

AN ANALYSIS OF THE AGRICULTURAL INSURANCE MARKET DEVELOPMENT IN GHANA

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The GIZ Promoting Integrated Mechanisms for Climate Risk Management
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LIST OF ABBREVIATIONS

ADB	Agricultural Development Bank
AGRA	Alliance for a Green Revolution in Africa
ANACIM	Agence Nationale de l'Aviation Civile et de la Météorologie
ARC	African Risk Capacity
ARV	Africa RiskView
AYII	Area Yield Index Insurance
BMU	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BoG	Bank of Ghana
CASCAID	Capacitating African Smallholders with Climate Advisories and Insurance Development
CCDRR	Climate Change Disaster Risk Reduction
CCE	Crop-Cutting Experiments
DRM	Disaster Risk Management
FAO	Food and Agricultural Organisation
FBOs	Farmer-based Organisations
FinGAP	USAID Financing Ghanaian Agriculture Project
FIs	Financial Institutions
GAIP	Ghana Agricultural Insurance Pool
GAP	Good Agricultural Practices
GHS	Ghana Cedi
GIA	Ghana Insurers Association
GIRSAL	Ghana Incentive-based Risk Sharing System for Agricultural Lending
GIS	Geographic Information Systems
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GMet	Ghana Meteorological Agency
ICRAF	World Agroforestry Centre
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICRM	Integrated Mechanisms for Climate Risk Management and Transfer
IIPACC	Innovative Insurance Products for the Adaptation to Climate Change
IPA	Innovations for Poverty Action
IRI	International Research Institute for Climate and Society
JPL	Jet-Propulsion Laboratory
MAFAP	Monitoring and Analysing Food and Agricultural Policies
MESTI	Ministry of Environment, Science, Technology and Innovation
MFI	Microfinance Institutions
MNOs	Mobile Network Operators
MoF	Ministry of Finance
MoFA	Ministry of Food and Agriculture
MPCI	Multiple Peril Crop Insurance
NADMO	National Disaster Management Organization
NCCP	National Climate Change Policy
NDVI	Normalized Difference Vegetation Index
NIC	National Insurance Commission
NPCI	Named-Peril Crop Insurance
PMPI	Poultry Multi-Peril Insurance
R&D	Research and Development
RCBs	Rural and Community Banks
SC	Steering Committee
SMiLEs	Agribusiness Small, Medium, including Large Enterprises
STA	Strategic Alliance
TMU	Technical Management Unit

UA	Unit of Aid (the official currency for AfDB projects)
UNEPFI	United Nations Environment Programme's Finance Initiative
WII	Weather Index Insurance
WTP	Willingness to Pay

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An aerial, black and white photograph of a garden path. The path is composed of several sections of rectangular paving stones, some of which are dark and others light. The path is surrounded by various plants, including succulents and small trees. A solid red rectangular box is overlaid on the left side of the image, containing the text 'ACKNOWLEDGEMENTS' in white, uppercase letters.

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01

INTRODUCTION

“Weather Index Insurance alone is not sufficient in terms of managing the risks along the agricultural value chain. That is because, along the value chain, there are many other risks that weather insurance doesn’t cover. For agricultural insurance to work, there must be a complete value chain approach.”

(Kofi Andoh, Deputy Commissioner, National Insurance Commission, Ghana)

1.1 SIGNIFICANCE OF AGRICULTURE IN GHANA

Agriculture is a very important sector in Ghana with an average annual growth rate of 8.4% (MoFA 2018). It is the main source of employment for 44.7% of the country’s labour force and represents 18.3% of GDP (MoFA 2017b, GSS 2014). Although over half (51.5%) of households¹ in Ghana own or operate a farm, the sector is hardly mechanized and most farms are rainfed (GSS 2014). The total area under irrigation in Ghana is estimated at about 221,000 hectares which is only 1.6% of the 14 million hectares of agricultural land area (MoFA 2018).

Even with government’s commitment during the Maputo Declaration² to invest at least 10% of its annual expenditure in the agricultural sector, investment in agriculture remains very low. In the 2014 agricultural public expenditure analysis carried out by the FAO Monitoring and Analysing Food and Agricultural Policies (MAFAP) programme, it was noted that for the period 2006-2012, total public expenditure on agriculture particularly on agricultural research, knowledge-transfer activities and rural roads significantly declined. Private individual investment in agricultural is also very low. This low investment has been associated with farmers inability to access capital.

The FAO noted that lack of collateral to access credit as well as lack of technical knowledge on risk assessment and management are among the key factors limiting agricultural investments in Ghana.³

Given the importance of agriculture, various agricultural policies and programmes have been put in place to support the sector, including the Food and Agriculture Sector Development Policy II (FASDEP II), Tree Crops Policy, Agricultural Extension Policy, Livestock Development Policy National Fisheries and Aquaculture Development Policy and the Planting for Food and Jobs (PFJ) Programme⁴.

Currently, the Planting for Food and Jobs (PFJ) Programme is the government’s flagship programme. The programme was launched as part of the government’s commitment to increase productivity and farm incomes as well as create jobs. In order to minimize price volatility, the PFJ intends to promote, among others, financial risk management tools such as agricultural insurance (MoFA 2017).

Although the agricultural sector has continued to benefit from various programmes and policies, the agricultural insurance market is yet to have its own policy framework. This framework is required to effectively guide and regulate the operations and conduct of agricultural insurance in Ghana as well as ensure the overall stability of the market.

¹ About 83 percent of rural households engage in farming (GSS 2014)

² AU 2003. Maputo Declaration On Agriculture And Food Security, <https://www.nepad.org/caadp/publication/au-2003-maputo-declaration-agriculture-and-food-security>, 14 Jun 2019

³ FAO 2015. Socio-economic context and role of agriculture, Country fact sheet on food and agriculture policy trends <http://www.fao.org/3/a-i4490e.pdf>, 14 Jun 2019

⁴ The PFJ program is estimated to cost a total of 3,300,721,266 GHc (717,548,101 USD) over 4 years (2017- 2020).

1.2 IMPACT OF NATURAL DISASTERS AND EVENTS ON AGRICULTURE IN GHANA

Ghana is classified as the 95th most exposed country to two or more hazards (mainly drought and flood) with 15.2% of its geographical area at risk and 11.6% of its population facing a mortality risk from these perils.⁵ Since the 1960s, the country has been affected by long dry spells and floods. Notable among them is the 1983 drought which affect 50% of the population (12.5 million people). Also, in 1995 a devastating flood claimed 145 lives. However, the most significant economic loss resulting from flooding was reported in 1968 when the total loss amounted to USD 75 million (Stutley 2010). Drought is most common in northern Ghana where the regions experience short rainy seasons and long dry seasons.

Just as in most tropical countries, pest and diseases are a major threat to crop production and livestock in Ghana. In 2017, The Ministry of Food and Agriculture (MoFA) in Ghana reported that about 14,247 hectares of farmlands were destroyed by the Fall Army Worm Infestation (MoFA 2017b). Also a total of 194,296 animals were lost through diseases (mainly by African swine fever and Avian Influenza) which was estimated to have cost the country about 11.46 million Ghana cedi (-USD 2.24 million) (ibid).

The effect of climate change is also evident and posing various risks to farmers and their farming activities. It is projected that by 2100, the mean daily temperature in Ghana will increase by three degrees Celsius and rainfall will decline between 9% and 27%, with increasing seasonal and spatial variations. This is expected to increase drought and flood conditions as well as other weather-related events.

⁵ World Bank 2005. Natural Disaster Hotspots: A Global Risk Analysis. Disaster Risk Management Series No 5. The World Bank, Washington DC.
<http://documents.worldbank.org/curated/en/621711468175150317/pdf/344230PAPER0Na101official0use0only1.pdf>, 12 Jun 2019

02

BACKGROUND



2.1 OBJECTIVE OF THE STUDY

In Ghana, as in most developing countries, agriculture is dominated by smallholder subsistence farming. About 90% of farm holdings in Ghana are less than 2 hectares in size, contributing 80% of total agricultural output in the country (MoFA 2017a). While these smallholder farmers have learnt over the years to cope with various risks through diversification of their income sources, their limited livelihood safety nets do not make them immune to the impact of unexpected financial losses resulting from natural disasters such as floods, pests and drought. In the event of such disasters, most households respond in ways that significantly affect their future livelihoods such as selling off valuable assets, or removing their children from school and hiring them out to others for work (The Katie School of Insurance, 2011). While agricultural insurance could provide greater economic stability for agricultural production and farmers in Ghana (Roth and McCord, 2008), very few of such products are offered in the Ghanaian market.

In the early 2000s, the then State Insurance Corporation (now SIC Insurance Company Ltd) launched the first agricultural insurance product in Ghana. However, the project was soon discontinued when major losses were incurred. After a lengthy relapse phase without any agricultural insurance, interest in agricultural insurance market development was renewed in 2010 when a feasibility study on crop insurance was commissioned by the National Insurance Commission of Ghana (NIC) and the Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) joint project, the “Innovative Insurance Products for the Adaptation to Climate Change (IIPACC)⁶ in Ghana”. Consequently, GAIP was established in June 2011 to drive and promote agricultural insurance in Ghana. Following this, various other initiatives have emerged in the market.

This study was thus commissioned to review the experiences of agricultural insurance in Ghana including documenting the lessons learnt and challenges of the various agricultural initiatives. It must be noted that, this current study is an extension of an earlier study conducted in 2017 which remained unpublished⁷.

Specifically, this study is expected to review the agricultural insurance market development in Ghana with a primary focus on:

- Updating the 2017 study with current facts and figures
- Analysing new and emerging actors (i.e. updating the stakeholder analysis),
- Reviewing changes in the regulatory environment,
- Analysing the Ghana Incentive-based Risk Sharing System for Agricultural Lending (GIRSAL) and any similar national schemes, and
- Outlining key recommendations and lesson learnt.

⁶ German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)

⁷ Achaw M (2017) ‘Developing Agricultural Insurance Initiatives in Ghana: A Sector Review on Lessons Learnt and Recommendations’, GIZ-ICRM Project, unpublished

2.2 STUDY METHODOLOGY

Two main approaches were adopted for this study:

Literature review. A large part of the study is based on literature review of researches, project documents, reports and news articles on agriculture insurance in Ghana.

The project-related documents were received from the GAIP and the project team of the “Promoting Integrated Mechanisms for Climate Risk Management and Transfer” (ICRM) project which is implemented by GIZ on behalf of the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU). A total of 27 relevant publications and reports were reviewed.

Experts/stakeholders interviews. The findings from the literature review were complemented with synthesized feedback from key industry players, mainly representatives from the Ghana National Insurance Commission (NIC), the USAID Financing Ghanaian Agriculture Programme (USAID FinGAP), GAIP, Ghana Insurers Association (GIA), the Ministry of Food and Agriculture (MoFA), the Alliance for a Green Revolution in Africa (AGRA – Ghana), GIZ Programme for Sustainable Economic Development (PSED), Allianz Insurance Company Ghana, the Agricultural Insurance Policy Framework consultants, Ministry of Finance and Economic Planning (GIRSAL Contact), the GIZ ICRM project, the Bawku East Small-Scale Farmers Association Rural Bank, Bonzali Rural Bank Ltd, Stanbic Bank, Feed the Future Assets & Market Access (AMA) Innovation Lab and WorldCover. A total of 25 industry players from 18 institutions were interviewed (see Table 10 in Annex B for the detailed list).

An aerial, black and white photograph of a rural landscape. The terrain is divided into numerous rectangular agricultural plots, some of which are densely planted with crops. The plots are separated by narrow paths or roads. The overall scene depicts a typical agricultural setting in a rural area.

03

THE GHANA
AGRICULTURAL
INSURANCE MARKET
PERFORMANCE
OVERVIEW

After years of support including donor technical and financial assistance, the agricultural insurance market in Ghana remains underdeveloped. The general market performance currently falls significantly short of expectations, considering the assistance provided to-date. Up until 2016, there were only three agriculture insurance products serving the over 6 million farmers across Ghana.

The number has since doubled and currently there are six products, most of which are concentrated in the northern part of Ghana. Below is a breakdown of the sector's performance since 2010. Details of company specific performance can be found in sections 4.1 & 4.9 which have been dedicated to GAIP and WorldCover respectively.

Table 1: An Overview of Agricultural Insurance Products in Ghana (2011–2018)

	Weather Index (WII) / Drought Index Insurance (DII)	Area Yield Index Insurance (AYII)	Multi-Peril Crop Insurance (MPCI)	Poultry Insurance (PI)	Drought Index Insurance (DII)
Launched	2011	2011	2017	2017	2018
Sold by	Ghana Agricultural Insurance Pool				WorldCover
Current Target Market	Smallholder farmers across the country. The concentration has been the Northern regions of Ghana	Commercial farmers and agribusinesses with farm sizes of 50 acres (20 hectares) & above.	Multi-peril insurance for commercial farmers	Smallholder farmers in Ashanti, Brong Ahafo, Upper East, Volta & Upper West regions	
Cover	Maize, millet, sorghum & soya	Drought, excess rainfall, fire, windstorm, pests and diseases	Diseases	Maize, Rice and Sorghum	
Premium rate (% of sum insured)	5%	6%	3–6%	3–5%	-
Policies sold up-to-date	26,918 (cumulative from 2011–2018)				27,000 (2018)
No. Claimants	5,125 (cumulative from 2011–2018)				-
Partners	16 pool members: SIC Insurance (40.3%), Enterprise Insurance (1.61%), Hollard Insurance (4.84%), Star Assurance (9.05%), Vanguard Assurance (2.42%), Mainstream Reinsurance (4.84%), Ghana Union Assurance (11.01%), Phoenix Insurance (3.51%), Int Energy Insurance (2.69%), Unique Insurance (1.5%), Glico General Insurance (9.18%), Wapic (1.58%), Activa International Insurance (1.62%), Equity Assurance (1.67%), Regency Nem Insurance (2.57%), & Prime Insurance (1.61%). Swiss Re is their main reinsurer				Quality Insurance Company (QIC), Mainstream Re, & NEPHINA

Note: the 6th product, Forest insurance, is sold by GAIP

The growth trajectory of the market has been very slow. For example, comparing 2011 enrolments against 2016, enrolment increased by only 56% - which was after very poor performances in 2012 and 2013 when the enrolments dropped by 84% and 86% respectively (see details below). Between 2016 and 2018 however, there was

a considerable growth in enrolment from 4,785 to 35,842 constituting a growth rate of 649%. Even with the extremely high enrolment performance in 2018, the figure still falls short of adequately covering the over 3.37 million (51.5%) households engaging in agriculture in Ghana (GSS 2014, 2015 Labour force report).

