

Bancassurance: Its Impact on Insurance & Financial Inclusion

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Abstract

The objective of this research paper is to study the impact of bancassurance on insurance and financial inclusion. The research investigate the impact using a real life case study of a bancassurance strategy between United Insurance Company and Ebdaa Bank for Microfinance.

Data concerning certain indicators from (number of saving accounts, consumption portfolio size, investment portfalio size and number of insured) is analysed using both correlation and regression for the years 2020,2021 and 2022 to see the impact of bancassurance application on these indicators as reflectors of financial inclusion and insurance expansion.

The research (using statistical results) concludes that; bancassurance has a positive impact on insurance and financial Inclusion.

Bancassurance: Its Impact on Insurance & Financial Inclusion

1. Background

Bancassurance is a business model in which a bank engages into a contract with an insurance company to promote its goods and services in exchange for a fee depending on the contract's terms (Shah & Salim, 2016). Bancassurance has aided commercial banks in expanding the products and services they offer to their customers, improving customer satisfaction and retaining the majority of their customers (Elpash, 2015).

2. Evolution of Bancassurance

In 1980, France was the first country to introduce the idea of bancassurance, to fulfill the consumers' demand for a pension plan, which at the time wasn't accessible to everyone. Since that time, bancassurance has made a strong imprint on the European markets, gaining a third of the total European life and pension market. Bancassurance also dominates the life insurance market in other nations, including Portugal, Spain, and France.

Although bancassurance is deemed to be a relatively new phenomenon, where participation in the insurance industry is frequently considered as an aside, there is a much wider empirical study stream that deals with bank diversification in businesses outside of the traditional deposits and lending sector. Most research on bancassurance has simply been descriptive in nature, as described in Chen et al. (2009), giving a wide view into the economic justifications, benefits, and downsides for all of the involved institutions. The potential of bancassurance combinations as a new business model for financial firms has only been somewhat quantified by academics. Bancassurance-focused empirical analyses are hampered not only by the phenomenon's recent emergence but also by the paucity of publicly available data.

The experience of several countries with regard to bancassurance was validated by Chawla and Singh (2008). They recommended that in order to fully profit from bancassurance, concerns including tie-ups, client awareness, and bank employee understanding need to be addressed. In their study, "Key Variables Influencing Bancassurance Success - Mainland China Evidence," Fan and Lee (2010) discovered that factors including the formation of integrated groups are viewed as being more crucial for bancassurance. In his study, Jongeneel (2011) compared several nations and discovered that bancassurance performed best in those where insurance markets were still in their infancy. In his work, Sorina (2012) examined bancassurance from many angles. He recommended that banks offer a variety of insurance solutions that are connected to the current banking products to better serve.

As outlined in Chen et al. (2009), most studies focusing on bancassurance have only been descriptive in nature, providing a broad insight into the economic rationales, advantages and drawbacks for all of the involved institutions. Only a few authors have provided quantitative findings on the viability of bancassurance combinations as a new business model for financial firms. Empirical analyses focusing on bancassurance are hindered not only by the recent development of the phenomenon, but also by the availability of limited public information: for example, looking at a bank profit and loss account, it is quite difficult to distinguish the weight of the insurance business from other sources of non-interest income. And it is not easy to collect information on different forms of cooperation between the banking and the insurance industries, especially in respect of 'soft integration', such as non-equity strategic alliances or cross-selling agreements.

3. Statement of the problem

Bancassurance refers to the sale of insurance through banks. In a partnership, banks market insurance products to their respective clientele. The bancassurance arrangement is advantageous to both businesses. A bank and an insurance company will enter into a "bancassurance" agreement so that the insurance provider can sell to the bank's clients. Without needing to enlarge its sales force, the insurance firm gains from higher sales and a larger clientele. In bancassurance models, banks generate risk-free income **by way of commissions from insurance carriers**. The primary and only risk carrier is the insurer and the banks earn a steady stream of income just by facilitating and placing insurance business with their own customers.

According to financial experts, Bancassurance has been hailed as a viable tool for increasing financial inclusion and insurance penetration. By leveraging the initiative, banks and insurance companies will be able to access both industries' assets and customers to offer banking and insurance services through one point of access. Customer service would be expanded through a banking assurance partnership. In areas where the bank already has branch offices but where the insurance companies are not yet represented, bancassurance permits their presence. In this method, the insurance firm can avoid spending a lot of time and money on creating its own network of branches.

Bancassurance is considered a win-win partnership for banks and insurance companies. "It covers both the loan and the borrower against major risks.

Generally, in Arab and African countries insurance income average contribution to GDP doesn't exceed 3%. In Sudan according to the statistics of the insurance regulator insurance income average contribution to GDP doesn't exceed 0.5%, while financial inclusion is about 4% which means that a lot of Sudanese sectors are excluded from insurance coverages and banking transactions.

The distribution of insurance products through banking networks - called bancassurance - is slowly developing in Africa. While the channel is still in its infancy, the potential benefits for financial institutions looking to expand their non-funded income streams and insurance firms looking to expand their client base indicate that bancassurance will play a significant part in the business' future development (Ombonya, 2018). This research paper will address and measure the impact of applying bancassurance strategy to partner financial institutions on a real case study basis.

4. Research Objective

The objective of this research is to investigate the contribution and impact of bancassurance on insurance & financial Inclusion. It aims to show how bancassurance helps in financial inclusion and insurance expansion in Sudan with application to a certain case study using defined indicators.

5. Research Question

Does bancassurance has a positive impact on financial inclusion and insurance?

6. Research Methodology

Correlation and regression are used. Correlation and regression analysis are statistical techniques that are broadly used to examine causal relationships between variables.

Regression and correlation measure the degree of relationship between two or more variables in two different but related ways.

In statistics, the coefficient of multiple correlation is a measure of how well a given variable can be predicted using a linear function of a set of other variables. It is the correlation between the variable's values and the best predictions that can be computed linearly from the predictive variables. Pearson's linear correlation coefficient only measures the strength and direction of a linear relationship.

Regression analysis encompass to identify the relationship between a dependent variable and one or more independent variables. Regression calculates the "best-fit" line for a certain set of data. The regression line makes the sum of the squares of the residuals smaller than for any other line. In regression analysis, a single dependent variable, Y, is considered to be a function of one or more independent variables, X1, X2, and so on.

Secondary Data for the study was collected using a secondary data collecting sheet from both bank and company records.

7. Bancassurance in Sudan

Despite bancassurance in Sudan is allowed by the regulatory authorities but no standard frame work is available, it is not yet commonly practiced.

Some insurance companies in the Sudanese insurance market have applied the strategy of bancassurance but in different ways, Banks are acting as agents for

these companies according to certain agreements but not official bancassurance relationships.

8. Financial Inclusion

The process through which a society has access to various financial services (credit, savings, insurance, payment, and pension services), as well as financial education tools, with the aim of enhancing its material circumstances of well-being, is referred to as financial inclusion.

