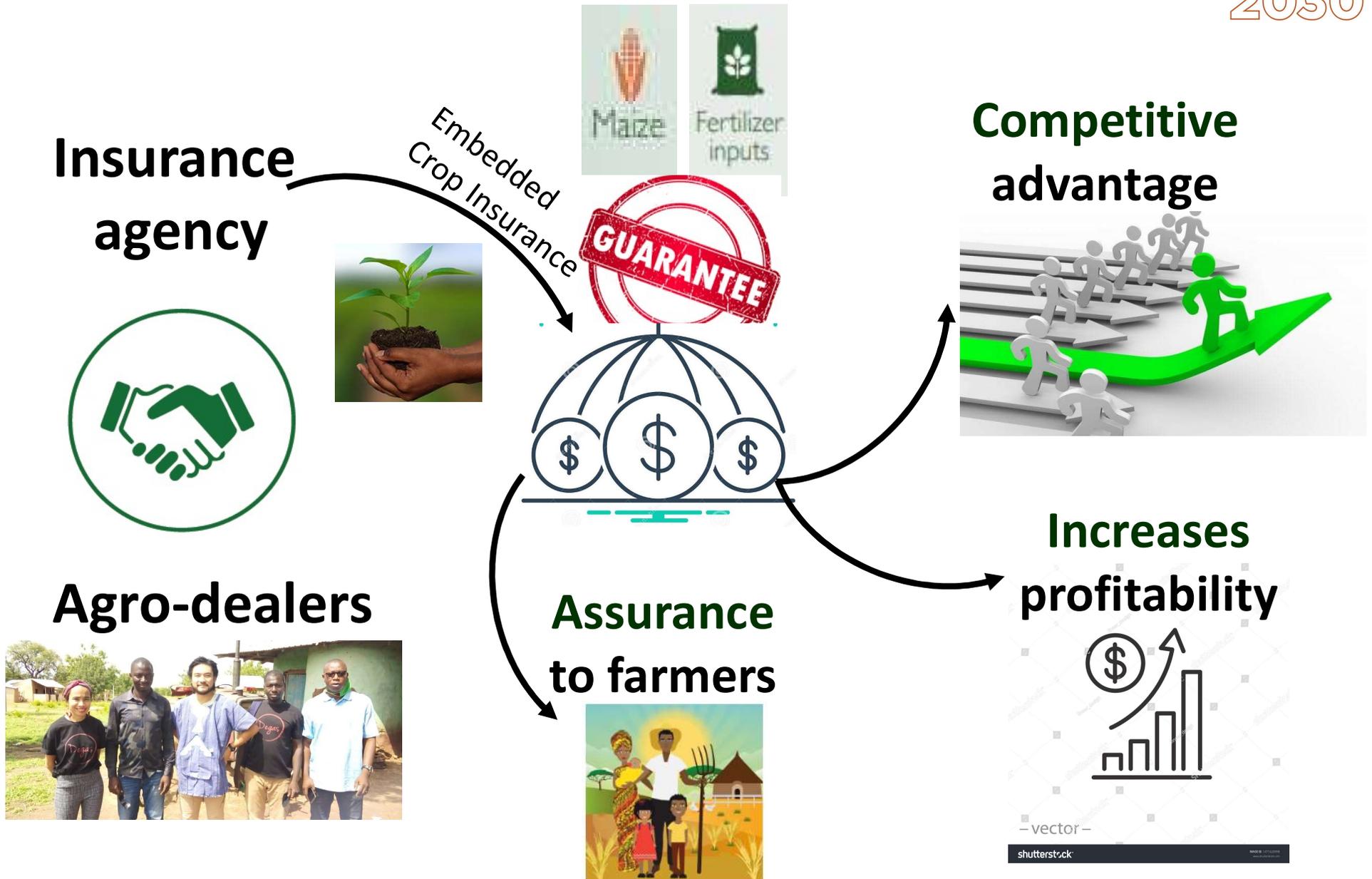
Farming System



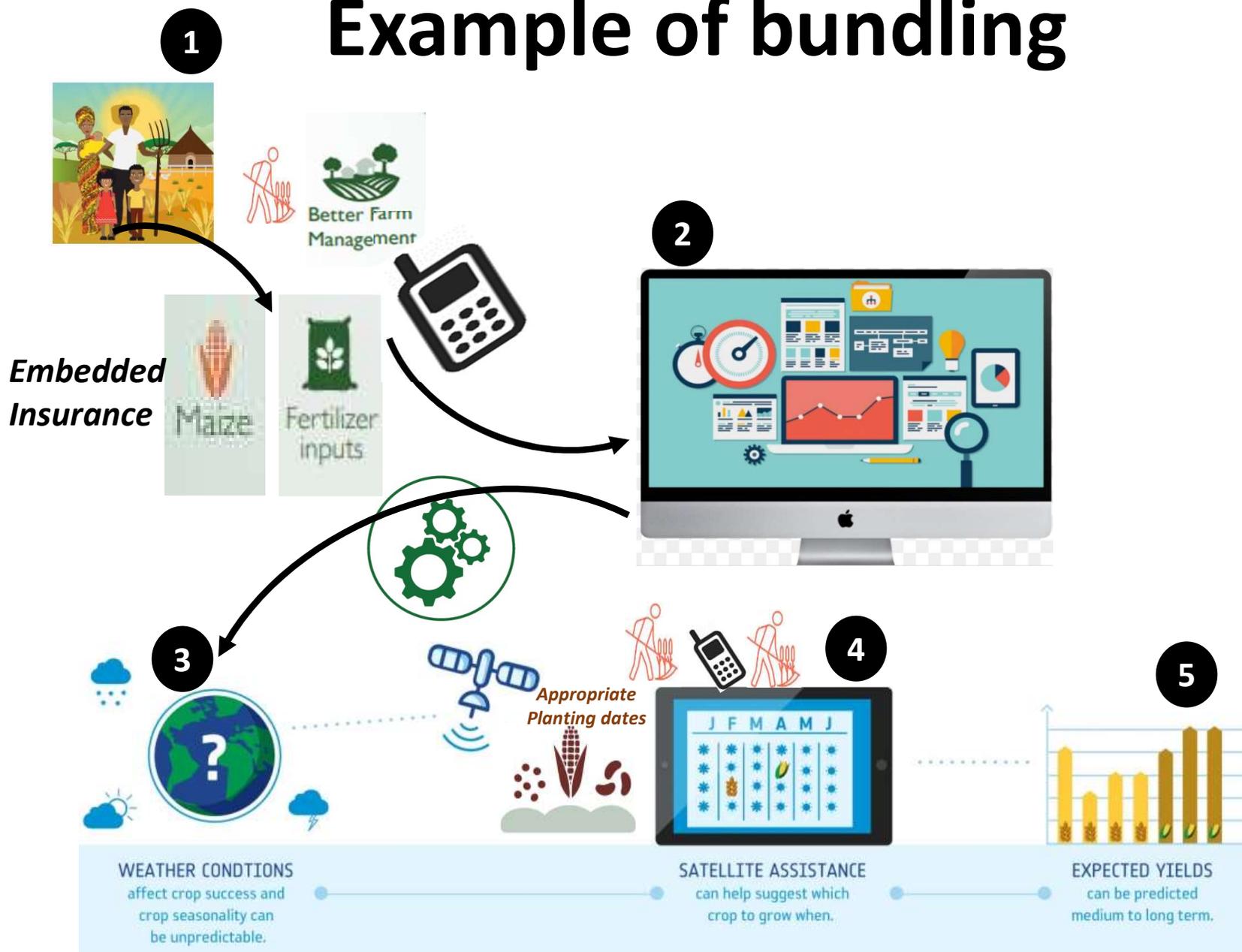
*Local communities
& Private Sector*



Example of bundling



Example of bundling

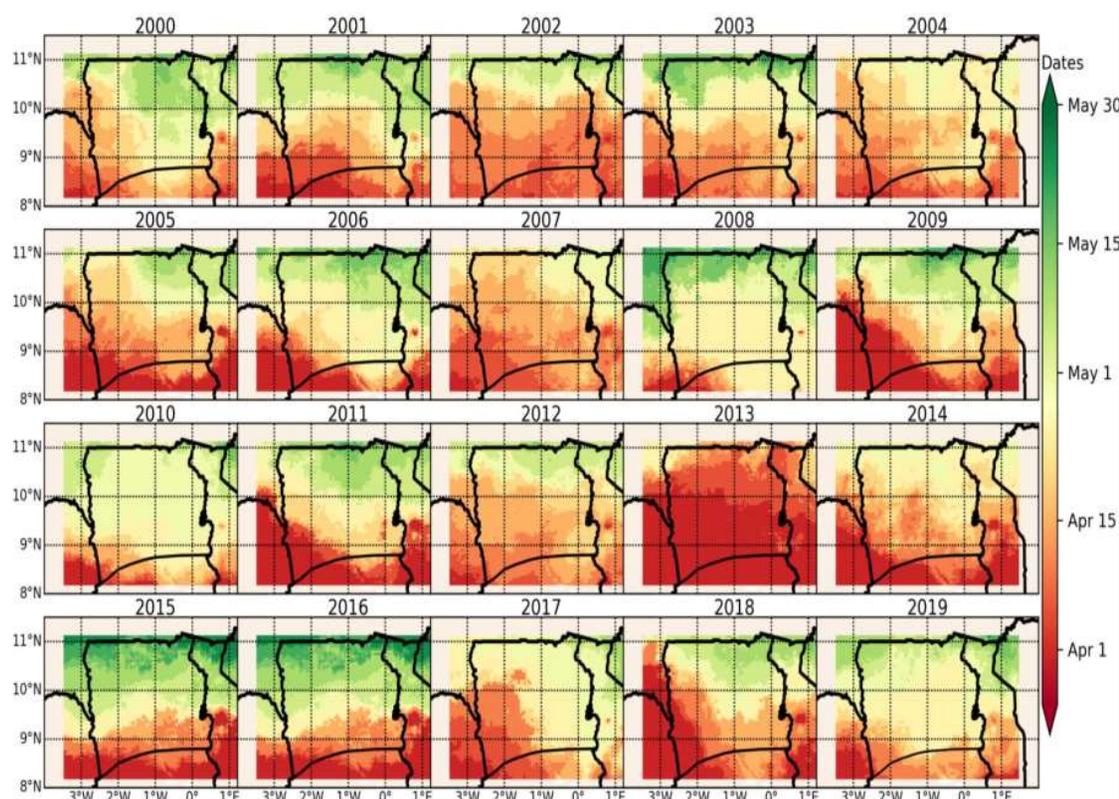


Refining advisories: Rainfall seasonality

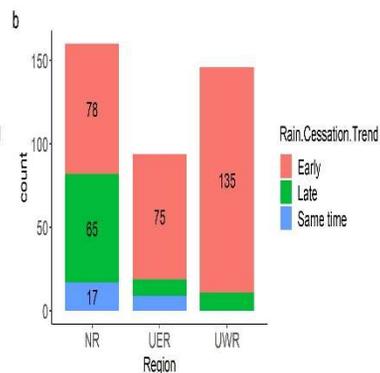
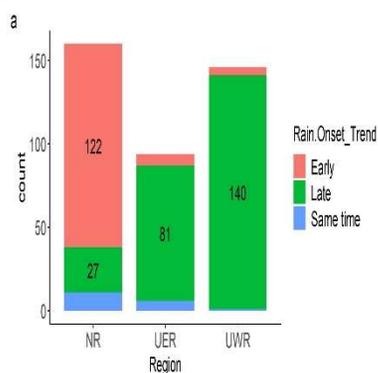
- Rainfall seasonality is equally important as it drives cropping calendar activities
- Onset dates determines the time for sowing
- Cessation dates affect crop harvesting
- Length of growing period (LGP) determines the choice of crop, variety and management practices