Table 2: Agricultural Insurance Enrolment and Claims Beneficiaries (2011–2018)⁸

Items	2011	2012	2013	2014	2015	2016	2017	2018
Number of Insured Farmers (Enrolments)	3,073	490	436	2,117	3,261	4,785	3,914	35,842 ⁹
No. of Claim Beneficiaries	0	87	129	25	1,701	0	1,902	1,281 ¹⁰

3.1 CONSTRAINTS TO AGRICULTURAL INSURANCE DEVELOPMENT IN GHANA

The development of agricultural insurance in Ghana has had its own challenges, spanning from lack of data to inadequate infrastructure. In a crop insurance feasibility study conducted in 2010 on behalf of the GIZ “Innovative Insurance Products for the Adaptation to Climate Change” (IIPACC) project, Stutley (2010) outlined 4 main constraints to the development of agriculture in Ghana:

- **Unavailability and inconsistent data:** Data are generally not available in a consistent database format, and exhibit obvious errors. For example, crop yields are calculated from the area harvested rather than the area planted. Only historical yield data for the main cropping season exist.
- **Shifting district boundaries.** Regular movement of districts’ boundaries have made it difficult to compute consistent district-level historical yield series.
- **Declining rainfall levels.** A downward trend in annual rainfall across most of Ghana with rainfall patterns varying substantially across short distances. This implies that a high-density network of weather stations is required for the implementation of, for example, a successful Weather-Index Insurance (WII) product.

– **Lack of credit.** Lack of rural finance is noted as the main impediment to agricultural crop production and for that matter insurance. This observation has however been contested by Karlan et al. (2014) who established that uninsured risk rather than capital has a greater impact on agricultural investment.

Other studies have either corroborated or outlined additional challenges. Mensah et al. 2017 noted that the key constraints to the development of agricultural insurance for cashew crop farmers in the Brong Ahafo Region are lack of data; lack of agricultural insurance legislation; lack of knowledge on product development; lack of personnel with knowledge in agricultural insurance; as well as lack of knowledge on marketing channels.

Similarly, Adiku et al. (2017) in their weather-index based crop insurance study in the Upper West Region of Ghana underscored that the complex structural and operational challenges that need to be addressed include establishing an effective distribution network, establishing partnership with government agencies such as the Ghana Meteorological Agency (GMet), and developing appropriate products.

In a more recent study on drought index insurance in the Northern Region of Ghana, Kpodo (2017) concluded that the market growth is inhibited by the challenges of basis risk, inadequate weather data, infrastructure, low literacy levels and the lack of political will and government support.

⁸ GAIP 2018 & WorldCover

⁹ This dramatic increase was as a result of the 27,000 farmers covered by WorldCover

¹⁰ This doesn't include figures from WorldCover

In the USAID (2015) report on agricultural insurance in Ghana, the following were highlighted as limiting factors to agricultural insurance adoption: expensive premiums, lack of awareness / low financial literacy, insufficient commitment by insurance companies, lack of trust by farmers, poor infrastructure, low participation of lenders, input suppliers, and processors, basis risk, availability of alternative risk coping mechanisms, complex Weather Index Insurance (WII) contracts, and insufficient products. Expensive premiums were also highlighted by Kpodo (2017) in his study on Drought Index Insurance in northern Ghana. Both Adiku et al. (2017) and Kpodo (2017) concluded in their studies that there is generally lack of trust and low agricultural insurance awareness among farmers.

The other general issues raised by stakeholders include:

- lack of agricultural insurance regulatory and policy framework,
- lack of proper coordination,
- low claims pay-out,
- perceived expensive agriculture insurance premiums,
- basis risk,
- limited product options,
- low enrolment, and
- low insurance knowledge and awareness.

An aerial, black and white photograph of agricultural fields in Ghana. The fields are arranged in a grid-like pattern, with some areas showing rows of crops and others appearing as bare soil or different stages of growth. The fields are separated by narrow paths or roads. The overall scene depicts a rural agricultural landscape.

04

AGRICULTURAL
INSURANCE INITIATIVES
AND PROJECTS
IN GHANA

Since 2010, significant efforts have been put into developing the agricultural insurance market in Ghana. A number of programmes and products have emerged since then, a majority of which are aimed at providing agricultural insurance cover for smallholder farmers. With the exception of GAIP and more recently WorldCover, most of these programmes have been pilot projects targeting crop farmers in northern Ghana. Below are briefs of some of these initiatives including parallel projects that could be leveraged for the promotion of agricultural insurance development in Ghana.

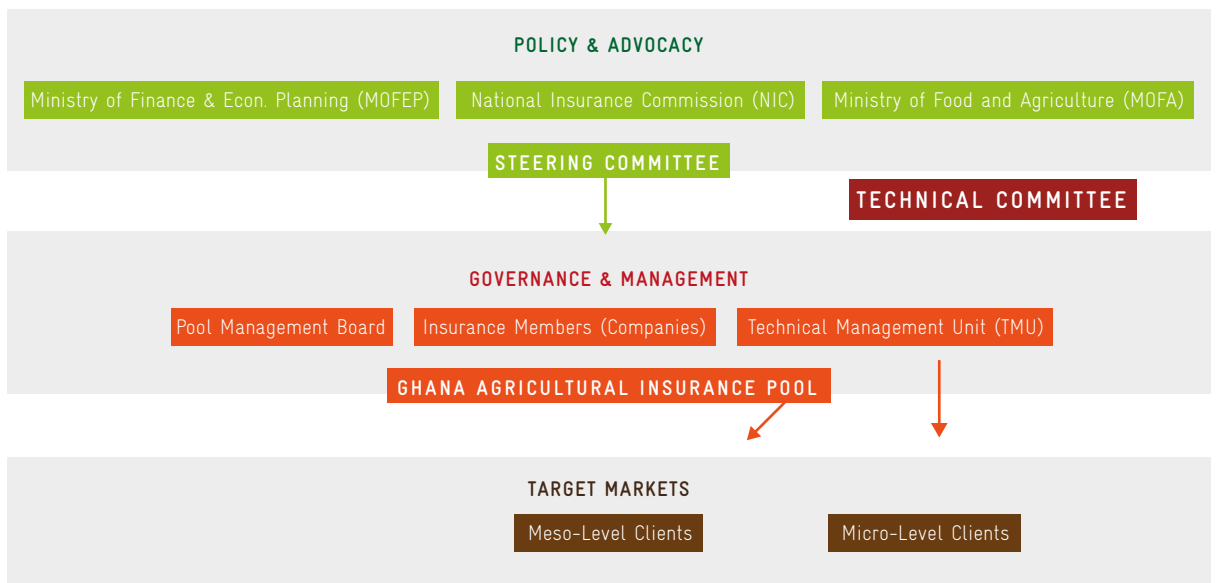
4.1 THE GHANA AGRICULTURAL INSURANCE POOL (GAIP)

The GAIP originated from the project “Innovative Insurance Products for the Adaptation to Climate Change” (IIPACC). The IIPACC project was commissioned in 2009 with funding from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and was jointly implemented by the GIZ and the National Insurance Commission (NIC). IIPACC had the objective to capacitate the insurance sector in Ghana to offer

innovative and demand-oriented as well as economically sustainable insurance products against financial risks caused by extreme weather events and other forms of climate change. In 2009, the project successfully brought together both public and private sector partners to discuss and lay the grounds for the first ever GAIP as an instrument to drive agricultural insurance development in Ghana. Consequently, 19 non-life insurance companies and one reinsurer came together to establish a coinsurance pool which today is referred to as the GAIP (GAIP 2018). Currently, GAIP is a registered limited by guarantee organisation with 16 pool members and Hollard Insurance Company as the Lead Insurer for the Pool (ibid; GAIP’s General Manager 2019).

GAIP’s establishment was as timely as it was innovative not the least because of the composition of its stakeholders and partners. From inception, GAIP have had a very solid corporate governance structure with all the relevant stakeholders, both public and private represented on its Steering Committee and Technical Management Unit¹¹. With support and training from IIPACC, the GAIP Technical Management Unit was capacitated on insurance products development including training on index insurance rating, management of weather data as well as the professional usage of technical tools and software including Geographic Information Systems (GIS) tools. Below is the organisational structure of GAIP (Figure 1).

Figure 1: GAIP’s Organisational Structure



11 The TMU is responsible for managing the day-to-day operations of the pool. It receives technical advisory from the Technical Committee on Agricultural Insurance (TCAI) which comprises of representatives from the insurance companies, the National Insurance Commission (NIC) and donor partners.

Being the pioneer, GAIP has benefited substantially from technical and financial support from a number of organizations including the USAID FinGAP and ADVANCE projects, the IPACC project and “Promoting Integrated Mechanisms for Climate Risk Management and Transfer” (ICRM) projects, and the CASCAID (Capacitating African Smallholders with Climate Advisories and Insurance Development) project. With support from the Swiss Re-GIZ Strategic Alliance (STA),

GAIP received funding to develop a marketing and business plan for the distribution and marketing of agricultural insurance to the underserved commercial farmer segment in Ghana. This year (2019), GAIP concluded a collaborative partnership with Feed the Future Innovation Lab for Assets and Market Access (AMA) to develop Advanced Index Insurance for small-scale farmers in Ghana.

In its current 5-years business plan, GAIP has outlined key strategic priorities¹² including:

OBJECTIVE 1: Build an institution with a clear legal and ownership structure and a diverse and strengthened board and corporate governance effectiveness by June 2019.

OBJECTIVE 2: Restructure the operations of GAIP to make it financially and operationally sustainable by December 2019.

OBJECTIVE 3: Formalize the human resource management function by December 2018.

OBJECTIVE 4: Develop a risk management framework that ensures adoption of an enterprise-wide approach to risk in its operations by December 2018.

OBJECTIVE 5: Adopt and streamline a robust Management Information System (MIS) and IT infrastructure by January 2019.

OBJECTIVE 6: Develop and implement a marketing strategy that will make GAIP the preferred brand with up to 20% market share in various segments by end of 2023.

OBJECTIVE 7: Work with government to establish a defined policy framework for agricultural insurance by December 2020 and collaboration with other development partners.

Central to the strategic priorities is GAIP’s objective to achieve scale, profitability and sustainability, as well as being incorporated as a private limited liability insurance company. As a limited liability company, GAIP will be able to attract equity investors as well as raise long-term funding for investment in technological infrastructure, research, product development, and marketing.

4.1.1 Challenges of GAIP's Products Prior to the End of the GIZ IIPACC Programme

By the end of the GIZ IIPACC programme in 2014, **no economically sustainable agricultural insurance products were available in the Ghanaian market** (GIZ Ghana 2016). The primary reasons outlined by the project included the following:

1. Over-optimistic demand assumption. Demand for agriculture insurance was over-estimated while the realities on the ground proved otherwise. Most farmers perceived the products as expensive and unaffordable. While small-scale farmers were struggling to get all the needed inputs for their farms, large-scale farmers were overwhelmed by debt. In an income assessment of model farm households in the Kintampo area of

Ghana, the GIZ IIPACC project estimated the gross annual household farm income to be GHS 12,600 of which 20% (GHS 2,520) is need for subsistence. The net household cash income from farming was also estimated at GHS 8,790. However, the minimum selectable sum insured per acre is GHS 100 for drought index insurance (see details in Table 3 below). Assuming that most farmers are maize cultivators, they will have to spend 14% (GHS 800) of their gross income on drought index insurance alone which is 62% of their total cash expenditure on production. The study concluded that under the given circumstances, it is rather unlikely that formal insurance will improve the risk management situation of farmers in the area as well as unlock investment into their holdings (GIZ Ghana 2016). Table 3 below is a breakdown of the estimates.

Table 3: Cash Flow of a Model Farm Household in the Kintampo Area (Income Model)¹³

Crop	Yam	Maize	Cassava	Grain Legs	Vegetables	Total
Area (acre)	1	4	2	1		
Yield dt/acre	190	10	140	6		
Price/dt GHS	20	70	15	200		
Gross income GHS	3,800	2,800	4,200	1,200	600	12,600
Subsistence and Expenses						
Subsistence needs 20% GHS						2,520
Gross cash sales GHS						10,080
Cash expenditure production* GHS						1,290
Net Cash income from farming GHS						8,790
Cash income GHS per family worker						3,516
- per workday of family worker						16
(220 workdays per year)						

Household composition:

Family with 2 adults, 4 children and youths, 1 old-age person (2.5 fulltime farm worker equiv.)

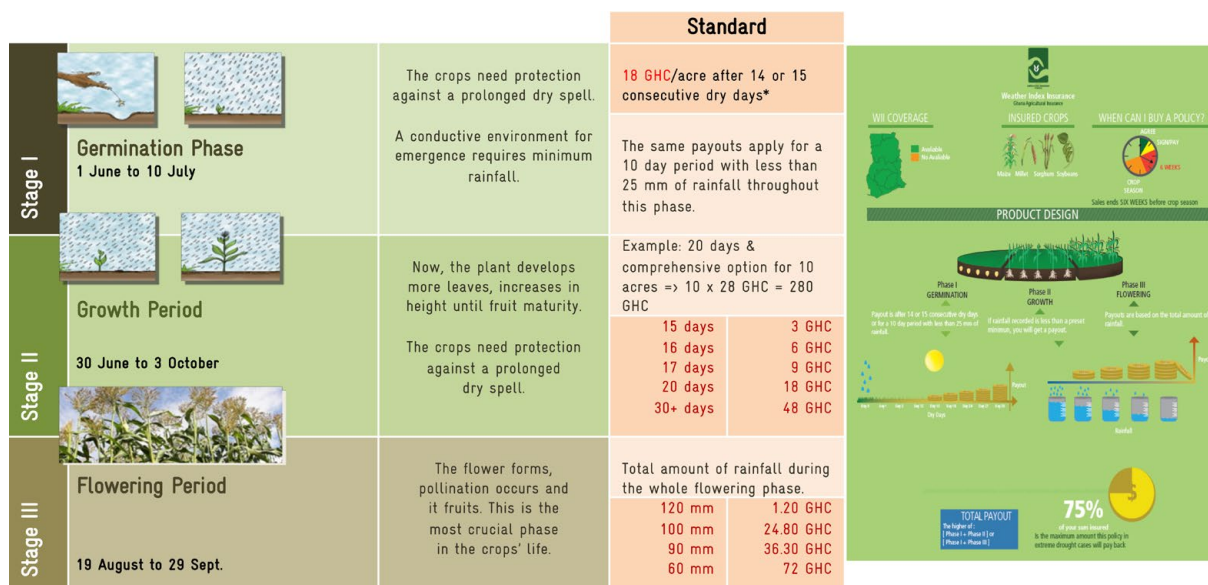
* assumes ploughing of 3 acres 60 GHS each, 2 bags of NPK-fertilizer 55 GHS each and hired labour GHS 10 per day (food valued at GHS 2) for 100 days

Source: IIPACC own calculations based on empirical information received for the 2013 season

2. Complexity of index insurance products. Low financial literacy has been a major impediment to uptake. The products, especially the Weather Index Insurance, were noted to be too complicated to be fully comprehended

by smallholder farmers. Even among well-educated farmers, it was very challenging to explain the various levels of triggers and pay-outs to them. Figure 2 below is a description the Weather Index Insurance (WII).