Well-functioning financial systems serve a vital purpose, offering savings, credit, payment, and risk management products to people with a wide range of needs. Yet until now little had been known about the global reach of the financial sector - the extent of financial inclusion and the degree to which such groups as the poor, women, and youth are excluded from formal financial systems. Financial inclusion is important for the poor as it provides them opportunities to build savings, avail credit, make investments and equips them to meet emergencies.

9. Financial Inclusion in Sudan

Sudan still has a low level of financial inclusion. Despite having 37 banks and 44 microfinance institutions, Sudan is regarded as one of the nations with lower rates of financial inclusion when compared to other Arab nations. Only approximately 5% of the population benefits from financial services provided by banks and other financial organizations. This is due to the fact that the majority of financial services target consumers in urban regions, whereas the majority of people, especially smallholder farmers, live in rural areas (Central Bank of Sudan).

Card penetration is really low. The small percentage of online payments serves as an indicator that e-commerce is still in its infancy. However, this also suggests that there is a sizable market that can be served, for both small and retail firms. The Sudan faces a significant obstacle to financial inclusion. Financial inclusion has been hampered by persistently poor economic performance. Only 15.3 percent of adults (aged 15+) in Sudan have a financial account, making it the country in Sub-Saharan Africa with the lowest financial inclusion rate. As the lack of bank notes in 2018 has harmed public confidence in the financial sector, cash is frequently used in retail transactions. From around 45 percent prior to 2018 to 79 percent in November 2019, the Sudan's cash to deposit ratio increased significantly. Because of their lack of financial literacy and awareness, user behaviors also consistently prefer cash-based products.

10. Key Indicators

The following figures give an indication of the severity of the problem of financial exclusion in our country (Sudan), only 15% of individuals (15+) had a bank account, 8% saved money in a formal financial institution, and 4% took out loans from a formal financial institution, according to Findex (2014).

Population and Financial Inclusion Indicators	
Population in million (2022)	47,958,856
Density	21.3/km ² (55.2/sq./mi) (2022)
Financial Inclusion Indicators	
Access to bank account (2014)	15.20%
Savings in Formal institutions(2014)	8%
Borrow from financial institutions(2014)	4%
Some other indicators are included here as well:	
Account (% age 15+)	15%
Account, female (% age 15+)	10%
Made or received digital payments in the past year (% age 15+)	12%
Received wages or government transfers into an account (% age 15+) (Global Findex database, 2014)	3%
Mobile agent outlets per 100,000 adults (Financial Access Survey, 2017)	35%
SMEs with an account at a formal financial institution (Enterprise Surveys, 2014)	98%

The Sudanese government has launched a number of programs over time to encourage financial inclusion. The establishment of a microfinance unit within the Central Bank of Sudan (CBOS) in 2007, the mobilization of CBOS and donor support (credit lines and technical assistance to the microfinance sector), and the introduction of regulations requiring commercial banks to allocate at least 12% of total financing to microfinance are examples of direct models. The increase in lending (especially in the microfinance sector) and decrease in NPLs are both attributed to the government's establishment of a credit registry in 2011. With the creation of a registry for both movable and immovable collateral, efforts are also being made to enhance collateral frameworks. Lastly, the government has begun to implement digital payment methods.

This research paper will introduce a bancassurance model that was applied in Sudan between the United Insurance Company (Sudan) and Ebdaa bank for microfinance regarding agricultural insurance product which is weather index insurance for crop.

United Insurance Company was established at the end of 1968 by leading businessmen as a private insurance company to serve and develop the insurance

industry in Sudan benefiting from the international experiences of the shareholders and their deep business relationship with the British insurance market. The company a serious start, successful steps and a solid base forward backed by dedicated, qualified, and visionary employees, which led the company to assume the leading position it deserves in the Sudanese insurance market in general. In addition to the commitment to the principles and ethics of the profession.

The financial sector partner in this bancassurance, EbdAA Bank for Microfinance, is a privately held joint stock firm that offers sustainable financial services to small business owners and fosters the culture of micro and small financing. A collaboration agreement between the Arab Gulf Programme for Development (AGFUND) and investors from the Arab and Sudanese private sectors led to the establishment of the Bank of Innovation in Sudan in 2013. Target clients are the same as those of AGFUND. It is a specialized bank that is concerned with providing microfinance for small households.

EbdAA has a total of 90,000 customers and 60,000 represent the smallholder farmers. Out of 60,000 smallholder farmers there are 35,000 active farmers in a given year and 25,000 active farmers per season. Most of its clients, 90 per cent, are women, and they are organized into groups and served by 49 field staff, operating from 19 branches. Most of the bank's clients use murabaha finance, but EbdAA also offers bai salam or advance purchase and profit- and loss-sharing partnership finance to smallholder farmers. They are serving close to 25,000 smallholder farmers per season. For EbdAA insurance is a new business line and has huge potential to unlock growth directly and indirectly EbdAA branch network (operational in all blue regions)

As partners we believe combining micro insurance with loans should boost take-up and reduce costs, but if the insurance and/or loan are rejected, it could also reduce financial inclusion. In Sudan, there are no regulations preventing banks and insurers from working together.

The applied strategic alliance model is one in which a voluntary crop micro insurance product is made available together with a loan application from EbdAA bank which is called (WIBI), Weather index based insurance, for crop that may serve as an alternate risk-transfer strategy for rural communities in developing nations. (WIBI) is a form of insurance product built around the construction of a weather variable that is thought to strongly correlate with losses and on which the instance and size of the payout is based. It is an invention that is intended to assist farmers in managing risk by offering different coverage options that solve some of the drawbacks of traditional insurance contracts. WIBI can help insurance companies, rural banks, and other microfinance organizations manage the risk associated with the agricultural loans they are releasing. Its creative design makes

it possible to target the underprivileged. The plan could compensate for loan defaults and liquidity issues brought on by weather-related stress. The concept that bundling microfinance products is more of an opportunity than a limitation and is supported by the fact that the delayed offer of insurance had diverse effects by crop but had no impact on overall insurance take-up or coverage quantity.

Crop WII insurance product that was used during the financial education initiatives was developed by joint efforts between us (United), Ebdaa bank and Syngenta foundation experts. It is Sharia compliant and approved by Insurance Regulatory in Sudan. It is used in our bancassurance module since it is sold through Ebdaa banks to their different clients through their branches in different rural areas tied with micro credit as one of the microfinance services. Ebdaa will take the role of distributing the product and the United insurance company underwrites the risk. The joint type of partnership will unlock new products for smallholder farmers in rural areas.

The partners will take lead in market development, such initial work will create good platform for future development of Agriculture and climate insurance solutions.

11. Bancassurance models

The bancassurance adopted model that was introduced above is based on the prevailing bancassurance models. Different prevailing bancassurance models are used by the insurance provider and the banks to form a relationship. These models are: Distribution Agreement, Strategic Alliance, Joint Venture, Financial Services Group.

