



**A paper on:**  
**Agriculture and Micro-Insurance**  
**The Sudanese Experience**

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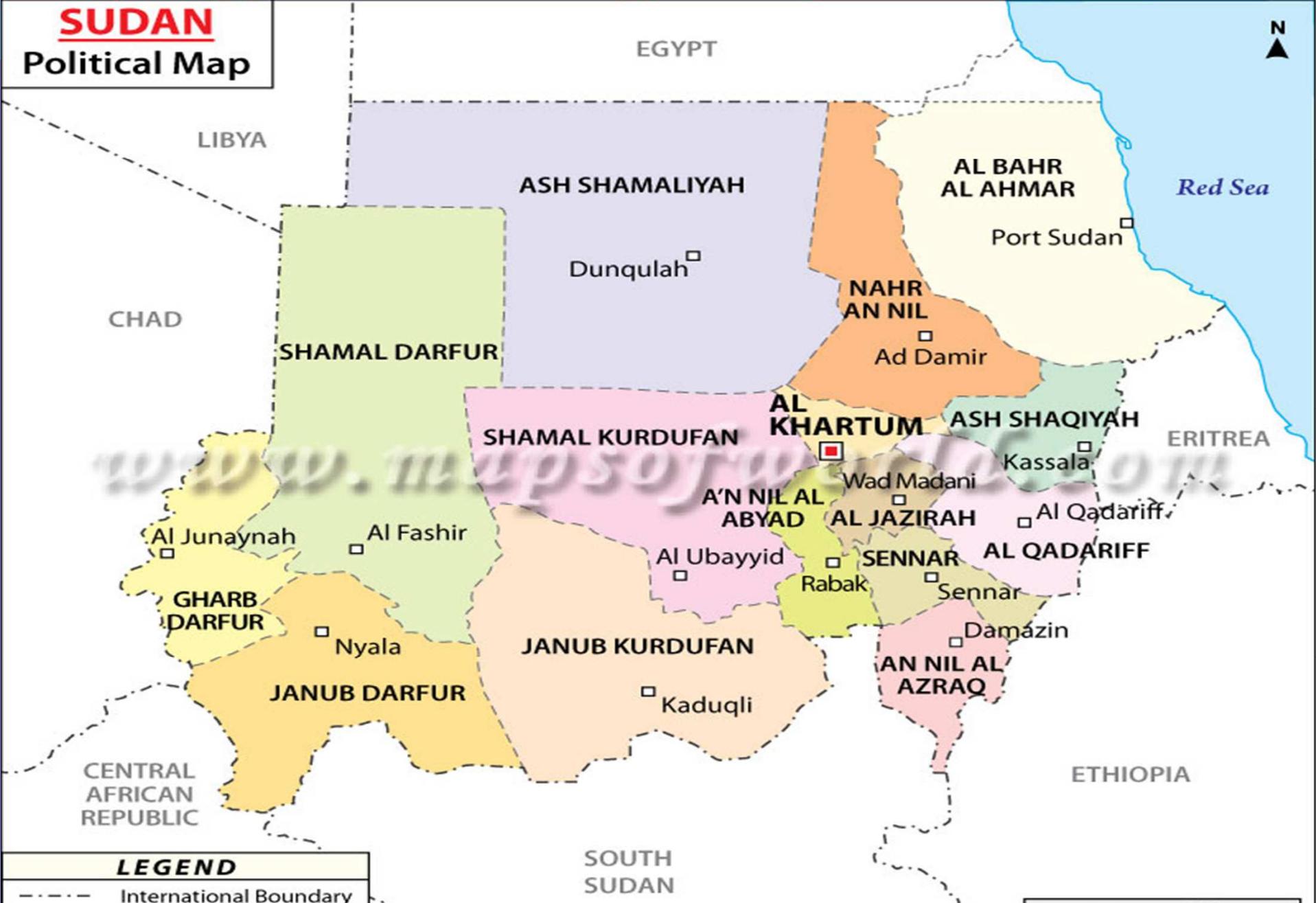
# 1-Introduction:

## Sudan Geography

### Location

Sudan is a large country stretching between latitudes  $10^{\circ}\text{N}$  and  $23^{\circ}\text{N}$  and longitudes  $21^{\circ}\text{E}$  and  $39^{\circ}\text{E}$ . The Red sea hills and the Ethiopian Highlands are the boundaries in the East. In the west, it is bounded by the jebel Mara Range. Geographically the country is one of the large countries in Africa, with an area of 1.8 million square Kilometers.

**SUDAN**  
Political Map



**LEGEND**  
- - - - International Boundary

## Climate:

Sudan has a tropical continental climate. The general nature of the climate is determined by two air movements; a dry one that comes from the north and another of maritime origin that enters from the south. The latter determines the annual volume of rain fall and its monthly distribution. The average monthly rainfall decreases as one moves from south to north and from east to west.