Figure 2: GAIP’s Weather Index Insurance (WII) Product Description



3. Inherent limits to insurability of drought. It was also challenging to overcome the inherent technical issues associated with drought insurance including:

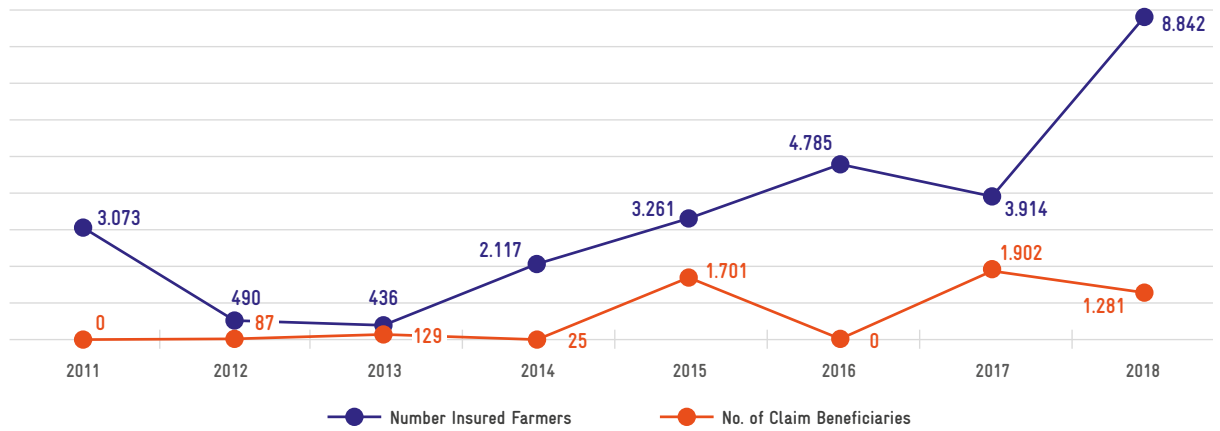
- Deciding on the elaboration of an operational definition of drought (x sequential days with rainfall below y mm), as well as
- Minimizing the product specific **basis risk**.
As a consequence, very few pay-outs were made prior to 2014 when the IIPACC project ended

4. Static Agriculture. While some farmers in Ghana have learnt to cope with various risks through diversification of their income sources, their limited safety nets do not make them immune to the impact of unexpected financial losses resulting from natural disasters. Furthermore, it appeared that most farmers favoured traditional farming practices and were therefore averse to new approaches to risk management. This was reportedly a major challenge to the uptake especially when the general reputation of insurance in Ghana is low and premiums perceived to be expensive.

4.1.2 Current Performance of GAIP Products

Since the official launch of GAIP in 2011, the organisation has designed and sold a few insurance products mainly targeting smallholder farmers and more recently a couple of commercial farmers. Currently, GAIP has five main agricultural insurance products in the market namely Drought Index Insurance (DII), Poultry Multi-Peril Insurance (PMPI), Area Yield Index Insurance (AYII), Forest Insurance (FI) and Multi-Peril Crop Insurance (MPCI). Prior to 2016, it had a product called Weather Index Insurance (WII) which has since been modified and repackaged as the Drought Index Insurance (DII). GAIP is planning to rollout other insurance products including a livestock insurance for commercial farmers. Below is the cumulative performance of the products.

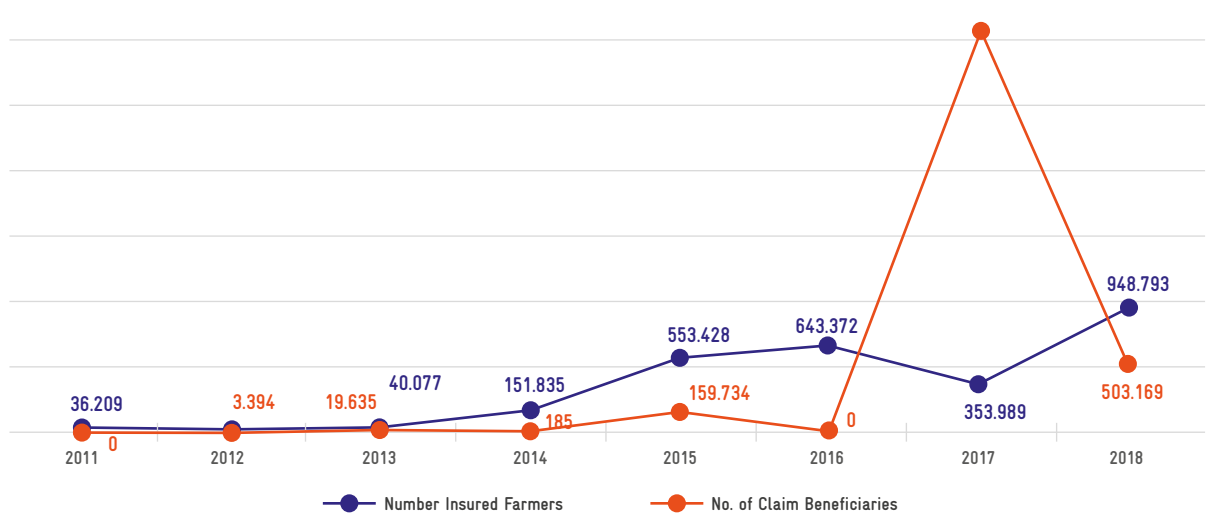
Figure 3. GAIP’s Enrolments vs Claim Beneficiaries



Source: GAIP Underwriting Officer, 2019; & GAIP 2018

In terms of enrolment and claims performance, there has been a sturdy increase. However, to effectively service the national market, GAIP will need to explore more effective channels and approaches to expand its coverage.

Figure 4: GAIP’s Gross Premium vs Claims Paid (GHS)



Source: GAIP Underwriting Officer, 2019; & GAIP 2018

Generally, GAIP’s annual premium growth has been exponential although 60% to 80% of its premiums and liabilities are often ceded to reinsurers¹⁴ (GAIP 2018). Claim pay-outs on the other hand have suffered significant inconsistencies. As can be seen from Figure 4 above, in 2016 for instance, there were no pay-outs at all. 2017, in turn, recorded the highest pay-out at a recorded loss ratio of 862%.

A significant proportion of the pay-outs then were claims made against the Multi-Peril Crop Insurance (MPCI) which may suggest adverse selection or a problem with the product design. The MPCI specific loss ratio was reported at 1031% while the Drought Index Insurance (DII) recorded 311%. In the succeeding year (2018) however, pay-outs dropped significantly where both the MPCI and DII recorded zero claims.

14 Swiss Re is the main reinsurer

Since 2018, GAIP is has taken bold steps to expand its coverage to a national scale. In its 2018 business plan for example, it has planned to **develop tailored products for commercial farmers** as well as expand its crops coverage to **include cassava and cocoa** (GAIP 2019). Additionally, it plans to minimize cost as well as boost sales by **bundling agricultural insurance with existing financial products** through partnerships with banks and microfinance institutions (MFIs).

4.1.3 Current Industry Feedback on GAIP's Operation and Performance

Since GAIP was established to promote and drive the agricultural insurance market development in Ghana, many have been interested in its progress. Below, in

Table 4, is a consolidated feedback from key industry representatives about the strength and weaknesses of GAIP. Generally, they noted that GAIP has been very instrumental in catalysing the market and supporting the development of capacities in the agricultural insurance. However, they also added that GAIP has not increased in scale as expected. As such, concrete steps were proposed towards improving GAIP's market presence and offerings including the introduction of new innovative products, improvement in its technical competences as well as sales and marketing approaches, intensification of its products awareness campaigns, mobilization of full commitment from pool members to scale-up operations, and more importantly enhancement of its corporate management and governance structure to reflect the changing market demands (see Table 4 below for details).

Table 4: Industry Feedback on GAIP's Strengths and Weaknesses

Strength of GAIP	NIC	GAIP	USAID FinGAP	MoFA	AMA Lab	GIZ
Catalysed and created some degree of awareness of agricultural insurance	X	X	X	X		
Created demand for agricultural insurance among agribusiness and financial institutions			X			
16 pool member companies ensure stability						X
High technical competencies / Know how						X
Providing risk management alternatives for farmers	X	X				
Building technical capacities of industry players		X				
Weakness of GAIP						
Lack of follow-up on awareness creation & trainings at all levels		X		X		X
Lack of full buy-in/commitment from the pool members and GIA			X			
Lack of direct support and direction from shareholders	X	X	X			
Inadequate internal capacity (staff and management)	X	X	X			X
Lack of dynamic leadership			X			
Limited tailored products	X	X	X		X	X
Complex products especially the Weather Index Insurance (WII) products			X			X
Lack of capacity to drive sensitization			X	X		
Limited and inadequate distribution channels			X			X
Limited capital	X	X				
Still piloting instead of implementing tested and sustainable solutions		X				X
Legal uncertainty of ownership structure	X		X			

Weakness of GAIP	NIC	GAIP	USAID FinGAP	MoFA	AMA Lab	GIZ
Inability to mobilize government support / integrated into existing government programmes	X	X	X			
Inability to leverage aggregators (e.g. cooperatives, banks etc) to drive sales (and ensure cost efficiency)	X		X		X	X
Limited use of technology to drive business activities					X	X
Lack of value chain approach to market needs	X					X
Limited infrastructure / limited market visibility (e.g. branch offices etc)	X	X				X
Lack of support from Steering Committee (SC). Between 2015–2017, the SC never met	X	X				X

Source: Author's interactions with industry, 2017 & 2019 and (GIZ Ghana 2016¹⁵).

From the demand side, their specific concern with GAIP has been its limited number of products and inability to adequately inform farmers about its products. There were a few others who have also questioned

GAIP's capacity to manage a national agricultural insurance programme given its limited human and infrastructural capacity. Below is a summary of the demand side feedback (Table 5).

Table 5: Demand Side Feedback on GAIP

Feedback	Bonzali Rural Bank	Bessfa Rural Bank	Stanbic Bank
First engagement with GAIP was through the ACET ¹⁶ project (2014–2016)	X	X	–
Number of farmers covered in 2017/2018	118	1,924	–
Number of farmers covered in 2015/2016		214	–
Have you or your members experienced claim payment from GAIP	No	No	–
Do you expect GAIP to pay claims as promise when there is a trigger	Yes	Yes	Yes
GAIP has helped farmers and banks to understand importance of crop insurance	True	True	True
GAIP has provided a better alternative to agricultural credit risk protection hence more farmers can now access credit (has encouraged more agricultural lending)	True	True	True
Sustainability of GAIP's products will depend on its ability to pay claims promptly, and reduction in premiums (innovative tweaks to make premium affordable)	True	True	True
Farmers think premiums are too high	True	True	True
Farmers will have a good perception of GAIP when claims are paid and paid promptly	True	True	–
GAIP's products are difficult to understand by the average farmer	True	True	–
GAIP has limited products – product cover only crops	True	True	–
GAIP spends little time to educate farmers about their insurance products	True	True	True
GAIP needs to actively assist bank staffs to educate farmers and other agribusinesses on agricultural insurance		True	
What is your general impression about GAIP	Positive	Positive	Mixed

Source: Author's interactions with industry, 2017

¹⁵ The potential of agricultural insurance to support the Climate Change Adaptation of Ghanaian farmers – Evidence from Kintampo, Brong Ahafo Region, Discussion Paper, IIPACC Project, April/May 2014

¹⁶ For the benefit of their randomized controlled trial study on weather index insurance across northern Ghana, the University of Ghana, Ohio State University and the African Centre for Economic Transformation (ACET) subsidized the premiums of some selected bank clients

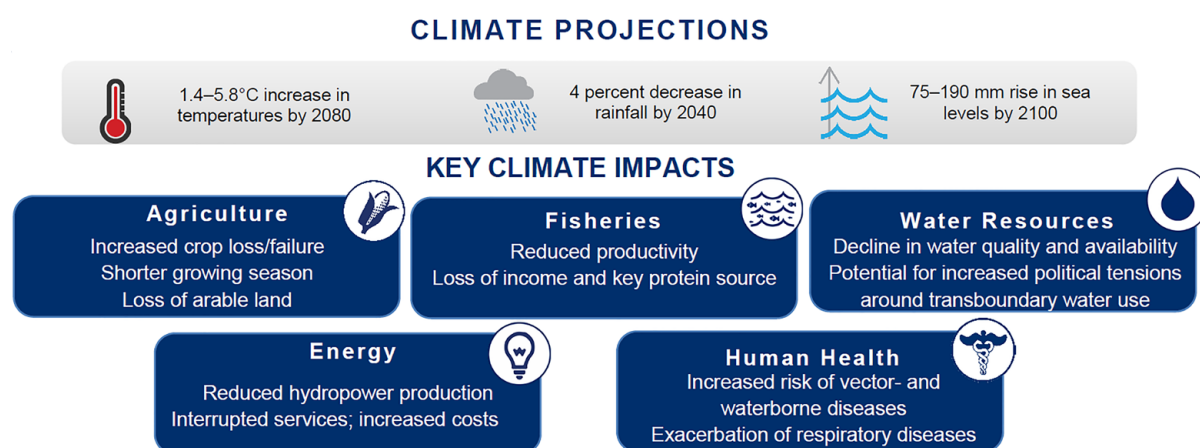
4.2 THE GIZ PROJECT FOR “PROMOTING INTEGRATED MECHANISMS FOR CLIMATE RISK MANAGEMENT AND TRANSFER” (ICRM)

The effect of climate change severely impacts people around the world each year. Current models show future climate impact scenarios which reinforces adaptation efforts to reducing natural disasters and climate change vulnerability (IPCC, 2014). The lessons from Ghana

indicate that in spite of the efforts made so far, it is unlikely that the extra atmospheric CO₂ would be reduced through mitigation measures.