Our model is based on the **Strategic Alliance** arrangement where we, as an insurance company are able to take advantage of the bank's infrastructural facilities and commissions represented s an extra source of fee income for banks.

There was an amalgamation in product development based on customer needs and channel management as required. Although we had less control over distribution but were able to share customer database with Ebdaa bank. Bank staffs were very cooperative to sell insurance to their customers. The model achieved the following benefits:

- Access to a risk transfer tool for smallholder farmers
- Unlocking access to finance for smallholder farmers by bundling insurance with credit
- Increase financial literacy achieved through training modules
- Creation of distribution channel business model that create new business opportunities to partners.
- Increased in production created by confident in smallholder farm investment.

According to the aforementioned figures regarding financial inclusion in Sudan, Ebdaa has a more direct financial inclusion role since they are working closely to customers. The new insurance products are expected to bring value to loan packages. The bundling concept is expected to create a win-win business model for the bank and farmers. In case of drought situation farmers will get compensation and be in a position to settle their loans

A team from both parties performed a baseline survey to gauge farmers' understanding of insurance and general financial literacy as part of the model to provide crop insurance solutions

in Sudan. The research showed that most farmers were unaware of how agricultural insurance functions and had a poor grasp of money management. The agriculture value chain (AVC) stakeholders and smallholder farmers therefore needed to develop a solid basis of knowledge on credit, savings, and insurance, particularly credit-linked climate risk insurance solutions.

Certain modules were designed by Ebdaa bank to improve low-income families' basic financial literacy, increase their use of insurance products, and give them the confidence to invest more in their farms. This will increase farm productivity during favorable weather events and improve their financial resilience during adverse weather, such as drought and excessive rain.

The financial literacy initiatives targeted both demand-side (smallholder farmers and aggregators from microfinance institutions [MFIs]) and supply-side (reinsurers and insurers) actors for agriculture insurance. The following findings are highlighted by the model: These modules were designed to improve low-income families' basic financial literacy, increase their use of insurance products, and give them the confidence to invest more in their farms. This will increase farm productivity during favorable weather events and improve their financial resilience during adverse weather, such as drought and excessive rain.

The financial literacy efforts addressed both supply-side (reinsurers and insurers) and demand-side (smallholder farmers and aggregators from microfinance institutions [MFIs]) actors for agriculture insurance. Farmers on the demand side were interested in utilizing agricultural risk transfer solutions supported by training and information sharing, supply-side insurance businesses realized that, the poor penetration wasn't caused by a lack of need or willingness, but rather by a lack of information and awareness, by raising knowledge and competency, financial literacy is essential for increasing insurance uptake and enhancing the lives of the most vulnerable people.

The intended audience for the financial education was smallholder farmers, the majority of whom receive microfinance from Ebdaa Bank. The objective was to

increase farmers' knowledge of risk transfer through insurance and personal financial management and planning. The FE campaigns were focused on:

1. General financial literacy: Lessons on understanding financial literacy, managing a budget and cash flow, managing financial flow, managing savings and credit, and learning about financial service providers were included in this module.
2. Risk management and agriculture insurance: This includes training in weather index insurance as well as consumer protection, lessons on climate change and its effects, appropriate agronomic practices, introduction to insurance and agriculture insurance, and farm insurance.

The following strategy and interactive technologies were used to provide the two-year annual trainings utilizing both low- and high-touch methods:

- Direct training provided by village champions and ToTs
- Media campaigns including audio and video content, such as SMS campaigns, taped radio sessions for live discussion programs, musical torches, and video graphic flicks.

During the second round of the campaigns, ResilientMe, an interactive simulation game, was released to give farmers a more engaging and useful understanding of insurance.

Our crop WII insurance product that was used during the financial education initiatives, the **Financial Education** initiatives not only met their goals, but they also produced impressive outcomes.

Results: Through the two phases of the training campaigns, the initiative achieved the following outcomes in terms of outreach:

- Phase 1: 12,000 farmers (including 9,276 women) received direct training. Additionally, 122 village champions, 31 ToTs (loan officers), and 14 Ebdaa and key partner staff members received direct training.
- Phase 2: For the indirect training, national radio campaigns, TV coverage of the trainings, and news coverage on social media video platforms each attracted 4,399,206 listeners and 4.2 million viewers, respectively. SMS campaigns attracted 150,000 mobile subscribers, including the clientele of Ebdaa Bank. For the direct training, 40,000 smallholder farmers (including 14,996 women) were exposed to the three interactive animation films and training,

The bancassurance model is applied in all bank branches but (WIBI) product was introduced mainly in rural western area of Sudan as a pilot project in the following bank branches: Alkhawei, Alsounoot, Abuzbd, Alfula, Nohood, Umrawaba, Rahad and Debebat. The United insurance company has no branches in these small cities or localities, the bancassurance model was typically applied in these branches. As a result of bancassurance, United insurance company can be present in areas where it has not yet been represented, but where the bank already has branches. It is

noticeable selling insurance products attached to the bank's products, as a financial package is much easier. Bancassurance alliance obvious impact on insurance can be proved by penetration

as the primary benefit as achieved by our company in a much more affordable way with lower expenses. With increased market penetration, increasing premium turnover is also achieved.

Ebdaa bank has distinct relationships among its customers and vast information about them as an expert microfinance institution, the bank reputation represents a major reason for buying insurance from the bank. As an insurance company we used available information to customize insurance coverage to the bank customers, our major success parameter in launching (WIBI) product was building on this information. The impact of applying bancassurance can be measured by statistical results achieved regarding insurance and financial inclusion as well. Certain indicators are used for the purpose of this research. The indicators used to measure bancassurance impact on financial inclusion and insurance are: Number of savings accounts, Consumption loan portfolio size, Investment loan portfolio size and Number of insured Farmers.

Number of savings accounts, Consumption loan portfolio size and Investment loan portfolio size are measured in different Ebdaa bank branches as indicators for financial inclusion while number of insured farmers is used as an indicator for insurance. Rate of change in the years 2021 and 2022 revealed the great effect of applying bancassurance.