## Climate Zones:

- (i) The northern low rainfall zone: average annual rainfall varies between zero – 400 mm, and covers about half of the country's total area. Crop production here is mainly by irrigation from the Nile.
- (ii) The central Savanna Zone: average annual rainfall varies from 400 to 800 mm, and covers an area amounting to about half the country.



## 2-The Role of Agriculture in Sudan

- The Sudan is a predominantly agricultural country, with more than 70% of its total population living and working in agriculture ,and although the majority of people are engaged in agriculture, it accounts only for 34% of gross domestic product.
- Sudan possess immense potential for agricultural development . It has good soils and favorable rain patterns, especially in the central and southern parts.
- The potential cultivable land is estimated to be around 150 million feddan. Out of this large area only 25 million feddan at present are used for crop production.
- . Over 20% of this area is managed and operated by state corporations and private pump scheme owners on the Nile and its tributaries



# AGRICULTURAL PRODUCTION COVERS A WIDE RANGE OF FOOD AND CASH CROPS AS WELL AS ANIMAL PRODUCTION

## Some main crops are as follows:-

- (i) Cotton which is grown in the irrigated schemes and was the most important cash crop before oil extraction and gold mining.
- (ii) Cereals (sorghums, wheat, millet, rice and maize) provide the starchy base for diets in all parts of the Sudan.
- (iii) Starchy roots (potatoes, sweet potatoes, yams)
- (iv) Sugar cane
- (v) Pulses (beans, peas... etc)
- (vi) Vegetables and fruits
- (vii) Oil crops (sesame, groundnuts, sunflower, and cotton)
- (viii) Animal and animal products.



**The agricultural sector in the Sudan produces most foodstuffs needed for diets in the country. There have been no famines recently though food shortages do occur in some parts from time to time due to variation in climate ,inadequate transportation and storage facilities.**

**The country still imports some foodstuffs with the potential for production of these foodstuffs in the country, one can say that agriculture has not met one of the main contributions expected from it.**



**Agriculture in Sudan is practical under many farming systems and each has its own characteristics:-**

**1/Irrigated agriculture:**

**Covering over 5million feddan and is composed of all government owned schemes(like Gezira Scheme, New Halfa Scheme, Rahad Scheme, Suki) in addition to pump schemes along the Nile and its tributaries ,and flood irrigated schemes (Gash& Toker).**

**In the irrigated sector many crops are grown such as cotton, sorghum, wheat, sunflower, groundnuts, vegetable and horticulture products.**

**Also mixed farming is practiced here and animal breeding is introduced as part of the rotation .**



## **The main problems, facing this sector are the :**

- (i) Shortages of finance.**
- (ii) Lack of improved and certified seeds.**
- (iii) Shortages in irrigation water caused by mismanagement of water supplies and sometimes low water levels.**
- (iv) Out breaks of pests which are beyond the control of individual farmer.**
- (v) Changes of the climate that affect the growth of the plants like excessive heat that occurs during winter and cause losses of harvested crops both in quantity and quality.**

## 2/Mechanized Rain fed farming:

Sudan has practiced agriculture mechanization since the early forties of the last century in the central clay planes which constitute mechanized farming in Sudan and in a potential area of around 50million acres and of which only 15millions acres are in use at present.

Rains here are between 400mm and 800mm.Crops grown here are sorghum (70%of the areas), sesame, millet, sunflower, cotton. Land ownerships here range between 500-1000 feddan per single scheme and to more than 10,000 feddan for companies working in this sector.

This agriculture sub-sector is characterized by low crop yields ,which are the result of :-

- (i)Climate changes .rains, Winds and temperatures.
- (ii)National pests affecting crops.



### **3/ Traditional rain fed farming:**

**More than 60 percent of the population live in rural areas and most of them practice traditional farming and since independence and up to now there is no major change in the use of traditional hand tools, local seeds, shift cultivation and no use of fertilizers.**

**This sub-sector stretches in east, middle, west and south of Sudan. Its contribution to the national economy is great in terms of food and export crops.**

**The area cropped each year ranges between 10-20million feddan annually and depending on the rainfall. Crops grown here are sesame, groundnuts, hibiscus, millet, sorghum, water Mellon and gum Arabic .**

**This agriculture sub-sector suffers from the variations in rainfall from year to year and to the pests and diseases which make the farmers vulnerable to big losses in their crops.**



## 4/Forests and natural pastures:

Natural pastures and forests cover a large area of more than 200 million Feddan and is considered one of the important systems of use of natural resources and about 6-10 percent of the pupation are living and practicing this activity. The estimated pupation of animals is around 150 million heads of camels ,sheep, goat and cattle.