Historically, since 1960, Ghana’s average annual temperature has increased by one degrees Celsius. Also, increased rainfall volatility is resulting in a 2.4% reduction in rainfall every 10 years, a sea level rise of 63mm in the last 30 years and coastal erosion of 1.13m per annum. Below are the climate projections and related impacts on Ghana (Figure 5).

Figure 5: Ghana’s Climate Change Risk Projections¹⁷



It has thus become an imperative to find strategies to manage climate risks more holistically. Integrated climate risk management is one of such approaches that helps to tackle risks and the manifestation of climate-related disasters including risks that governments, individuals, and businesses are exposed to. As a proactive policy step, between 2013 and 2014, Ghana launched the National Climate Change Policy (NCCP) and an Action Plan which provides a framework for dealing with climate change and natural stresses.

To contribute to the NCCP as well as complement the existing climate change interventions in Ghana, the National Disaster Management Organization (NADMO), through its Climate Change/ Disaster Risk Reduction (CC/DRR) Department in partnership with GIZ collaborated on the project ‘Promoting Integrated Mechanisms for Climate Risk Management and Transfer (ICRM)’. This project, which ends this June 2019, was geared towards hedging the financial risks of small-scale farmers and commercial agribusinesses against extreme droughts and flood events. The project also had other strategic partners including GAIP, the Ministry of Finance (MoF) and the Ministry of Food and Agriculture (MoFA). Below are the work areas of the ICRM project in Ghana.

17 USAID 2017. Ghana Climate Risk Profile, Fact Sheet, https://www.climatelinks.org/sites/default/files/asset/document/2017_USAID_Climate%20Change%20Risk%20Profile%20-%20Ghana.pdf, 12 Jun 2019

ICRM Project Work Packages for Ghana (2015–2019)

ICRM's overall objective is that an integrated climate risk management concept for hedging the financial risks of small-scale farmers (woman and men) and commercial agricultural businesses against extreme weather events in Ghana is developed and implemented. To achieve this, ICRM envisions the following three work packages for Ghana:

- That in the implementation of the National Climate Change Policy (NCCP) Action Plan, the Ghanaian partners follow an **ICRM approach regarding agricultural risks**. The main project expectations here include to:
 - Have a baseline and vulnerability analysis conducted;
 - Establish Climate Smart Agriculture practices in 20 communities including soil management, soil water conservation, drought resistant seeds, and risk transfer and alternative livelihood system.
- In coordination with the **African Risk Capacity (ARC)**, a sustainable intervention mechanism is designed that combines risk reduction, risk prevention and risk transfer as well as strengthens national emergency aid measures. The project expectation includes the
 - Setting-up of a technical working group which includes the Ministry of Finance (MoF), Ministry of Food and Agriculture (MoFA), the National Disaster Management Organization (NADMO), Ministry of Environment, Science, Technology and Innovation (MESTI), and the Ghana Meteorological Agency (GMet);
 - The establishment of a 120-days contingency plan which allows immediate coordinated action;
 - A calibrated Africa RiskView (ARV) software for drought risk in Ghana;
 - Estimation of population covered and premium costs; and
 - Design of a transfer mechanism for the benefit of small-scale farmers. A flood risk insurance is envisaged in 2018.
- The capacities of the Ghana Agricultural Insurance Pool (GAIP) are strengthened to develop and **market viable insurance products for commercial agricultural businesses** regarding the management of climate-related agricultural risks. ICRM specific support includes;
 - Supporting the adjustment of 2 MPCI for commercial agricultural companies (value chain approach);
 - Involvement of nucleus farmer concept; and
 - Supporting product processes (marketing, sales, claims handling).

As from the above, the ICRM project explored various integrated climate risk management approaches including exploring sovereign risk insurance through the African Risk Capacity (ARC) and promoting agricultural insurance among smallholder farmers and commercial agricultural business.

Some notable achievement of the ICRM project include:

- **Creating awareness and mobilizing stakeholders' interest in sovereign risks insurance.** ICRM has supported the government of Ghana in its accession process to the African Risk Capacity including the customisation of its risk model and preparation of a Contingency Plan which are some of the key pre-conditions for joining the ARC. Thus far, Ghana has acquired a Certificate of Good Standing with the ARC which signals that all the technical preparations for an ARC policy have been completed (MCII & GIZ 2019). Now, discussions are being held on how to finance the premium.
- **Built NADMO and MoFA capacities** in risk prevention and reduction.
- **Trained NADMO district volunteer groups** on community level adaptation and risk management measures as well as district officers on disaster preparedness planning
- **Supported and promoted climate smart agriculture** in Ghana
- **Supporting the Ministry of Food and Agriculture (MoFA) to access a grant** from the Climate Policy Support Programme for the development of the Ghana Agriculture Investment and Implementation Plan in line with Paris agreement.
- **Supported MoFA to organise various capacity development activities** e.g. trained: 60 tractor operators and Agricultural Extension Agents (AEAs), 45 farmer leaders on mushroom cultivation and marketing, 1,000 farmers on compost preparation

and application, 1,000 farmers on conservation agriculture practices, 52 farmer leaders on bee keeping and honey production and 120 farmers on how to use climate information in planning the planting season.

As the ICRM project ends, some work still remains including supporting the development of other innovative agricultural insurance products to the market as well as supporting the government in its process of ratifying the ARC concession.

4.3 THE SWISS RE AND GIZ STRATEGIC ALLIANCE (STA)

In November 2015, the Swiss Re Management Ltd (Swiss Re) and the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) joined hands in a Strategic Alliance (STA) within the develoPPP.de programme to encourage sustainable applications of insurance-based approaches in developing countries and to promote effective markets for climate risk insurance solutions. In a consultative forum, Ghana requested STA to focus on providing agricultural insurance solutions to Ghana. Consequently, STA has collaborated with GAIP to serve the commercial agriculture market with innovative products. Through this collaboration, a demand study was conducted which had helped to redefine and streamline GAIP's marketing strategy for the commercial agriculture market (GIZ Ghana 2016a). The study primarily focused on the cassava and rice value chains. Below are the key highlights of the study.

- Generally there is low financial literacy especially regarding insurance. This doesn't only apply to farmers but also to policymakers. They therefore recommended to intensify education on insurance including awareness raising on multi-peril insurance, the nuances of index-based insurances, area-yield and price indices.
- They also noted that **Area Yield Index Insurance (AYII) can help address the risk of bush fires for both rice and cassava cultivation**. Bush fires cause major crop loss annually. However, in Ghana, bushfires are largely man-made rather than natural.
- Diseases (e.g. cassava mosaic virus) and pest were named as the other major risks. GAIP has already been approached to provide Multi-Peril Crop Insurance products for these risks. The challenge with AYII however is that it requires crop-cutting experiments (CCE) in randomly selected surrounding areas and carried out by an independent agency. The feasibility of such an operation needs proper checking as AYII is generally known to be costly.
- For the dry spells and long rainfall affecting both cassava and rice cultivation, they recommended Weather Index Insurance (WII). Water logging especially during the maturity stages of cassava results in rots. On the other hand, long dry spells affect the yields of both cassava and rice.
- Reportedly, despite reluctance, most major processors have managed to establish contracts with their produce suppliers with pre-negotiated prices. However, they often are vulnerable to the **risk of suppliers' credit defaulting as well as disruptions in supply**. Even with the contracts, competitive prices during harvest affects the suppliers' decision and usually lead to diversion of their produce to the buyers with the highest price offer. **Price Index Insurance was thus recommended** as a tool for hedging such supply losses.
- Finally, it was realised that the banks, microfinance institutions, rural **banks and institutional agro-produce buyers remain untapped although most of these institutions have high investments in the agricultural sector**. Between UT Bank and Stanbic Bank alone, they have made investments of about GHS 40 million in the agriculture sector. It was reported that the default rates on agro-lending are much lower than the industry average. Agricultural financing default rates are between 7–8%, compared to the 20% industry average (GIZ Ghana 2016a). It is thus recommended to leverage the opportunities that these aggregators provide.
- In 2018, the Strategic Alliance (STA) programme supported GAIP to develop a **comprehensive marketing and a business plan** for the distribution and marketing of agricultural insurance to the underserved commercial farmer segment in Ghana.

4.4 THE USAID FINANCING GHANAIAN AGRICULTURE PROJECT (FINGAP)

The USAID-FinGAP programme, which ended in 2018, facilitated agribusiness financing in Ghana with a primary focus on business in the maize, rice and soy value chains in the northern regions of Ghana. It works in partnership with three main actors:

- Agribusiness Small, Medium, including Large Enterprises (SMiLEs)
- financial institutions and
- Business Advisory Service (BAS) providers

Although FinGAP was not designed to directly engage in agricultural insurance development, they appreciated the benefits of agricultural insurance on their local actors in northern Ghana. As a result, in 2015, the project provided GAIP with grants to help boost its market presence and products sales. The funds were used to hire a marketing manager and three sales personnel for the northern regions. Also, further funding from the USAID ADVANCE project helped to hire three additional sales personnel. These interventions have had positive impact on GAIP operations – enrolment numbers have increased since then (refer to products performance above).

Even though the FinGAP programme has ended, **it has left behind a database¹⁸** with rich matrices of data which could be useful for GAIP or other insurance providers in the market.

4.5 THE CAPACITATING AFRICAN SMALLHOLDERS WITH CLIMATE ADVISORIES AND INSURANCE DEVELOPMENT (CASCAID)¹⁹ PROGRAMME

CASCAID is a multi-stakeholder community of practice, which has the aim to extend the use of climate information for seasonal agricultural decision-making to over 2 million farmers in Burkina Faso, Ghana, Mali, Nigeria and Senegal. They hope to achieve this by building the capacity of African smallholders and the boundary partners through which those farmers access scientific research. The expected results include actionable climate advisories, index insurance, and integrated climate services that will reduce the impact of seasonal climate risk from the farm to the national levels. **Through public-private partnerships, the project aims to provide index-based insurance services to 50,000 farmers in Ghana and Senegal.**

CASCAID's current project partners include (1) World Agroforestry Centre (ICRAF), who leads the development of the community of practice for providing feedback for climate services information; (2) the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), who helps develop the communities of practice, provide human resources and steering committees, and plan meetings and yearly reviews; (3) University of Reading, who aids in the development of the communities of practice, provide climate services through the participatory integrated climate services for agriculture (PICSA) approach, and strengthen climate communications channels and capacity building; (4) AGRHYMET, who helps develop the communities of practice, food security monitoring, and prediction; (5) **Jet-Propulsion Laboratory (JPL), who provides satellite imagery for crop yield predictions;** (6) Washington State University, who helps with food security monitoring and prediction; (7) **University of Ghana, who helps with food security monitoring and prediction;** (8) **International Research Institute for Climate and Society (IRI), who will draft the background paper on Nigeria's index-based insurance program, and perform index insurance analyses, assessments, and set up programs and information networks;** and (9) Senegal's National Civil Aviation and Meteorological Agency (ANACIM), who provides downscaled, probabilistic forecasts and test methods of communicating this information.

¹⁸ <http://fingap.nautilytics.com/>

¹⁹ <https://ccafs.cgiar.org/building-climate-risk-management-capacity-west-africa#.WhnhSbQ-fow>

4.6 FEED THE FUTURE ASSETS & MARKET ACCESS (AMA) INNOVATION LAB

In the first quarter of 2019, the AMA Innovation Lab at the University of California launched a new project in partnership with the GAIP to improve the quality of agricultural index insurance available to the nation's smallholder farmers. This project intends to introduce improved index insurance products which could help to promote the adoption of advanced production technologies as well as improve access to credit and overall welfare for smallholder farming families²⁰. Remote sensing technology will be one such technology which will be adopted to complement the weather stations data.

According to Tara Chiu, the assistant director of the AMA Innovation Lab, this partnership will also involve providing GAIP with tailored industry experience advising as well as supporting the piloting of index insurance products. Also relevant tools including the 3-D Client Value Assessment²¹ (which was jointly developed with the ILO and USAID) will be made available to GAIP. The 3-D Client Value Assessment tool allows insurance providers to measure the value of their agricultural index insurance products.

Progressively, the project plans to draw from prior AMA Innovation Lab projects led by Mario Miranda and Chris Udry. These projects produced detailed household data and historic market prices that could be used to establish the accuracy of the new index insurance products.

The project team will also partner with remote-sensing experts at UC Davis and the Ohio State University who are currently working on an initiative to improve index insurance quality across East Africa²².

4.7 AFRICAN RISK CAPACITY (ARC)²³

The African Risk Capacity (ARC) is a specialized Agency of the African Union established to help African governments improve their capacities to better plan, prepare, and respond to extreme weather events and natural disasters.

Given the increasing effect of climate change and the impact of natural disasters such as floods and drought on the economy of Ghana, there have been strong advocacy and support for Ghana to take up a sovereign risk insurance for its macro (extreme) climate risks and agricultural insurance for the meso and micro level risks. The ARC, which has over the years demonstrated its value as an effective partner in disaster risk management, provides an opportunity. The ARC does not only provide insurance cover but also enables countries to strengthen their disaster risk management systems. It provides member states capacity building services as well as access to state-of-the-art early warning technology, contingency planning, and risk pooling and transfer facilities.

So far, with support from the GIZ ICRM project, the government of Ghana has successfully completed its accession process to the African Risk Capacity and has received a Certificate of Good Standing from the ARC.

According to the head of research of WorldCover, Melanie Bacou, a sovereign risk insurance in Ghana will have a very positive impact on agricultural insurance. It has the potential to lower premiums, stabilise the market and consequently create business opportunities for the market.