Legend				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Refining advisories



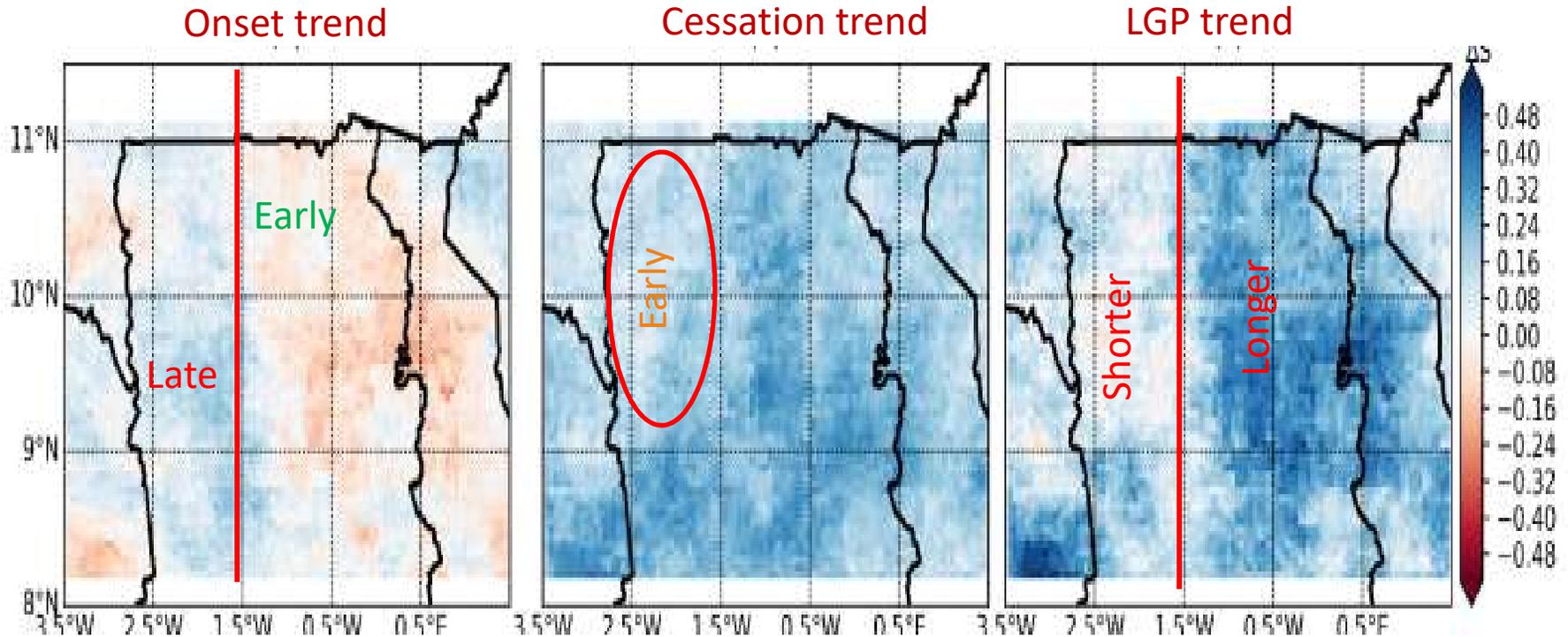
- Onset progressed along southwest to northeast direction
- Exceptionally early onsets recorded in 2013
- Rainfall cessation dates occurred between 14th Sept. to 10th Nov. and progressed in North to South direction.