Below are tables showing trends in the indicators per branches and change rate

Trends in saving accounts and rate of change (2020 / 2021 / 2022)

• Table 1 (Source: EbdAA Bank)

No.	EbdAA Bank Branch	2020	2021	2022	Rate of Change (%)	
		Year	Year	Year	2020 / 2021	2021 / 2022
1	Alkhawei	5,140.00	7,721.00	12,512.00	50.21	62.05
2	Alsounoot	5,161.00	8,814.00	10,791.00	70.78	22.43
3	Abuzbd	6,059.00	10,283.00	13,542.00	69.71	31.69
4	Alfula	5,361.00	9,811.00	13,426.00	83.01	36.85
5	Al Nohood	6,097.00	10,082.00	13,550.00	65.36	34.40
6	Umrawaba	7,740.00	12,543.00	17,069.00	62.05	36.08
7	Alrahad	5,577.00	7,146.00	11,771.00	28.13	64.72
8	Aldebebat	5,746.00	9,428.00	14,053.00	64.08	49.06
Total		46,881.00	75,828.00	106,714.00	493.34	337.28

Trends in consumption loan portfolio size SDG

• Table 2 (Source: Ebdaa Bank)

No.	Ebdaa Bank Branch	2020	2021	2022	Change Rate (%)	
		Year	Year	Year	2020 / 2021	2021 / 2022
1	Alkhwei	984,500.00	4,499,600.00	11,338,000.00	357.04	151.98
2	Alsounoot	816,740.00	1,890,000.00	14,251,300.00	131.41	654.04
3	Abuzbd	854,150.00	2,910,830.00	14,123,100.00	240.79	385.19
4	Alfula	583,150.00	1,374,000.00	7,462,000.00	135.62	443.09
5	Al Nohood	1,678,830.00	4,368,100.00	15,346,000.00	160.19	251.32
6	Umrawaba	2,870,425.00	7,853,200.00	15,681,000.00	173.59	99.68
7	Alrahad	891,830.00	2,155,000.00	11,028,240.00	141.64	411.75
8	Aldebebat	1,086,420.00	3,312,900.00	10,814,600.00	204.94	226.44
Total		9,766,045.00	28,363,630.00	100,044,240.00	190.43	252.72

Trends and rate of change are exceeding 100% for saving accounts and consumption loan portfolio respectively regarding both years 2020/2021 and 2021/2022 as they are (493.34&337.28) and (190.43 &252.72). Number of beneficiaries are almost tripled in both years.

Trends in investment loan portfolio size SDG

• Table 3 (Source: Ebdaa Bank)

No.	Ebdaa Bank Branch	2020	2021	2022	Change Rate (%)	
		Year	Year	Year	2020/2021	2021/2022
1	Alkhwei	8,860,500.00	40,496,106.00	102,042,000.00	357.04	151.98
2	Alsounoot	7,350,660.00	17,010,000.00	128,261,700.00	131.41	654.04
3	Abuzbd	7,687,350.00	26,098,470.00	127,107,900.00	239.50	387.03
4	Alfula	5,248,350.00	12,366,000.00	67,158,000.00	135.62	443.09
5	Al Nohood	15,109,370.00	39,312,900.00	138,114,000.00	160.19	251.32
6	Umrawaba	25,833,795.00	70,678,800.00	141,129,000.00	173.59	99.68
7	Alrahad	8,026,470.00	19,395,000.00	99,254,160.00	141.64	411.75
8	Aldebebat	9,777,780.00	29,816,100.00	97,331,400.00	204.94	226.44
Total		87,894,275.00	255,173,376.00	900,398,160.00	190.32	252.86
Trends in investment loan portfolio are exceeding 100% in respect of both years 2020/2021 and 2021/2022 as they are (87,894,275 & 255,173,376) and (255,173,376 & 900,398,160).						

Trends in Number of insured farmers:						
• Table 4 (Source: Ebdaa Bank)						
No.	Ebdaa Bank Branch	2020	2021	2022	Change Rate (%)	
		Year	Year	Year	2020/ 2021	2021/ 2022
1	Alkhwei	246.00	226.00	100.00	-8.13	-55.75
2	Alsounoot	229.00	200.00	767.00	-12.66	283.50
3	Abuzbd	210.00	593.00	699.00	182.38	17.88
4	Alfula	221.00	55.00	0.00	-75.11	-100.00
5	Al Nohood	297.00	411.00	440.00	38.38	7.06
6	Umrawaba	0.00	896.00	627.00	0.00	-30.02
7	Alrahad	186.00	257.00	0.00	38.17	-100.00
8	Aldebebat	481.00	468.00	460.00	-2.70	-1.71
Total		1,870.00	3,106.00	3,093.00	66.10	-0.42

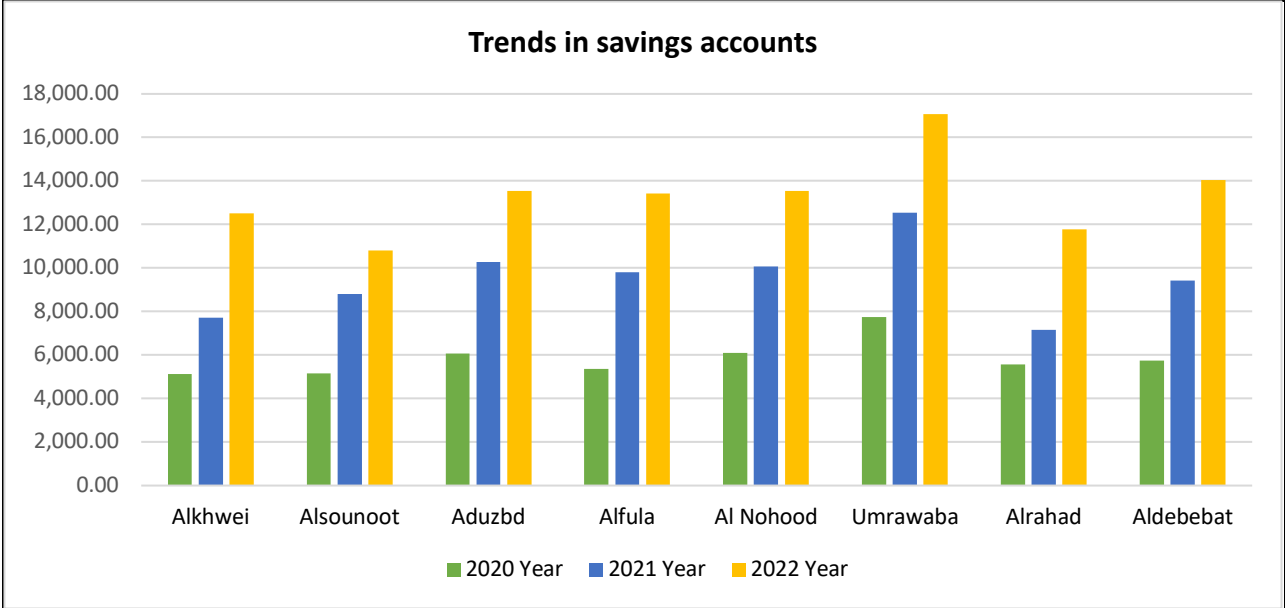
Data shows different trend in the number of insured farmers as there was an increase amounting to 66% in 2021 but slight decrease in 2022 of less than 1%. Both Alfula and Alrahad farmers were not financed due to heavy rains in 2022 which clearly affects the rate of change, bank employees were not able to reach farmers in far villages there.