20 <https://basis.ucdavis.edu/news/new-project-develop-advanced-index-insurance-small-scale-farmers-ghana>

21 <http://www.impactinsurance.org/tools/3-d-client-value-assessment>

22 <https://quii.ucdavis.edu/>

23 <https://www.africanriskcapacity.org/>

4.8 ENABLING POLICY AND LEGAL FRAMEWORK FOR DEVELOPMENT OF AN AGRICULTURAL INSURANCE POLICY

Currently, there are no legislations or market conduct rules guiding the operations of agricultural insurance in Ghana. This poses a risk and creates legal uncertainties about the market. To address this, the National Insurance Commission (NIC) with funding from the Alliance for Green Revolution for Africa (AGRA Ghana) had commissioned a team to develop a comprehensive legal and regulatory framework for agricultural insurance in Ghana. The assignment entails:

- Developing a policy for agricultural insurance in Ghana, which will lead to the amendment of the 2017 insurance law (Act 724 to include provisions for regulating agricultural insurance in Ghana)
- Exploring the possibility of a funding mechanism for agricultural insurance schemes in Ghana (Ghanaian Times 2018)

Specifically, the policy framework team are expected to

- Draft an agricultural insurance policy with the options for a funding mechanism and develop provisions on agricultural insurance for the ongoing review of insurance Law 2006 (Act 724). This includes high level stakeholder consultations in the agricultural, developmental and insurance space to address concerns and views on the structure of agricultural insurance in Ghana
- Provide support to designated sub committees in parliament during their stakeholder consultations on the new insurance bill and train members of GAIP on the new policy and legislative framework and capacity building for GAIP staff and the key industry players

The activities of this assignment are scheduled to be finalized by the end of June 2019. Many industry players consider this new policy framework to be a key determinant of the future of the market, as it will define, among others, the rules of engagement of the market. Both the Acting CEO of the Ghana Insurers Association (GIA) and the General Manager of GAIP underscored that the future mandate, status and structure of GAIP depends on the Agricultural Insurance Policy framework. Although they wish GAIP to evolve into a full-fledged limited liability private insurance company, its eventual structure as a coinsurance pool will be defined by the tenets of the new legal and regulatory framework.

4.9 WORLDCOVER²⁴

From 2010 until 2017, GAIP was the only agricultural insurance provider in Ghana. In 2018, WorldCover successfully obtained a broker licence to develop and distribute agricultural insurance, thus breaking the market monopoly. WorldCover's interest in the Ghanaian market stems from the successive positive findings by the Innovations for Poverty Action (IPA) research which generally concludes that farmers in Ghana were willing to pay above actuarially fair prices for agricultural insurance.

Prior to launching in 2018, WorldCover invested great time and resources researching the agricultural insurance market in Ghana. Over USD 1 million was reportedly invested on research and product development. Its efforts have shown great promise so far. In its first year of operations in Ghana, WorldCover had managed to enrol 27,000 farmers on its Drought Index Insurance (DII) product and incurred a 25% loss ratio.

Table 6: WorldCover's Product Performance (2018)

Product (2018)	No. of Insured	Loss Ratio
Drought Index Insurance (DII) (Maize, Rice and Sorghum)	27,000	25%

Source: WorldCover Head of Research, 2019

24 <https://www.worldcovr.com/>

In terms of position in the market, the CEO underscored that WorldCover is determined to be unique in its approaches, **where technology and product innovations will be their core identity**. He noted that price is not a fundamental problem as long as the market can be provided with high quality and valuable products. Thus, their approaches will stem from innovative marketing and communication strategies where clients are continuously informed and the feedback received from them is used to improve service quality and client orientation. They plan to invest a considerable proportion of their resources in understanding the market needs. In addition to promoting their insurance products, the CEO also highlighted that **WorldCover aims to bring funding sources to their clients through reinsurance arrangements**. Currently, WorldCover also operates in Kenya and looks to expand to other countries across Africa and Asia.

4.10 ALLIANZ INSURANCE CO. GHANA LTD

According to the Allianz Insurance Team, for a couple of years now, they have been exploring the opportunity to participate in the agricultural insurance market in Ghana. With support from Allianz Zurich, they have since taken significant steps and are now far into their **planning to launch their first agricultural insurance product in Ghana in September 2019**. This product will be distributed through selected Microfinance Institutions (MFIs) and savings and loans companies.

Moving forward, they are interested in providing insurance cover for maize, sorghum, cocoa, cashew and coffee and will cover perils such as pests, flood, fire and drought. **In the next 3 years, Allianz projects to cover 100,000 farmers with various agricultural insurance policies.**

The team's expectations for the future of agricultural insurance in Ghana include:

- An open and vibrant market where agricultural insurance competes with motor insurance in terms of coverage and premium volumes
- A very knowledgeable market where farmers are aware and willing to enrol in various agricultural insurance schemes
- A sound and robust agricultural insurance regime which is supported by an all-encompassing legal and regulatory policy framework guiding the market conduct and operations
- Internally, they hope to develop a number of products for various cash crops in Ghana

4.11 THE GHANA INCENTIVE-BASED RISK SHARING SYSTEM FOR AGRICULTURAL LENDING (GIRSAL) ²⁵ PROJECT

The Ghana Incentive-Based Risk Sharing System for Agriculture Lending (GIRSAL) project has been championed by the Bank of Ghana (BoG) in collaboration with the Ministry of Food and Agriculture (MoFA) and Ministry of Finance and Economic Planning (MoF) and the Alliance for a Green Revolution in Africa (AGRA). The project is aligned with the Ghana Shared Growth and Development Agenda II's (GSGDA II) outlook for improving sustainability of the Agriculture sector (AfDB 2017).

The sector priorities, as defined in the Food and Agriculture Sector Development Policy (FASDEP), identified **the lack of adequate agricultural finance as one of the leading constraints for private sector investment**. The high-risk perception for agriculture investments (both real and perceived) presents disincentives for financial institutions to enter this increasingly lucrative sector (ibid). GIRSAL was therefore setup with the **aim to leverage lending for agriculture and agribusiness through a risk-sharing scheme**.

²⁵ <https://www.bog.gov.gh/privatecontent/Speeches/ADDRESS%20BY%20DR.%20ABDUL-NASHIRU%20ISSAHAKU,%20GOVERNOR,%20AT%20THE%20LAUNCH%20OF%20GIRSAL,%20ON%20THURSDAY,%20OCT.%202013,%202016.pdf>

Under the scheme, BoG expects to stimulate the desire of the private financial sector to finance the full agricultural value chain including agribusinesses. GIRSAL will also have a broader national economic benefit. According to the former Governor of the Bank of Ghana, Dr. Issahaku, GIRSAL is a strategy for diversifying Ghana’s economy away from the over-reliance on oil.

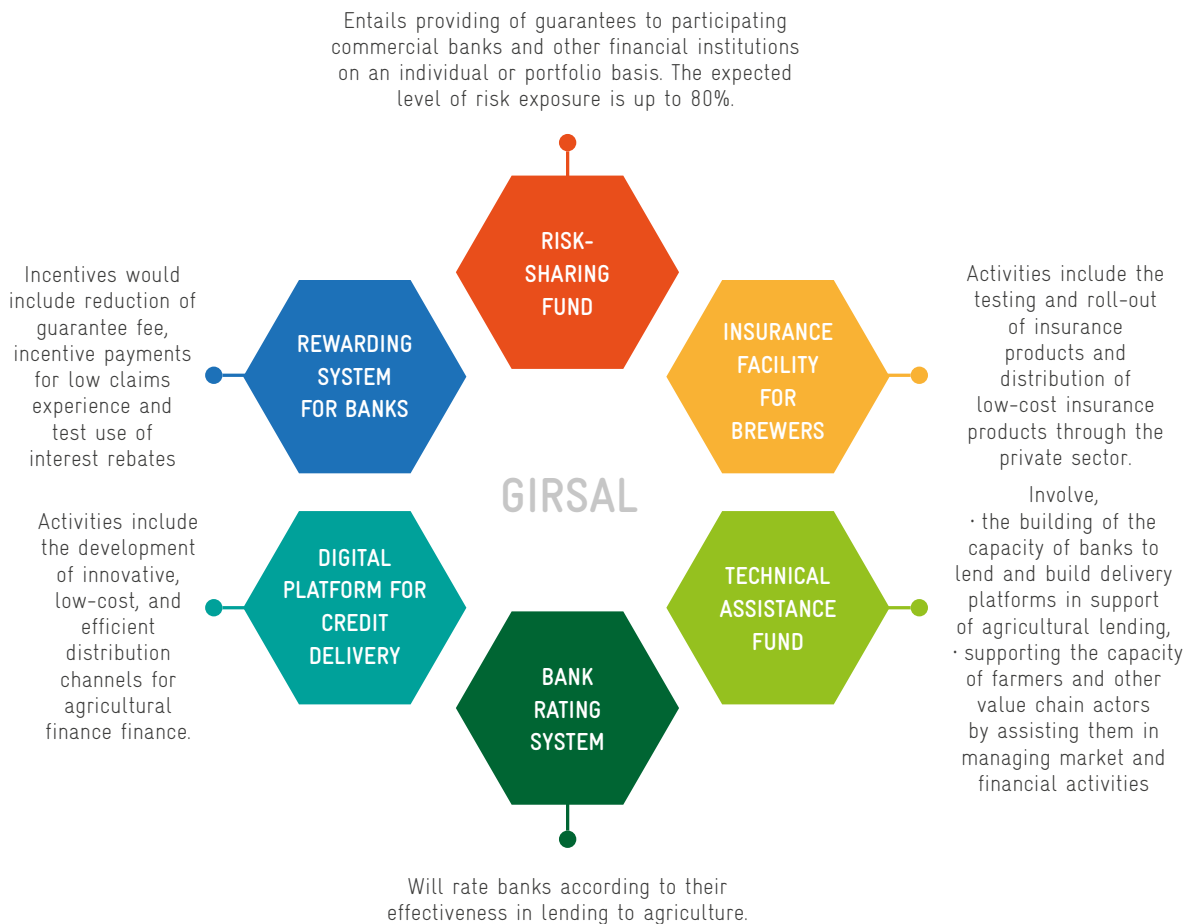
because of the perception that the risk of lending to farmers was too high. The expectation of GIRSAL as a financing model is to **double private sector lending to the agricultural sector from the 4% average to 8% in five years.**

Presently, the **agriculture sector in Ghana receives only an average of 4% of bank lending** primarily

To be effective at its mandate, GIRSAL²⁶ has been structured along six pillars that together seek to reduce both the potential and real risks associated with lending to agriculture and agribusiness.

Figure 6 below provides a highlight of the six pillars.

Figure 6: GIRSAL’S Six Pillars for Reducing Agricultural Lending Risks



26 GIRSAL draws lessons from similar risk sharing mechanisms in Africa such as Nigeria’s NIRSAL Plc, AGRA’s Standard Bank pilots, DCA’s 10-year experience deploying credit guarantees as well as global cases e.g. Rabo Bank (AfDB 2017).

GIRSAL, which will be incorporated as an independent private limited liability company later in 2019, will be regulated by the National Insurance Commission (NIC). The project intends to adopt a phased rollout implementation approach. An initial GHS 400 million fund will be established, with the Bank of Ghana (BoG) providing GHS 200 million (approx. USD 40m) and AfDB lending UA 10 million²⁷ (approx. USD 14m). Thus far, the project has secured USD 250,000 from AGRA, USD 40m from BoG and USD 15m from AfDB. Officially, **the project is expected to start operation from June 2019**. According to the Head of Financial Systems Development (FSD) Unit at GIZ Programme for Sustainable Economic Development (PSED), GIZ is likely to also provide both technical and financial support to the GIRSAL project. The nature of the support will be discussed and agreed by the next donor coordinators meeting.

As part of its de-risking mechanism, GIRSAL **plans to setup an Insurance Facility where appropriate agricultural insurance products will be developed and deployed for lower risks affecting smallholder farmers and agribusinesses**. According to the project managers at the Ministry of Finance and Economic Planning, **GAIP has been nominated as the primary services provider although they are hoping to attract other private insurance companies in the future**.

GIRSAL is anticipated to have far reaching benefits. According to the Chief of Party of the recently ended USAID FinGAP project, Mr. Richard Dvorin, **GIRSAL could potentially rescue agricultural insurance for Ghana**. As such the insurance industry players including GAIP should lobby and ensure that the Insurance Facility function is outsourced to them.

4.12 THE ALLIANCE FOR A GREEN REVOLUTION IN AFRICA (AGRA) GHANA

The Alliance for a Green Revolution in Africa (AGRA) Ghana has the **goal to catalyse and sustain an inclusive agricultural transformation in Africa to increase incomes and improve food security**. Following this, AGRA Ghana has set itself to achieve four main objectives:

- Increased staple crop productivity for smallholder farmers
- Strengthened and expanded access to output markets
- Increased capacity of smallholder farming households and agricultural systems to better prepare for and adopt to shocks and stresses
- Strengthened continental, regional and government multi-sectoral coordination, and mutual accountability in the agricultural sector

Thus far, significant strides have been made including

- With funding from the German Federal Ministry of Economic Cooperation and Development (BMZ), launched a project in 2018 on Public-Private Partnership for Competitive and Inclusive Rice Value Chain Development: Planting for Food and Jobs (PFJ) – Rice Chapter. This project **has since mobilized, sensitized and trained 38,439 farmers** on Good Agricultural Practices (GAP) and is **expected to reach 128,764 smallholder farmers** by the end of project in 2020. Presently, the project has formed 34 Farmer Based Organizations (FBOs) and produced 317mt of certified seeds and formed 7 Rice millers and 3 input dealers cooperatives;
- Launched the Ghana Cassava Industrialization Partnership Project (GCIPP) in 2017, which is **expected to mobilize and train 110,000 smallholder farmers**;
- Following its experience with the Nigeria Incentive-Based Risk-Sharing System for Agricultural Lending (NIRSAL), AGRA is also providing both technical and financial support to the Ghana Incentive-Based Risk Sharing System for Agricultural Lending (GIRSAL) project. Currently, AGRA-Ghana has committed USD 250,000 to GIRSAL project and is expected to commit more.

Also, as part of its mandate to strengthen the regional and national agricultural enabling policy environment, **AGRA Ghana is currently funding the drafting of the first Ghana Agricultural Insurance Policy Framework**.