- Over 95% of farmers in Upper West (UWR) and Upper East (UER) regions reported late-onset dates
- Over 80% of farmers in UWR and UER reported early cessation dates
- Responses more divergent in Northern region (NR) for both onsets and cessations

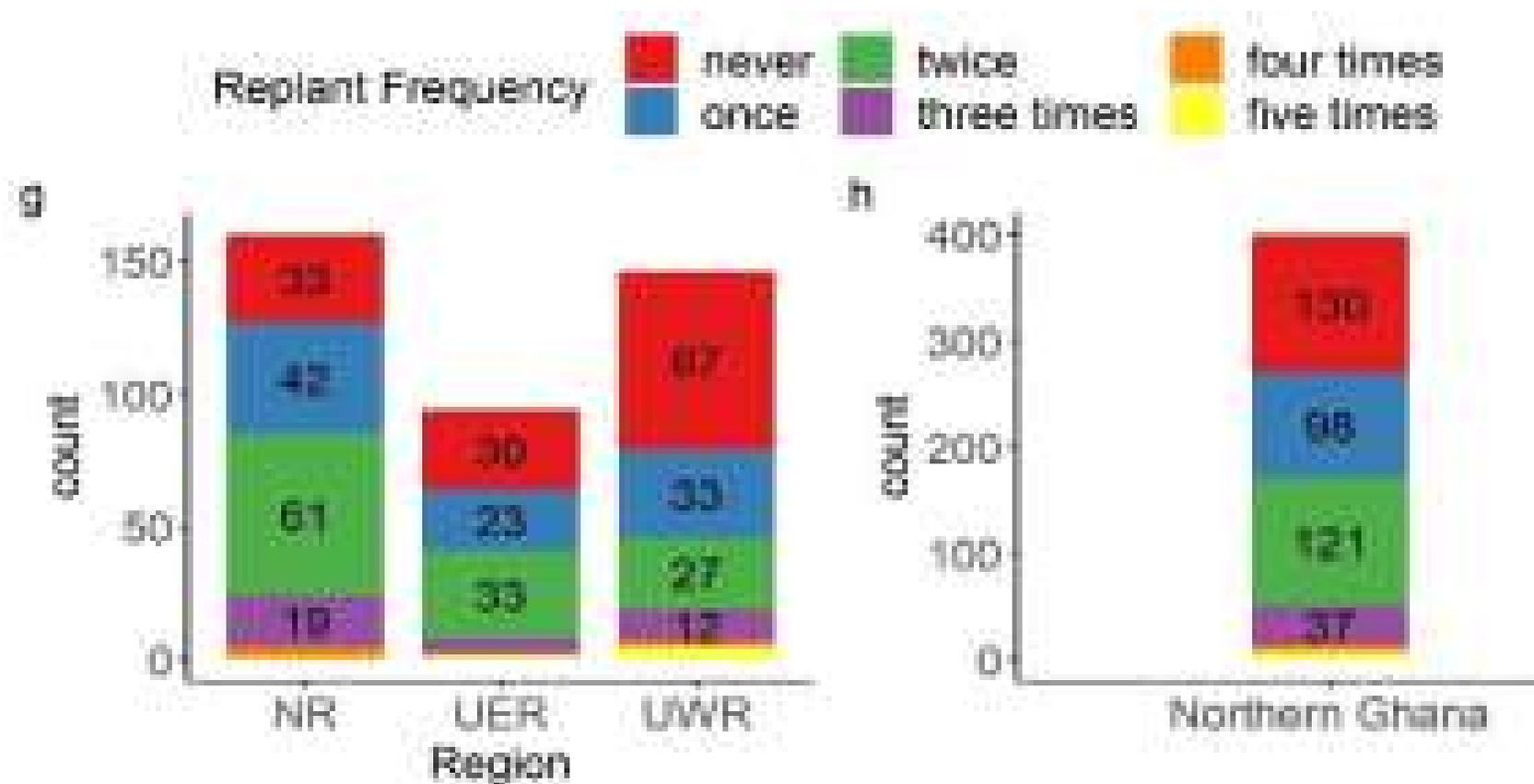
Trends of rainfall seasonality metrics

- Slope of long-term trends revealed late onsets West of 1.5°W longitude and early onsets West of 1.5°W longitude (+/- 19 days)
- Late cessations in most areas leading to longer LGP East of 1.5°W