Graphs showing trends and change rate in the indicators per branches:

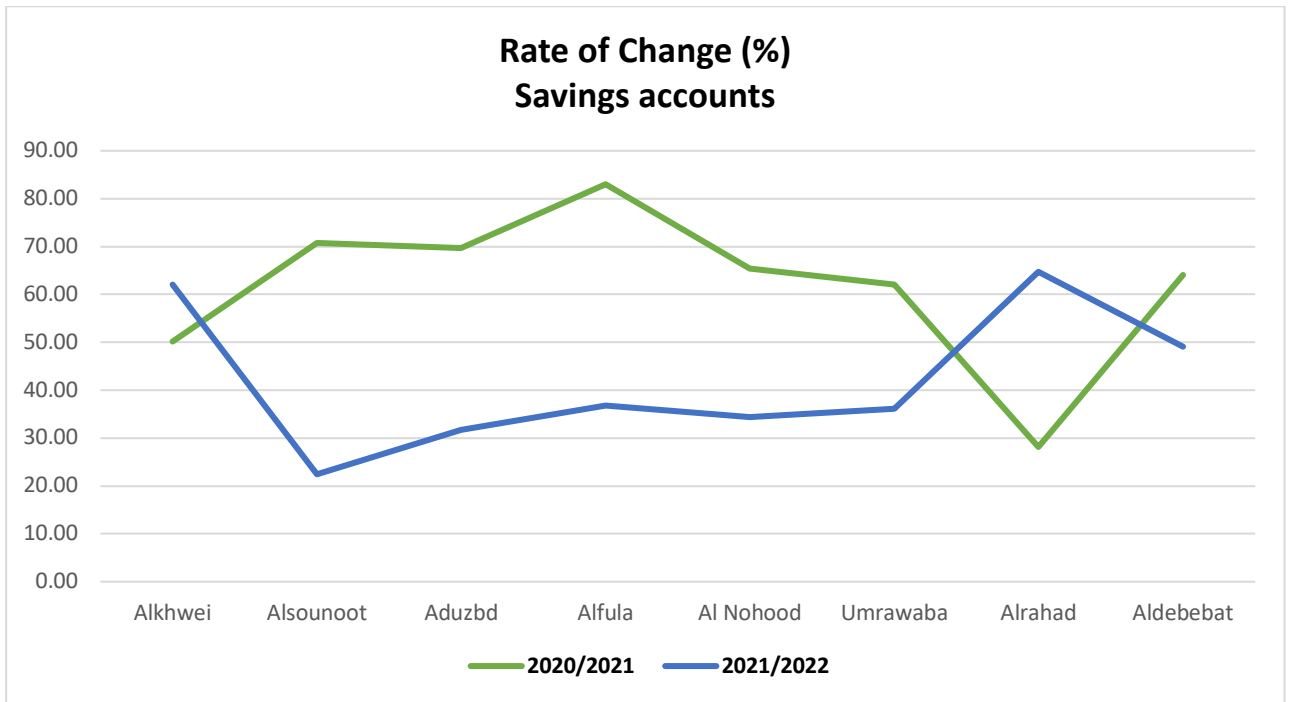
In the next section of this research information will be conveyed graphically which is important in presenting statistics.

Graphical representation is used for visual display to show patterns, trends, and relationships of the different indicators. Pronounced trends are revealed by line and bar graphs where data comparison is much easier. All figures are condensed into easy-to-understand formats that clearly and effectively communicate important points about the performance of the different bank branches over the defined period