27 Unite of Aid (UA) is the official currency for AfDB projects

AGRA's experience with financial inclusion programmes and services is highly relevant to Ghana. It has partnered with Mastercard Foundation to provide financial and technical support to financial institutions. In East Africa, it collaborated with ACRE Africa where it provided financial support to ACRE's outreach and marketing programmes (AGRA Ghana Expert Interviewees).

4.13 ESOKO²⁸

Esoko was established in 2005 as an experiment to see how the emergence of mobile technology in Africa, could improve the lives of rural communities across the continent. Esoko **uses mobile technology to provide agriculture suppliers and buyers critical market information.** In Ghana, they are **involved in providing weather and price data to farmers. Their mobile platform delivers market prices, weather alerts, and crop advice to farmers via SMS and also links buyers with sellers.** Their research has shown that these services can improve farmers income by about 10%. Additionally, Esoko **provides smallholders with access to inputs and finance through its virtual marketplace and drives business for input dealers** and financial service providers. Esoko leverages its technical platform and field force for the collection of data and information mostly using tablet devices and smartphones.

For agricultural insurance, the organization **offers the opportunity for insurance awareness creation, product marketing as well as a source of data for risk assessment and product development.**

4.14 SELECTED AGRICULTURAL INSURANCE RESEARCH PROJECTS IN GHANA

There are a few studies on agricultural insurance in Ghana including Stutley (2010); Katie School of Insurance (2011); Okine 2014; and Karlan et al. (2014).

Stutley (2010) conducted a feasibility study of crop insurance in Ghana on behalf of the GIZ IIPACC project. The study concluded that Weather Index Insurance (WII) can be developed for corn, rice, pineapples, mango, sorghum, millet, and groundnuts. In terms of demand, it argued that farmers will be willing to buy insurance if it will unlock access to credit. After reviewing the wide range of agricultural insurance products and assessing them against the Ghanaian market, Stutley developed the following Table 7 showing the suitability of each of each product to the Ghanaian market.

28 <https://esoko.com/>

Table 7: Crop Insurance Suitability Assessment for Ghana (by Stutley 2010)

Type of Crop Insurance Product	Basis of Insurance & Indemnity	Suitable for GHANA?
A. Traditional Individual Farmer Indemnity Insurance		
Single peril (e.g. Typhoon, Wind)	% Damage	Possibly
Named Peril (e.g. Fire, Excess Rain, Wind)	% Damage	Possibly
Multiple Peril Crop Insurance (MPCI)	Loss of Yield	No
Revenue Insurance	Loss of Yield and Price	No
B. Innovative Crop Index Insurance		
Aggregate Yield Shortfall Insurance	Loss of Aggregate Yield	Possibly
Area-Yield Index Insurance (e.g. India, USA)	Area-Yield Index	Possibly
Crop Weather Index Insurance (CWII):	Weather Index (e.g. rainfall)	
Micro-CWII (Individual farmers) (e.g. Malawi)	Weather Index (e.g. rainfall)	Possibly
Meso-CWII (Financial institutions, input suppliers)	Weather Index (e.g. rainfall)	Possibly
Macro-CWII (Government)(e.g. Malawi, Ethiopia)	Weather Index (e.g. rainfall)	Possibly
Remote Sensing Indexes (e.g. NDVI/drought pasture indexes for livestock, Satellite Imagery or Synthetic Aperture Radar, SAR, for Flood)	Remote Sensing Index (e.g. NDVI pasture index)	Possibly (medium term)

Source: Stutley 2010

Given that Stutley's study was conducted 9 years ago, his suitability assessment may not be valid today since the preconditions might have changed. Nevertheless, the results provide valuable indications that can be further built upon.

The Katie School of Insurance (2011) also explored the feasibility of index insurance products for corn and rice in northern Ghana. As in the case of Stutley (2010), they also noted inadequate and inaccurate data as a major challenge to index insurance. They concluded that the correlations between precipitation and yields are rather weak which is also corroborated in a similar study by Okine (2014).

In 2014, Karlan et al. (2014) conducted a multi-year randomized trial experiment in northern Ghana on behalf of the Innovations for Poverty Actions (IPA) with the aim to assess the extent to which capital constraints and uninsured risks affect investment by small farmers. It turned out that **uninsured risks have a far greater impact on investment than capital constraints. Insured farmers are found to cultivate more acres and spend more on land preparation and on inputs overall.** Also, insurance was found to be significantly associated with greater involvement in riskier enterprises of higher gains. On the demand side, trust and recency (i.e., whether an insurance

pay-out was received or not in the previous year) have a significant impact on farmers' behaviour on uptake. Further, the study concluded that with an "actuarially fair price, 40% to 50% of farmers demand index insurance, and they purchase coverage for more than 60% of their cultivated acreage" (Karlan et al., 2014, p. 601).

Similarly, in the later part of 2000, the Innovations for Poverty Action (IPA) also conducted a research on maize farmers' demand and willingness to pay for the rainfall "Takayua" insurance in northern Ghana. They found high willingness by farmers to pay a nominal premium rate of GHS 1 per acre (88% of farmers to whom cover was offered at this price) and GHS 4 per acre (72% of farmers). The study concluded that relatively high proportion of about 40% of farmers were willing to pay actuarially fair prices of between GHS 8 and 9.5 per acre and even at a high rate of GHS 12 per acre. This was corroborated in a later study by Ellis (2017) who established that 52% farmers were willing to pay for crop insurance in Ghana. She cautioned that crop insurance was less attractive to low income farmers as the premium rate increased to 10% of their total cost of production. According to her, education, access to extension services and awareness of insurance are the main determinants of demand for crop insurance. Educated farmers were found to be more willing to purchase crop insurance but had a

higher probability of spending a lower percentage of their income on it (Ellis 2017).

farmers who have the ability to self-insure generally are not interested in market-based crop insurance.

Other demand studies have been revealing of farmers behaviour in Ghana. According to Kwadzo et al. (2013),

These scientific findings clearly provide an opportunity of bringing theory to practice.

Table 8. Comparative Advantages of Selected Agricultural Insurance Products

Type of Agricultural Insurance Products	Advantages	Disadvantages/Challenges
<p>Crop Weather Index Insurance (CWII) - trigger for indemnities is based on the measurement of a weather-related variable (e.g., rainfall, temperature) at a certain weather station over a specified time interval</p>	<ul style="list-style-type: none"> • elimination of adverse selection and moral hazard • works best where there is single major weather peril which can cause severe but relatively infrequent (every 7 to 10 years) crop damage 	<ul style="list-style-type: none"> • Basis risk - the difference between the pay-out as measured by the index, and the actual loss incurred by the insured farmer(s) • Requires relatively dense network of weather stations
<p>Named-Peril Crop Insurance (NPCI) - protects producers from output losses caused by specific events, such as hail or windstorm</p>	<ul style="list-style-type: none"> • no need to collect time-series individual grower production and yield data • the sum insured can be set according to an agreed value per hectare • loss adjustment is based on percentage damage estimation to the crop 	<ul style="list-style-type: none"> • not suitable for progressive perils which impact over time on the crop such as drought • not very suitable for other perils such as flood because of the problems of anti-selection
<p>Multiple Peril Crop Insurance (MPCI) - insures physical loss of crop production or yields against a wide range of natural, climatic and often biological perils which may impact on the crop from the time of sowing to harvest</p>	<ul style="list-style-type: none"> • most widely practiced forms of crop insurance in the world • insures physical loss of crop production or yields against a wide range of natural, climatic and often biological perils. (comprehensive protection against yield losses) 	<ul style="list-style-type: none"> • Requires access to time-series individual grower and field-level crop production and yield data (7-10 years) • Very high administrative and operational costs (in excess of 15%) • high levels of anti-selection and moral hazard • Uptake is very low with nearly all existing programs operating at a financial loss
<p>Area-Yield Index Insurance (AYII) - indemnities for the insured units depend on the yield measured over a much larger area</p>	<ul style="list-style-type: none"> • Indemnity payments are made according to yield loss in a defined geographical area. Thus, administration costs are reduced. • moral hazard and anti-selection are minimized 	<ul style="list-style-type: none"> • Basis Risk - the potential difference between the insured area-yield outcome and the actual yields achieved by individual insured farmers within the insured area

05

LESSONS LEARNT



“Weather Index Insurance alone is not sufficient in terms of managing the risks along the agricultural value chain. That is because, along the value chain, there are many other risks that weather insurance doesn’t cover. For agricultural insurance to work, there must be a complete value chain approach.”

(Kofi Andoh, Deputy Commissioner, National Insurance Commission, Ghana)

Following the literature review and interaction with key industry stakeholders, the following were noted as key lessons learnt.

Simplified products sell better. Generally, literacy among the Ghanaian farming population is low and financial literacy is even lower. The evidence shows that to overcome this challenge and ensure higher uptake, products must be made simpler such that the average farmer can easily comprehend them. The experience indicates that complex index products are difficult to understand even among highly educated people. Defining insurance to the average person is already difficult enough as is, and much more so when elaborating an operational definition of agricultural index insurance.

Accurate and sufficient data is necessary. Regardless of what kind of agricultural insurance product is offered, without accurate and reliable data, the product will fall short in pricing. To be able to conduct an actuarially fair pricing, some reliable, experiential data is required. Since data is likely to be a public good, a concerted effort is required by all stakeholders to ensure that they are properly and adequately assembled and are publicly available. The data collection and formatting must be standardized in order to ensure compatibility.

Awareness creation is critical for uptake. With widespread low financial literacy, the best marketing for any insurance product will be to intensify public awareness creation. The effect of low insurance awareness on insurance uptake has been corroborated by various studies, including Ellis (2017) and USAID (2015).

Direct Sales is very expensive. It is unlikely that direct sales of insurance products can be avoided all together. One-on-one sales promotion play an important role in the introductory stages of a product, when the company is trying to ensure brand recognition. However, direct sales are generally very expensive.

The best-selling insurance products are those that have complemented direct sales with other mass market sales approaches such as distribution through aggregators, e.g. rural and community banks (RCBs), microfinance institutions (MFIs), agro-input suppliers and farmer-based cooperatives (FBOs).

Over-optimistic demand assumption can affect the opportunity to develop viable products. The market has shown that in serving the small-scale farmers, it is important to have modest assumptions and expectations. The majority of farmers in Ghana are low income earners with minimal knowledge about insurance. Nevertheless, they are not ignorant about the risks they are exposed to. The evidences show that these farmers are concern about these risks and will be willing to purchase suitable insurance products at actuarially fair prices.

A value chain approach unlocks the market. The agricultural sector is exposed to various risks and focusing solely on the insurable risks limits the chance to be client oriented. To become unique and ensure trust from the market, insurers need to be more proactive including taking interest in educating farmers on Good Agricultural Practices (GAP) early warning systems etc. According to the Ghana’s Deputy Insurance Commissioner, Mr. Kofi Andoh, to effectively serve the market with tailored products, a value chain approach is required which seeks to address the risks associated with each stage of the agriculture value chain. A value chain approach allows for a more comprehensive solution to agricultural risk which consequently will ensure farmers’ security and food security. Currently only a few crops are covered under the six insurance products on the market. However, there are many other crops that could equally

benefit from insurance. Additionally, even with the crops that are covered, only the pre-harvest risks have been prioritized. However, if we take the maize value chain, for example, several risks can be identified at both the pre- and post-harvest levels including revenue loss due to price volatility. It doesn't help the farmer very much if only a part of their risk exposure is covered. Fortunately, the GIZ-ICRM project has demonstrated a value chain approach by presenting an integrated approach to effectively manage agricultural risks. Agricultural insurance providers must learn to be proactive rather than passive observers. Investing in preventive risk management interventions such as training farmers on GAP practices, disease and pest control, as well as fire management will have positive impact on claims and farmer retention.

Agricultural insurance enables increased farm investment. Karlan et al. (2014) noted in northern Ghana that uninsured risks have a far greater impact on farm investment than capital constraints. Insured farmers were found to cultivate more acres and spend more on land preparation and inputs overall as well as engage in riskier enterprises of higher gains.

Credit-linked agriculture insurance has better prospects. Stutley (2010) noted that farmers were more willing to purchase insurance if it will help them gain access to credit. However Gallenstein et al. (2015) cautioned that the number of bank borrowers would fall by a large amount if loan insurance were made mandatory.

Subsidy is necessary up-to a certain point. Globally, the experience shows that some agricultural insurance products cannot be viable without subsidies. This was reiterated GAIP's General Manager, Alhaji Ali Katu, who opined that drought index insurance is particularly expensive for the small-scale farmers and would be better with pro-poor government subsidies. He however argued that 100% subsidies will disturb the future market. According to him, farmers should be made to pay some proportion of their premiums so as to instil the habit and discipline for paying for insurance. GAIP is lobbying for 40% premium subsidies from government (GAIP 2018).

06

RECOMMENDATIONS



“There is a greater good in trying to make agricultural insurance work in Ghana.”

(Richard Dvorin²⁹, USAID FinGAP)

Since GAIP is the major agricultural insurance player in the Ghanaian market, GAIP-specific recommendations have been provided. This section also includes recommendations for the insurance industry and government.

6.1 RECOMMENDATIONS FOR GAIP

Back its business plan with real action. Thanks to its partnership with the Strategic Alliance (STA) between GIZ and Swiss Re, GAIP now has a comprehensive business plan and a roadmap which aims at scaling up GAIP’s operations and improving its operational efficiency towards attaining profitability and sustainability. This plan will require real commitment and support, both technical and financial, from all relevant stakeholders to have it succeed.

Improve its human and technical capacity. The market is bigger and much more advanced now than it was when GAIP entered. GAIP will need to react accordingly by increasing and building its human and technical capacities to effectively serve the market. This includes enhancing both its management and operational level capacities. With funding from the USAID FinGAP and ADVANCE projects, a marketing manager and six sales personnel were added to the team. More efforts are required especially in building a stronger sales forces to promote and sell the products.

Diversify product portfolio. The market needs more tailored products to choose from. The current five agricultural insurance products are insufficient. The products focus has been on weather and crop related insurances for smallholder farmers. There are other areas including the cash crops market which could be easily targeted for agricultural insurance. It has been established that the commercial market alone has the potential to generate 80% of GAIPs revenues. Revenue Index Insurance is one other area that shows promise.