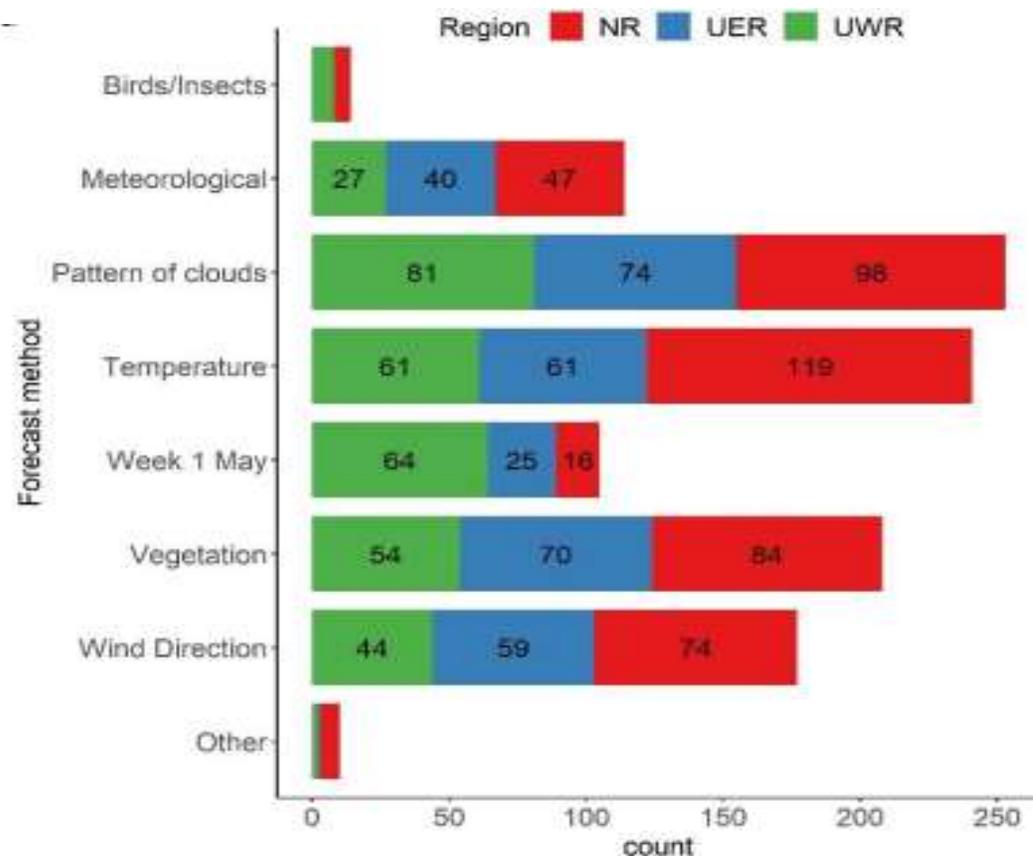
Frequency of false rainfall onsets

- Over 68% of farmers in northern Ghana replanted the main crop seeds at least once in the last five growing seasons due to false onset of rain
 - False starts increases the cost of seeds and uncertainty of production



Methods of forecasting rainfall onsets

- **Over 70% farmers rely on traditional methods to forecast onset of the rainy season**
- **Only 29% of farmers rely on data from meteorological agency**

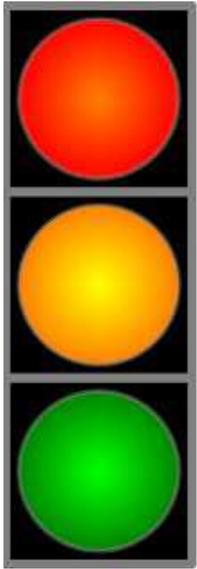


- **Traditional knowledge of forecasting rainfall onsets is easy to use & affordable to local farmers, but less reliable due to increasing climate variability**
- **Need to invest & promote use of modern climate services to complement traditional knowledge**