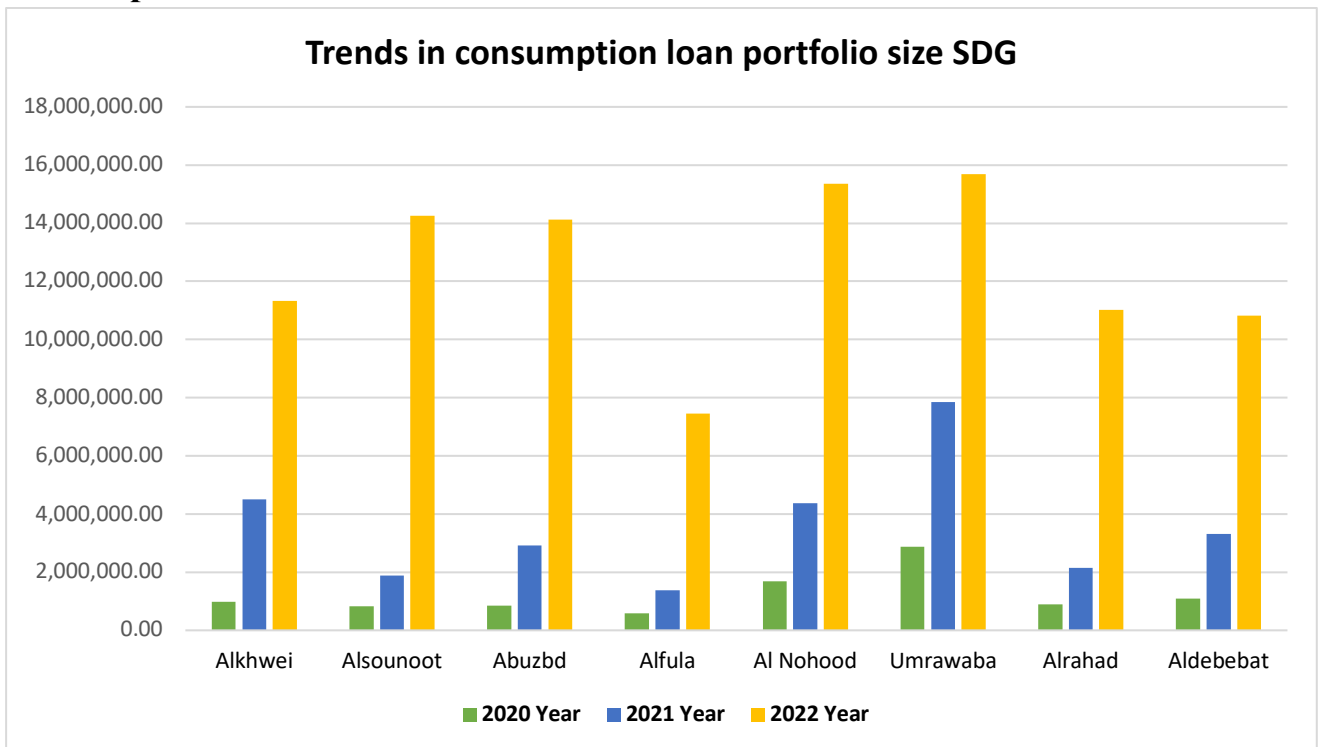
- **Graph 1**



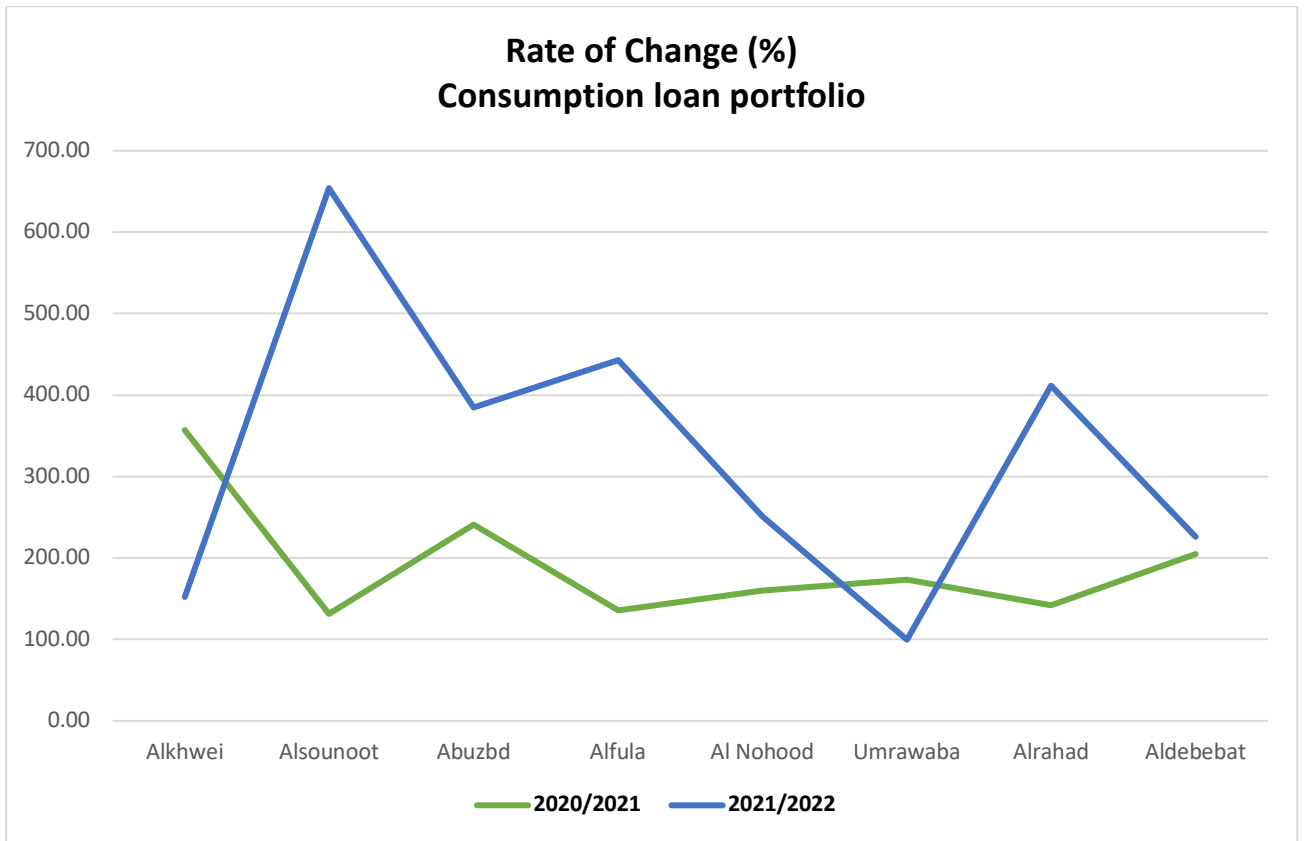
- **Graph 2**



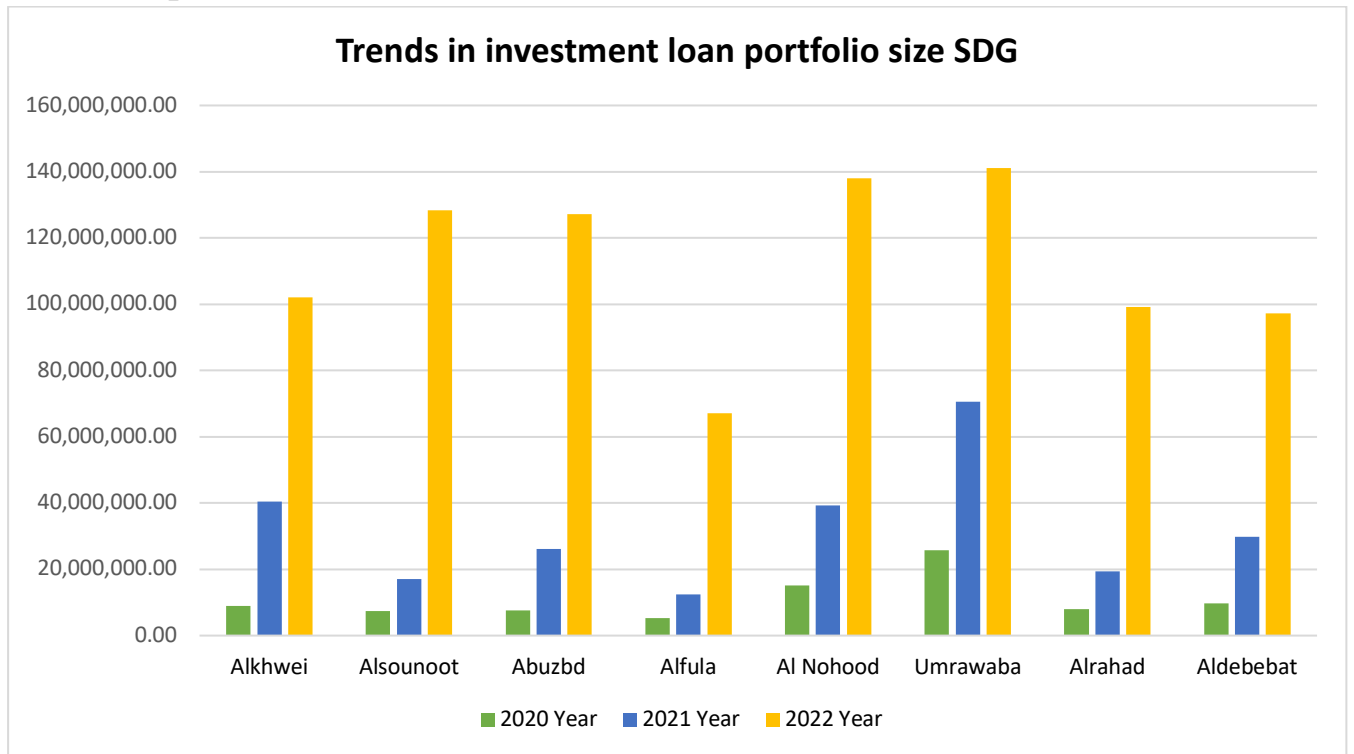
• **Graph 3**



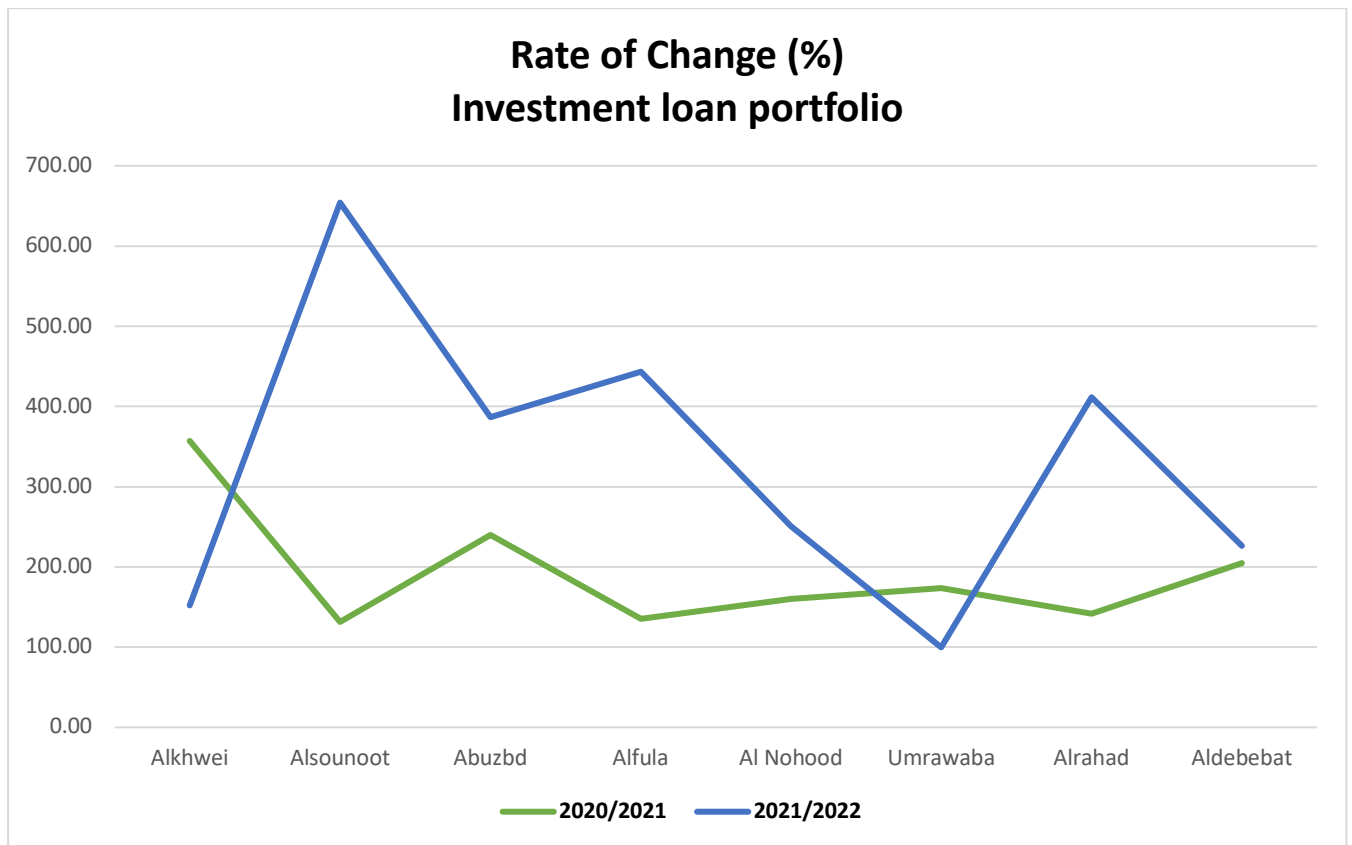
• **Graph 4**



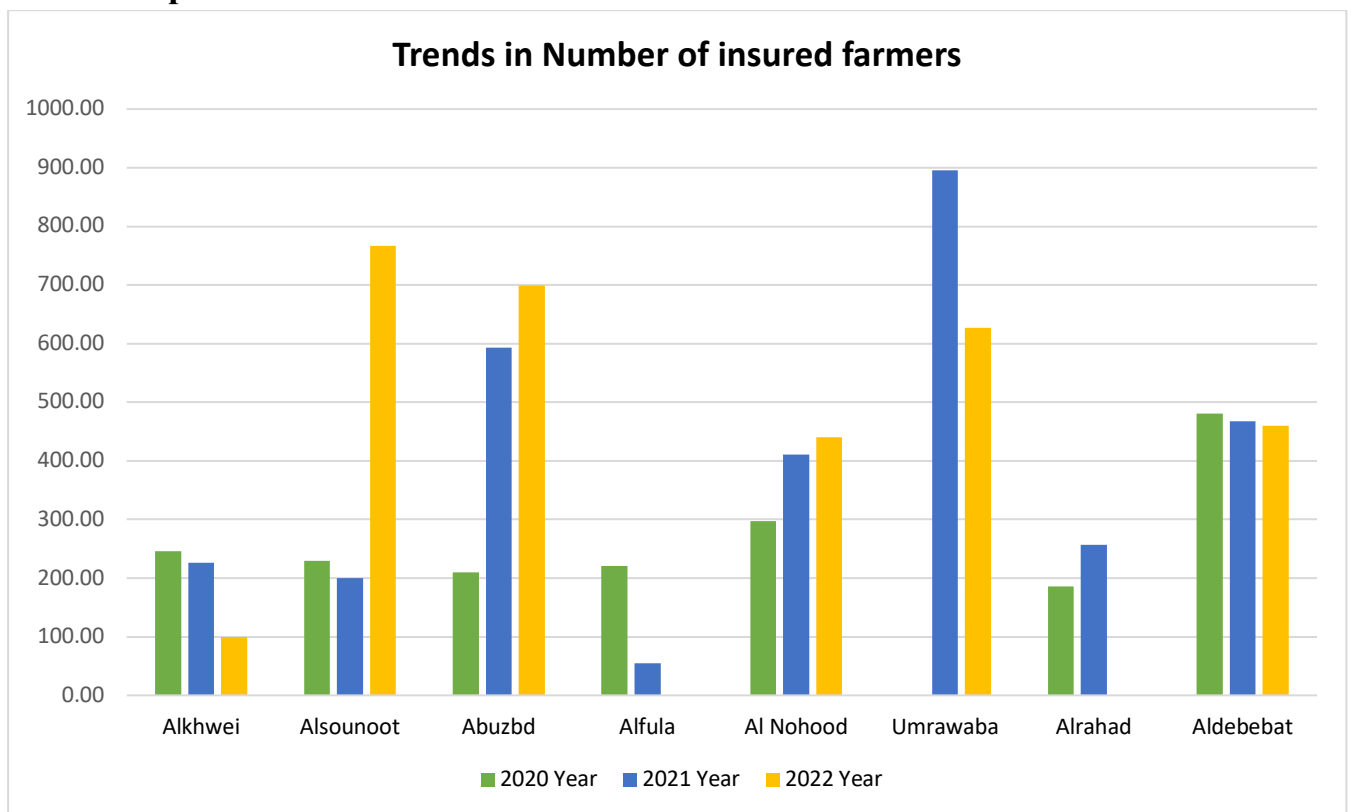
- **Graph 5**



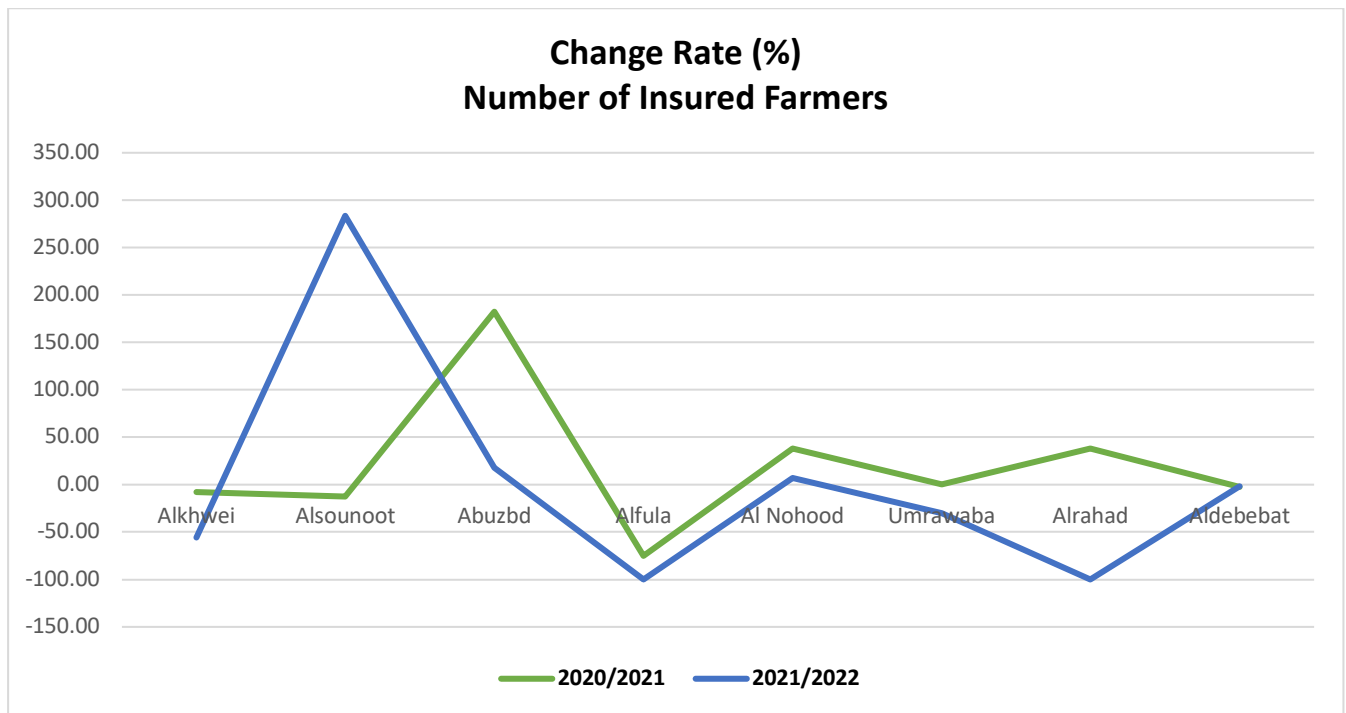
- **Graph 6**



- **Graph 7**



- **Graph 8**



12. Statistical Analysis:

In addition to simple statistics the research paper used SPSS statistical package to measure correlation between the indicators whether they change together at constant rate, the result is shown below:

Correlations

	Number of savings accounts	Consumption loan portfolio size	Investment loan portfolio size	Number of insured Farmers
Number of insured Farmers Pearson	.480*	.490*	.291	1
Correlation Sig. (2-tailed)	.021	.019	.177	

*Correlation is significant at the 0.05 level (2-tailed). Positive r values indicate a positive correlation, where the values of both variables increase together. Number of insured farmers as an indicator of insurance tends to increase with the increase of banking indicators; number of savings accounts, consumption loan portfolio size and investment loan portfolio size. Pearson correlation coefficient shows moderate correlation between number of insured farmers and number of savings accounts & consumption loan portfolio size of 0.48 and 0.49% respectively, while it shows weak correlation with investment loan portfolio size of 0.291% only. Correlation results are all significant.

Regression

Simple linear regression is applied by the researcher to test the causal relationships between the dependent and independent variables, which indicate that there is positive and significant relationship between both variables.