For the average Ghanaian farmer, both good and bad farming seasons poses different challenges. In bad seasons, productivity loss effects their household income. Similarly, in good seasons, price volatility also affects general income levels. Consequently, prioritizing only the pre-harvest losses by providing weather insurance cover doesn’t adequately solve the income loss challenge. According to Miranda & Mulangu (2014), revenue index insurance is such that it protects farmers from both low yields and low prices as well as embodies less basis risk compared to weather index insurance. Arguably, farmers are generally more interested in their household income security. The only way to ensure this interest is met is to shield from both yield and prices losses.

Mobilize support of stakeholders and shareholders.

There is the general impression that the 16 GAIP pool members haven’t been very supportive to GAIP’s activities and operations. Most of these pool members have well-established branch offices and sales forces across the country. It is therefore surprising that GAIP has struggled to leverage these resources to scale up its operations nationally. To expand its operations, GAIP needs to start mobilizing all the support available to it, including support from the Steering Committee (SC) and pool members. It must ensure that the SC meets regularly to provide direction.

Intensify agricultural insurance awareness creation and simplify products.

The impact of low insurance awareness on uptake has already been stated above. GAIP must formulate an awareness creation strategy that aims at showcasing its products nationally. For this to be effective, it may have to also consider simplifying its products terms and conditions and even the design to make them more understandable and acceptable.

Clarify its mission and vision as well as legal status³⁰.

The lack of clarity about GAIPs status and mandate has been a major concern to many industry players. This potentially could affect the way stakeholders interact with it. Clarity on its mandate will help it focus on strengthening its core competences. There have been varying ideas of what GAIP should or could be, including:

²⁹ Chief of Party, USAID Financing Ghanaian Agriculture Project (FinGAP)

³⁰ The Kenya Market has some good examples for GAIP including the Kenya National Agricultural Insurance Program (KNAIP), ACRE Africa Model; APA Insurance and Kenya Livestock Insurance Program (KLIP) which is now under KNAIP.

- **Become a centre of excellence for agriculture insurance development** with the primarily focus on capacity development, research and development (R&D) and support product development.
- **Establish as a limited liability insurance company** so that it can raise the needed capital to drive its business operations.
- **Continue as a coinsurance pool or evolved into an agricultural insurance consortium** like APA Insurance in Kenya. Prior to the establishment of APA, Kenya had no insurance company with the capacity or experience to insure a large group or area alone. Therefore, rather than competing for government contracts, seven insurance companies came together with the support of the government and the World Bank to establish a consortium which incorporated as APA Insurance Limited. This distinctive public-private partnership model allowed the insurance companies in the consortium to be responsible for all the functions, including signing up clients and delivering claims, while the government is responsible for paying a 50% subsidy.

- **Become an insurance broker or an agency** specialised in agricultural insurance sales as well as work closely with farmers to develop new innovative products.

Adopt a value chain approach to increase scale and establish trust. It is evident that the market needs more tailored products, including products targeting pre- and post-harvest losses, livestock cash crops etc. GAIP needs to examine the agricultural value chains and design tailored products for the most important risks. According to the Deputy Insurance Commissioner, until GAIP has managed to understand the risks associated with the agricultural value chain, it will be difficult to properly position itself as a dominant and important partner in the management of agricultural risk in Ghana.

General Industry feedback to GAIP. Below are the consolidated recommendations from key representatives at the National Insurance Commission (NIC), GAIP, the USAID-FinGAP, the Ministry of Food and Agriculture (MoFA) and GIZ on how GAIP can improve. These were shared during interviews with the respective representatives. Most emphasize some of the recommendations made above.

Table 9. Recommendations for GAIP

Recommendation	NIC	GAIP	USAID FinGAP	GIZ
Develop business plans and mobilize the financial resources to implement them	X	X	X	
Mobilize full shareholders commitment	X	X	X	
Revamp the Steering Committee (SC)	X	X		
Restructure the Organisational (Governance, Management and Staffing)	X	X		
Diversify product portfolio / Expand operations to target the commercial market	X	X	X	X
Set-up branch offices to drive sales	X	X	X	
Improve the internal Human capacity	X	X	X	X
Recapitalised to have the resources for expansion	X	X		
Incorporate GAIP as a limited liability company	X	X	X	
Intensify Agriculture insurance sensitization		X	X	
Make strong justification for government subsidies	X	X	X	X
Leverage aggregators to achieve scale	X		X	
Partner with relevant government programme such as the GIRSAL Programme	X	X	X	
Adopt a value chain approach to marketing and sales	X			X

Source: Author's interactions with industry, 2017.

6.2 THE INSURANCE INDUSTRY LEVEL RECOMMENDATIONS

Collaborate to drive insurance awareness creation. Awareness creation has a wider industry benefit and will make better economic sense if this is supported and promoted collectively by all the industry players. Because of the complexity of agricultural insurance, deliberate efforts must be put to create general public awareness about its benefits. The Ghana Insurers Association (GIA) and the National Insurance Commission (NIC) could be the drivers of this process.

Establish Public Private Partnership (PPP) for integrated risk management. The gains of the agricultural sector will benefit both the private and public sector and so are the losses. This is why an integrated agricultural risk management is required supported by all relevant players. APA Insurance in Kenya shows how PPP can ensure the overall development of the agricultural insurance sector. In the case of Ghana, the PPP arrangement will need to look beyond insurance. An integrated risk management partnership could be structured such that:

- Government / public resources are invested in areas that are typically public goods, such as data management, legal and regulatory regime / policies, awareness creation, social protection etc, while
- Private sector concentrates on providing tailored and innovative products to meet the market demands.

Leverage aggregators to minimize cost and increase scale. Partnership with large aggregators will reduce costs and ensure scalability. Some opportunities include collaborating with Input Suppliers, MFIs, Rural and Community Banks, FBOs, and Mobile Network Operators (MNOs).

Diversify the products portfolio. The six agricultural insurance products from WorldCover and GAIP are not sufficient for managing the agricultural related risks in Ghana. New innovative products are required including products for cash crops and the commercial market.

Negotiation for government subsidies should be supported by evidence. Although negotiations for premium subsidies started since GAIP's inception in 2011, the argument has not been sufficiently made for why government should prioritize agricultural insurance over the other agricultural inputs it currently subsidizes. Nevertheless, evidences show that, in most countries around the world, including developed countries such as the USA, governments provide insurance premium subsidies to farmers as a strategic sector development intervention. For instance in Chile, the government spends an average of USD 300 per farmer as premium subsidies and has since invested USD 8.6 million which has yielded an average individual claim of USD 6,300 as well as increased production of high value crops. Similarly, in Peru, subsistence farmers receive government premium subsidies against catastrophic risk. Additionally, up to 50% premium subsidies are provided to agriculture credit clients as an incentive to unlock capital for farmers. In Mexico, the government provides between 30– 60% to individual farmers. Insurance subsidies have also been used strategically by the Turkey government to boost export of hazel nuts, cherry and apricot.

Figure 7: Government Subsidies as Percentage of 2007 Premium Paid by Producers in Selected Countries



Source: World Bank Survey 2008

Note: The producer premium is the share of total premium paid by the farmer after deduction of premium subsidies. Excess claims subsidies in Kazakhstan are based on a three-year average for 2004–07. The figure for the United States excludes private crop hail insurance.

In a 2008 survey on agricultural insurance programs in 65 countries, the World Bank noted a shift from public to market-based agricultural insurance since the 1990s with governments promoting agricultural insurance through commercial insurance companies, often under public-private partnerships (PPPs). Two-thirds of the surveyed countries were reported to provide agricultural insurance premium subsidies usually in the order of 50% of the gross premium. (in Mahul and Stutley 2010). See Figure 7 above for an overview of selected countries subsidies programme.

In Karlan et al (2014) study of the Ghanaian market, they noted that farmers were more likely to increase their farm investment including investment on agricultural inputs, land preparation, and hired labour if they had weather insurance cover. Stemming from this and given the importance of agricultural to Ghana, it can be argued that premium subsidies could lead to high farm investments and increased agricultural productivity.

Some industry players have argued that a holistic system development approach should be adopted for subsidies which must be supported by a clear and deliberate policy. While some vulnerable groups may need direct insurance premium subsidies, a significant share of the subsidies should be allocated to the development of systems and infrastructure that will enable the overall agricultural insurance market development including investment on weathers stations, data, research etc.

To make the argument for agricultural insurance subsidies more compelling and evidence-based, stakeholders should consider conducting a cost benefit analysis to bring real facts and figures to the discussion table.

Establish a sound legal and regulatory environment for agricultural insurance. The legal uncertainties of the market are affecting the overall agricultural insurance market development. Immediate steps are needed to fill this gap. A legal and regulatory regime accompanied by market conduct rules is needed to provide direction and ensure stability of the agricultural insurance market. In the broader sense, a national agricultural insurance policy framework is required as the blueprint for coordinating all the agricultural insurance initiatives and efforts in Ghana. This policy must be holistic and should involve all relevant players including relevant State Ministries, international development partners, private sector and civil society.

Agricultural insurance could benefit from the microinsurance experience in Ghana. Microinsurance (MI) in Ghana also started with no adequate legal and regulatory regime in place. However, the sector has since evolved and has led to dramatic positive growth. Between 2012 and 2014, the number of lives covered by microinsurance increased by 317% from 1.8 million in 2012 to 7.5 million in 2014 (Landscape of Microinsurance in Ghana 2015³¹). Generally, this growth has been associated to several factors but key among them include

- **simplification of the microinsurance regulatory requirements** – the NIC issued simplified but innovative MI market conduct rules³² in 2013.
- **Industry-wide technical support** – since 2010, the NIC and GIZ joint project ‘Promoting Insurance in Ghana (PromIGH)’ has provided industry-wide technical support which has capacitated the insurance companies to independently develop products for the market. Between 2010 and 2014, the number of MI products almost doubled from 14 to 27.
- **Establishment of innovative distribution partnerships** – Through partnership with Mobile Network Operators (MNOs) for example, MI providers reached 4.34 million lives (representing 58% of lives covered) in 2014 (ibid).
- **Support from multinational microinsurance brokers** – the MI market in Ghana is dominated by the activities of two main multinational brokers, MicroEnsure and BIMA. They have pushed the frontier of MI in Ghana including led various innovation especially in the mobile-insurance space (ibid).

31 https://www.microfinancegateway.org/sites/default/files/publication_files/the_landscape_of_microinsurance_in_ghana_2015_0.pdf

32 <http://nicgh.org/wp-content/uploads/2016/07/Microinsurance-Guidance.pdf>

6.3 RECOMMENDATION TO THE GOVERNMENT

Adopt an integrated approach to climate risk management. The gains and traction gathered by the GIZ ICRM project need to be sustained. Although the ICRM project is ending this year, the climate risk challenges remain. ICRM has demonstrated with practical evidence how an integrated risk management

approach is a highly effective way to deal with climate risk. These experiences should be leveraged and amplified to benefit the larger population.

The integrated climate risk management approach must envelope both mitigation and adaptation measures. ICRM proposes the following risk management cycle. This cycle is such that it helps to reduce the incidence or potential impact of climate disasters.

Figure 8: The Integrated Climate and Disaster Risk Management Cycle



In the ICRM roadmap for integrated climate risk management, a number of recommendations for next steps beyond the project phases are given. Below are the insurance industry specific recommendations (MCII & GIZ 2019).

- Establish a promotive regulatory environment
- Incentivise provision and uptake of risk sharing / transfer options
- Sensitise and raise awareness to increase understanding of and trust in the different insurance mechanisms
- Promote innovative technologies for distribution as well as customer education
- Create technical support partnerships / learning arrangements in the insurance industry

For residual risks, ICRM provides options to either retain or transfer the risk to third parties. In the case of risk transfer, it could either be direct where the beneficiary arranges their own Insurance cover (e.g. a farmer buying a Weather Index insurance) or indirect where a third party who has vested interest in the beneficiaries arranges a cover on their behalf (e.g. the Government of Ghana taking a sovereign risk insurance policy through the ARC for farmers).

Ideally, low frequency disaster risks could be hedged off to sovereign pools such as the ARC while private local insurance companies provided insurance cover for the medium-to-low impact agricultural risks.

07

CONCLUSION



The agricultural insurance market in Ghana has come a long way but much still remains to be done if the over 3.37 million (51.5%) farming households in Ghana are to be adequately served with tailored and affordable insurance products (GSS 2014, 2015 Labour force report). Currently, the market has only six agricultural insurance products, most of which are concentrated in the northern part of Ghana. Smallholder farmers have been prioritized as they contribute 80% of the total agricultural output in the country (MoFA 2017a). Commercial farmers on the other hand are underserved although they could potentially generate 80% of total agricultural insurance revenues. To better meet the social development focus on smallholder farmers while also ensuring financial sustainability, there is an opportunity to broaden the scope by interlinking these two target markets. By developing further products for commercial farmers, the market can generate sufficient capital gains to complement the less profitable smallholder products. This would ensure that the providers are financially sustainably able to address the broader social agenda of providing agricultural risk protection to the smallholder farmers across the country.

Since 2011, when GAIP was established, only 53,913³³ farmers, of which 27,000 alone are due to WorldCover's market entry in 2018, have been insured out of which 5,125³⁴ have benefited from claims. To overcome the constraints of the market and rapidly increase enrolments, a number of things will have to be put in place including:

- Establishing an agricultural insurance specific legal and regulatory regime accompanied by market conduct rules and consumer protection policy,
- Clarifying the status and mandate of GAIP, which until 2018 had enjoyed exclusive monopoly of the market,
- Intensifying agricultural insurance awareness creation and simplifying products to improve knowledge and understanding of agricultural insurance among farmers,
- Encouraging the development of products tailored to each level of the agricultural value chain to ensure a comprehensive risk management solution for better security for farmers,
- Exploring Public Private Partnerships (PPP) towards an effective integrated risk management solution and optimal use of resources.

33 This is the cumulated figure from GAIP and WorldCover spanning the period 2011-2018

34 This doesn't include figures from WorldCover

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ANNEX



ANNEX

A. GAIP'S BANK CLIENTS

1. Bawku East Small-Scale Farmers Association Rural Bank (BESSFA Rural Bank)

BESSFA Rural Bank started with GAIP under the African Center for Economic Transformation (ACET) project in 2014. ACET subsidized drought WII premiums (10% of loans) for

- Selected farmers – where claims will be paid directly to them
- Selected farmers – where the claims are made in the name of the bank in order to offset outstanding loans

This was associated with a randomized controlled trial study on Weather Index Insurance across northern Ghana led by the University of Ghana, Ohio State University and the African Centre for Economic Transformation.