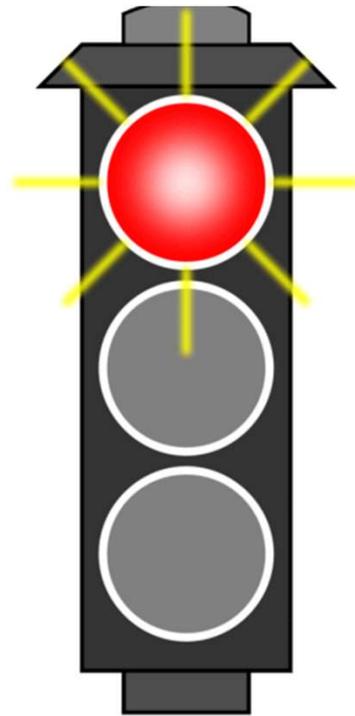
Verification and Validation

- ❖ Beyond offering agronomic tips to smallholder farmers through cropping calendar advisories we will conduct verification on usefulness and willingness for future uptake using an Unstructured Supplementary Service Data (USSD) platform with targeted farmer surveys.
- ❖ Moisture and nutrients: Crop yield, spatial variation in yield, profit, and nutrient use efficiency
- ❖ Measure more indicators indirectly affected by our advisories: labor productivity > increased yield could lead in increased post-harvest labor

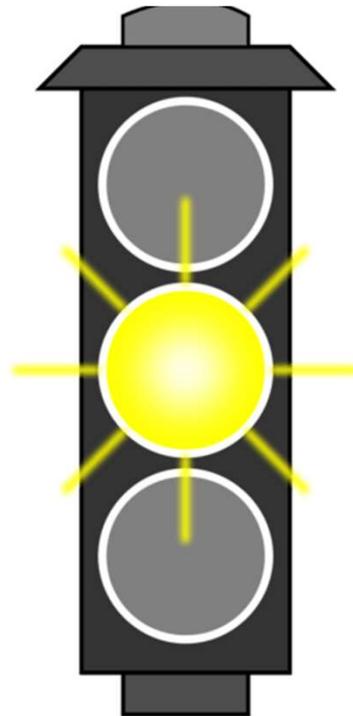




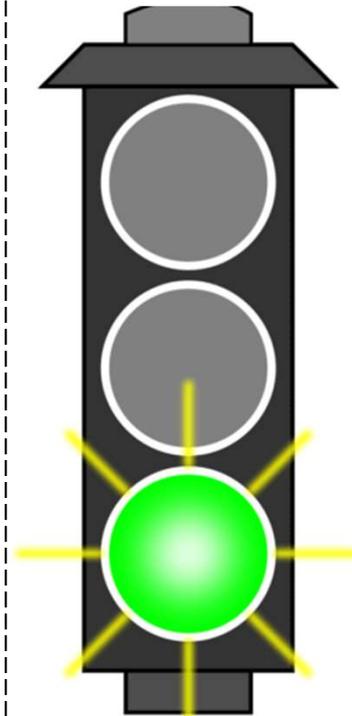
Decision making made easier



Red BUNDLE:
Risky



Yellow BUNDLE:
Transition



Crop insurance



Fertilizer inputs



Agro-advisory support

GREEN BUNDLE:
Optimal
Maximizes ROI

Conclusions and Recommendations

- **Need for further exploration how bundled services can be more affordable**
- **Targeting of farmers will result better scaling options**
- **Integrating local knowledge with scientific evidence can develop sustainable adaptation strategies**
- **Recommend increased investment and promotion around the use of scientific climate services**
- **Bundled advisory services provide several options that can be adjusted to meet the needs of farmers and agro-dealers.**