1st: A simple regression was run between number of savings accounts and number of insured farmers.

	2020	2021	2022
Number of savings accounts	46,881	75,828	106,714
Number of insured Farmers	1,870	3,106	3,093

The results are as follows:

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant) Number of savings accounts	20.648	136.803		.151	.881
	.035	.014	.477	2.490	.021

a. Dependent Variable: Number of insured Farmer

According to the value of (R Square), the effect size or the strength of the relationship between the number of savings accounts and insurance premium is 35% that means 35% of variance in consumption loan portfolio size is accounted by insurance premiums.

2nd: A simple regression was run between Consumption loan portfolio size and number of insured farmers:

	2020	2021	2022
Consumption loan portfolio size	70,646,796	172,055,101	465,976,113
Insurance Premiums	1,600,000	16,000,000	22,383,000

The results are as follows:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.881 ^a	0.776	.552	1.374815E8

a. Predictors: (Constant), insurance premiums

According to the value of (R Square), the effect size or the strength of the relationship between the consumption loan and insurance premium is 77% that means 77% of variance in consumption loan portfolio size is accounted by insurance premiums.

A simple regression was run between Consumption loan portfolio size and number of insured farmers:

	2020	2021	2022
Investment loan portfolio size	87,894,275	255,173,376	900,398,160
Insurance Premiums	1,600,000	16,000,000	22,383,000

The results are as follows:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.854 ^a	0.730	.460	3.153483E8

According to the value of (R Square) the effect size or the strength of the relationship between the consumption loan and insurance premiums is 73%, that means 73% of variance in investment loan portfolio size is accounted by insurance premiums.