Under this project, BESSFA was the largest customer of GAIP making up roughly 50% of its portfolio. In 2015, a total of 214 farmers were covered. The ACET project ended in 2016.

In 2017, the bank was fully engaged with GAIP in respect of Multi-Peril Crop Insurance in the 2017/2018 farming season. They insured 1,924 individual farmers against credit default that could result from the covered perils. The premiums rate was 3% of the loan sum. Between 2014 – 2016, none of the BESSFA farmers received any pay-outs. However, in 2017, claims were reported for the farmers affected by drought conditions

Their farmers are generally concerned about the claims since none of them have experienced a pay-out. Also, a majority are not well educated about the products. Further reduction in premiums, prompt payment of claims, and intensive education will be the key drivers to uptake. The bank is giving out more loans since their partnership with GAIP.

2. Bonzali Rural Bank Ltd

Bonzali Rural Bank Ltd. also started with GAIP under the African Center for Economic Transformation (ACET) project in 2014. When the project ended in 2016, they were initially unable to continue. However, in 2017 they negotiated new terms with GAIP on MPCCI at a premium rate of 3% of the loan sum. Consequently, 118 individual farmers (75M, 43F) were insured under their group loans policy. As at 2017, customers of Bonzali Rural Bank Ltd didn't experience any claim pay-out.

In terms of challenges, the Bonzali Rural Bank's management were concerned about the limited window within which to enrol their farmers. They are given up-to June to enrol farmers which is only 2 months into the farming season in northern Ghana. They argued that, the farming season is irregular and as a result some farmers plant later in the season. Consequently, with a fixed June deadline, it will mean that those farmers will always miss the opportunity to getting insured. Their other concern had to do with the limited number of weather stations which has resulted in cases where farmers experience drought condition but because there are no weather stations to report the rainfall levels, they don't get a pay-out. They will therefore want GAIP to act quickly to reduce these incidences of basis risk. Other additional feedback to GAIP include,

- To intensify farmers education on products
- A reduced premium will increase enrolment significantly

Generally, the management alluded that since they started this partnership with GAIP, they have had more confidence in farmers and are giving out more loans than before.

B. STAKEHOLDERS INTERVIEWED

Table 10: List of Interviewed Stakeholders / Key Informants

#	Name	Institution	Position	Email / Contact	Form of Interaction
1	Mr. Kofi Andoh	National Insurance Commission (NIC)	Deputy Commissioner	kandoh@nicgh.org	Interview
2	Mr. Kingsley Kwabahson	Ghana Insurers Association (GIA)	Ag. CEO	+233277427079; +233505389815	Interview
3	Mr. Godwin Anku	Ministry of Finance and Economic Planning (GIRSAL Contact)	Principal Economist	GAnku@mofep.gov.gh	Interview
4	Christopher Sheehan	WorldCover (affiliated to QIC)	Co-founder / CEO	chris.sheehan@worldcovr.com	Interview
5	Melanie Bacou	WorldCover (affiliated to QIC)	Head of Research	melanie.bacou@worldcovr.com	Interview
6	Jochen Ramcke	GIZ Programme for Sustainable Economic Development (PSED)	Head of Financial Systems Development (FSD) Unit	jochen.ramcke@giz.de	Interview
7	Foster Boateng	The Alliance for a Green Revolution in Africa (AGRA)	Country Director	FBoateng@agra.org	Email Exchanges
8	Paa Kwesi Awuku-Darko	The Alliance for a Green Revolution in Africa (AGRA)	Associate Program Officer-FISFAP	PKAwuku-Darko@agra.org	Interview
9	Dokurugu, Bashiru Musah	The Alliance for a Green Revolution in Africa (AGRA)	Associate Program Officer-FISFAP	BDokurugu@agra.org	Interview
10	Tara Chui	Feed the Future Assets & Market Access (AMA) Innovation Lab, University of California,	Assistant Director	tlchui@ucdavis.edu	Interview
11	Rose Evelyn Debrah	Ghana Agricultural Insurance Pool (GAIP)	Agro-meteorologist	rosevelina@gmail.com	Interview
12	Alhaji Muhammad Katu	Ghana Agricultural Insurance Pool (GAIP)	General Manager	muhammedkatu@yahoo.com; a.mkatu@gaip-info.com	Interview
13	Dzigbodi Azumah	Ghana Agricultural Insurance Pool (GAIP)	Underwriting Officer, Agriculture	d.azumah@gaip-info.com	Email Exchanges
14	William Annor Adu	Allianz Insurance Co. Ghana Ltd	Head of Business Development	william.adu@allianz-gh.com	Interview
15	Yvonne Osei-Addo	Allianz Insurance Co. Ghana Ltd	Manager, Broker Department	yvonne.osei-addo@allianz-gh.com	Interview
16	Paul Pascal M.T.M Therson	Allianz Insurance Co. Ghana Ltd	Head of Retail	Paul.therson@allianz-gh.com	Interview
17	Monica Addison	Bureau of Integrated Rural Development (BIRD) of the Kwame Nkrumah University of Science and Technology (KNUST)	Researcher	addison.canr@knust.edu.gh; monicaddo72@gmail.com	Email Exchanges
18	Bernard Nana Acheampong	Affiliate of BIRD	Researcher / Agricultural Insurance Expert	blezzinz@yahoo.com; 0262005200	Interview
19	Branko Wehnert	GIZ – ICRM	Team Leader	branko.wehnert@giz.de	Interview
20	Nafisah Akudbillah and George Johnson	GIZ – ICRM	Project Staff		Interview

#	Name	Institution	Position	Email / Contact	Form of Interaction
21	Dyllis Hammond	Ministry of Food and Agriculture (MoFA)	Directorate of Crop Services	dyllich@yahoo.com	Written feedback
22	Richard Dvorin	USAID Financing Ghanaian Agriculture Project (USAID FinGAP)	Chief of Party	Richard.Dvorin@thepalladiumgroup.com	Written feedback
23	Genius Kissiedu	Stanbic Bank	Agricultural Specialist	kissiedug@stanbic.com.gh	Written feedback
24	Madeleen Husselman	Innovation for Poverty Action (IPA)	Country Director	MHusselman@poverty-action.org	No feedback received
25	Mr More	Bonzali Rural Bank Ltd	Credit Manager	info@bonzaluriruralbank.com	Written feedback & Interview
26	Mr Abugri Azimbe	Bawku East Small-Scale Farmers Association Rural Bank	Insurance / Marketing Co-ordinator	bessfarb@yahoo.com; bessfarb@gmail.com	Written feedback & Interview

C. GAIP'S FLYERS

GHANA AGRICULTURAL INSURANCE POOL

The aim of the Ghana Agricultural Insurance Pool (GAIP) is to protect farmers and other players in Ghana's agricultural industry from the negative effects of climate change. It is achieving this through the development of a sustainable portfolio of innovative insurance products that mitigate the financial risks associated with the predicted rise in temperature and other extreme weather events.

Climate experts estimate that by 2100, the average daily temperature in Ghana will have risen by three degrees Celsius while rainfall will have decreased by between 9 and 27 per cent depending on the region. More extreme weather patterns are anticipated that will lead to higher rates of crop failure and fertile land being lost to production. This represents a significant challenge to the farmers who would see their income impacted, the banks who finance them and face higher rates of default, plus the agricultural suppliers who support the industry with seed and fertilizers and other inputs, which are often bought on credit. GAIP therefore caters for two clientele base. At the 'micro-level' are the farmers, who can buy cover directly from GAIP to cover their crops and at the 'meso-level' are the financial institutions and input suppliers who can purchase insurance to protect their portfolios.

STRUCTURE OF GAIP

The policy-coordination and advocacy of GAIP is undertaken by the **Steering Committee**. The eleven member institutions which comprise National Insurance Commission, Ministry of Finance, Ministry of Food and Agriculture, Ghana Meteorological Agency, Ghana Insurers Association, Ghana Re, Farmer representatives, two local banks and donor partners are responsible for the oversight of agricultural insurance in Ghana. In addition to coordinating the implementation of the public/private agricultural insurance system, they are also responsible for policy formulation and public sector support. In May 2011, the Ghana Agricultural Insurance Pool was formed comprising of 19 non-life insurance companies. A **Management Board** of the Pool was established which is responsible for programme decision-making and strategic planning going forward. Day-to-day operations of the Pool are managed by the **Technical Management Unit (TMU)**. Technical support to the TMU is provided by an advisory body, the **Technical Committee on Agricultural Insurance (TCAI)**, which comprise of representatives from the insurance companies, the National Insurance Commission and donor partners. Sales of policies will be made initially through meso-level institutions (e.g. NGOs, banks, input suppliers etc) who are in direct contact with farmers. In the future, it is planned to actively involve the Pool member companies in the marketing and promotion of GAIP products.

BENEFITS OF AGRICULTURAL INSURANCE

GAIP aims at developing and rolling out a broad range of agricultural insurance products starting with Weather Index Insurance (WII), whereby payouts are determined by rainfall levels during key phases of crop development within the defined proximity to a weather station run by the Ghana Meteorological Agency (GMA). For example, if there are more than 12 consecutive dry days (a rainfall < 2.5mm), it will automatically trigger a payout to policy holders.

This will benefit farmers by protecting the production capital against extreme weather patterns and allow them to remain in production following a disaster. Insurance coverage will allow greater access to credit and inputs for more farmers and encourage greater investment in agriculture as farmers increase in confidence and aim to further commercialize their farming activities. This in turn could lead to greater access to broader and even international markets. Banks are likely to expand their agricultural lending portfolios once the risk of default is reduced via relevant insurance products, increasing their profitability in the process.

Agricultural input suppliers who pre-finance inputs such as seed and fertilizers would no longer risk big losses as a result of crop failures. Insurance coverage enhance their chance of success, bringing stability to their business. Agricultural insurance 'vicious circle' whereby due to climate change more boldly and take on

Multi-Peril Insurance

Multi-Peril Insurance (MPI) is an insurance product that protects the farmers against losses from natural or climatic challenges, or what is called peril, that affect the yield of any of your agricultural products or livestock/poultry.

WHO QUALIFIES FOR WHAT COVERAGE?
Large scale farmers (crops/livestock/poultry) in all regions with data on production history are eligible. Insurable perils are different for each crop or animal, but typically drought, excessive rainfall, fire, windstorm, uncontrollable pests and diseases are included. Examples of insured products include maize, soya, rice, rubber, poultry, citrus, bananas, etc.

YOUR BENEFITS:

- Protection against financial losses provides you with the confidence to expand your farm for more profits.
- Your financial investments in agribusiness are protected against losses from insured perils.
- Insurance enhances your ability to repay credit in years of bad yield and provides an additional security for bank facilities.

WHAT IS NEEDED FROM YOU?

- Yield history
- Types of crops, acreage planted, planting dates
- Description of farm practices and input management is needed for considering what tailor-made product would suit your farm the best.

FIELD INSPECTIONS

Any production challenges to your yield beyond your control need to be identified and can be insured under your policy. Your farm will be inspected over three stages. These are: (1) Emergence (2) Mid-Season (3) Pre-Harvest stages. In stages (2) and (3), the insurer will inspect your farm to check best farm management practices to put you on track to reach long-term average yield potentials. Your eligibility for insurance cover would be based on a satisfactory emergence report.

Drought Insurance

Time to insure your crops!

YOUR BENEFITS:

- Available for maize, millet, soya sorghum.
- Get compensation when your farm is affected by drought of low rainfall.
- No follow-ups on claims necessary by you, because of automatic payouts.
- Increasing chances to get a loan from financial institutions.

WHAT TO DO:

- Call your local Agent before the beginning of the season
- Pay insurance premium
- Enjoy insurance for whole season
- Get a payout in case of severe drought

Call us for excellent solutions. 0208133163 - 0201468010 - 0242133713

"After receiving a payout from gaip, I am back to business with renewed confidence to invest more in my farming business. I can't wait to buy again this year. I advise every farmer to see farming as a business, and as most serious minded business men and women buy insurance to protect their investments."

*Alhaji Zakaria Alhassan
Managing Director of Gundaa Produce Company, Tamale*

Table 11: GAIP's products description

Type of Agricultural Insurance Products	Product Description
Drought Index Insurance	<ul style="list-style-type: none"> • Intended for the smallholder farmers who are distant and scattered, often with a farm size between 1 acre and 49 acres. It uses an external index (parameter) to determine the pay-outs, based on the triggers set at the beginning of the contract. • The pay-outs are made to farmers exactly one month after the end of the farming season based on the rainfall data provided by GMet or a satellite data provider. • Since it is a product for drought, the deficit of rainfall (scientifically determined volume of water required by the target crop) and how the water is distributed are set as the triggers to determine pay-outs at the end of the farming season. • One of the major challenges of this product is basis risk and its inability to cover other risks experienced by the farmers.
Multiple Peril Crop Insurance (MPCI)	<ul style="list-style-type: none"> • Covers against a wide range of natural, climatic and to some extent biological perils. It is meant for large scale farmers (50 acres or more farm size) with sufficient cropping data. Cereals, tree crops, horticultural crops, etc. could be insured under this cover. Indemnity is yield based. • Other stakeholders who have insurable interest in the business of the farmer could also take the policy to protect their investments. • Compensation is made following the occurrence of loss through any of the insured perils and assessment of the extent of damage to quantify the loss has been carried out.
Multi-Peril Insurance (MPI) for Poultry	<ul style="list-style-type: none"> • The product offers protection for financial investment of poultry farmers as well as the other key stakeholders who have insurable interest in the business of poultry farmers. The product provides cover against poultry mortality due to the insured perils (such as accidents, windstorm, lightning, flood, fire, burglary, uncontrollable diseases, etc.). • In the event of a loss, an assessment will be conducted to ascertain the actual cost and the compensation to be paid.
Livestock Insurance (underdevelopment)	<ul style="list-style-type: none"> • Will cover accidental deaths of livestock resulting from disease infection. Currently only poultry is covered.

Source: GAIP, 2019 (see annex C above for further details)

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