13. Research findings and conclusion:

The results answer the research question that bancassurance has a positive impact on both, bank and insurance company. The number of savings accounts, the size of consumption loan portfolio and investment loan portfolio increased drastically after the application of bancassurance strategy which means increase in the financial inclusion automatically. The same applies to insurance as the number of the insured farmers as well as insurance premiums experienced a noticeable expansion.

The research comes to conclude that bancassurance should be adopted in Sudan as a mechanism for achieving financial inclusion and enhancing insurance activities thus can definitely be utilized as an effective tool to enhance financial performance of bank and insurance companies.

14. Recommendations:

1. Extensive researches should be carried to identify opportunities and challenges in terms of contribution of bancassurance to financial performance of banks and insurance companies in Sudan.
2. Government policies and regulatory authorities have to develop policies and procedures that facilitate and encourage bancassurance arrangements to tap

the opportunities of increasing financial inclusion and insurance contribution to the GDP in the country.

3. Banks have to look in diversifying and increasing their income portfolios by considering insurance income (commissions) tied with bancassurance as easy and non- risky income.
4. Insurance companies should leverage on banks' customer database to raise insurance awareness in Sudan.
5. The efficiency, effectiveness, operational efficiency is achieved by bancassurance since it is a one-stop solution for customer needs.

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