### Gum Arabic:

Forests cover over 12 percent of the total area of the country covering about 50million Feddan. The importance of the forests sector in Sudan is that all gum Arabic production comes from it beside that it is an important source of energy for rural pupation.

## 5/Animal wealth:

God has given Sudan a big animal wealth estimated to be around 150 million heads of sheep, goats, camels and cattle and which live in natural pastures extending from the semi-arid areas of the north to the savanna belt in the south .

This animal pupation makes use of the agricultural and industrial residues.

Sudan depends on these animals for its meat consumption and for its live and carcass exports which mainly go to the Arab market.

**The present Government Plan is to increase its exports of sheep, cattle and camels by developing this important source and encouraging owners to adopt new ways of production, to combat animal diseases, and the use of new technologies to increase the number.**

**As for the poultry and fisheries, Sudan used to depend on traditional ways of production in poultry and fisheries, but now and after the shift of consumers to these sources of meat ,there is great developments in production and marketing and new technologies are introduced and large farms are established and their production is enough to meet consumption needs of the pupation .**



### **3/Agricultural Insurance in Sudan**

**The need for agriculture insurance in Sudan arised early and since the colonial regime and specifically after the establishment of the cotton plantation board in Gezira and other parts of Sudan.**

**The real breakthrough came very late and in the year 2002 by Sheikan Insurance Company when it entered in insurance of cotton in Gezira scheme in an area of 22,000 Feddan.**

**The insured cotton areas increased and covered other schemes and other crops in both the irrigated and rain fed sectors.**



## Ta'awuniya Insurance Company

Ta'awuniya Insurance Company , although established 1989, yet it's involvement in agricultural insurance came in the year 2007 in River Nile State in a small area of wheat (about 9,000 feddans ) .

Following this, the company expanded its activities in River Nile State and other States in the country and covering crops other than wheat (sorghum, legumes, vegetables, horticulture, cotton and sunflower).



**The real breakthrough happened in 2011 and 2012 when the company entered into the insurance of crops grown in the large irrigated schemes of Gezira, New Halfa , Sennar and Suki.**

**This resulted in a reasonable increase of areas in both sectors (irrigated and rain fed) and the volume of cover(sum insured) increased from 4,000,000 Sudanese pound, to about 300,000,000 in season 2012/2013 and is expected to reach more than 500,000,000 Sudanese pounds in 2013/2014.**



## Table Showing Underwriting Results and Claims Adjustments 2008-2013(By Season)

No.	Season	Premiums	Claims	Loss Ratio
1	2008/2009	2,820,000.00	50,000.00	18%
2	2009/2010	1,141,000.00	853,000.00	75%
3	2010/2011	1,082,000.00	336,000.00	31%
4	2011/2012	6,479,410.00	2,360,300.00	36%
5	2012/2013	11,314,498.00	5,127,502.00	45%
6	2013/2014	10,443,761.00	Not yet finalized	N .A

# Taawuniya Agriculture Insurance Work Can be phased into 3 phases:-

## Phase One:-

Taawuniya started its agricultural insurance using traditional insurance policy used in agricultural insurance market. These insurance policies contain a lot of exclusions and conditions which proved to be unfair to the farmer.

The insurance coverage :

- Inundation of the crop.
- Droughts arising from canal breakages and accidents.
- National pests.
- Fires resulting from thunders.
- Winds and windstorms.
- High temperatures.



## Phase two:-

Work was continued with the same insurance policies with some amendments which were new to the insurance market in Sudan:

- Inundation caused by rains and canal breakage.
- Drought resulting from any cause.
- Pests-Local and national.
- Increase in temperatures which affect plant growth.

## Phase Three:-

- This phase is the real revolution in covered risks and insurance policy conditions in winter season 2011/2012.
- This phase started by meetings and discussions with farmers, their representatives, and some of insurance experts.
- The company suggested a new agricultural insurance policy with the understanding that this policy is a partnership with the farmer in all matters from under-writing to claims.



## Characteristics:

- Transparency when assessing damages and losses.
- By including the farmer in loss assessment committee.
- Inclusion of droughts to be an important cause of loss in irrigated agriculture.
- Inclusion of fire risk affecting the crop in the insures area.
- pests and diseases which become outside the control of the farmer .

Addition of an optional cover at on additional rate which secures an income of 50% of the value of claims paid to the financing institution.

Agriculture insurance now covers a wide range of crops and activities in both irrigated and rain fed sectors and is making progress in animal, horticulture, fisheries, and forestry products (gum Arabic) .



# **The company has now the following insurance policies:-**

- (i)Irrigated Crops Policy.**
- (ii)Rain fed Policy.**
- (iii)Horticulture Products Policy.**
- (iv)Fisheries Policy.**
- (v)Poultry Policy.**
- (vi) Cattle Policy.**



**The company is now preparing itself to enter the gum-Arabic, sugar cane, and weather index insurance. The involvement of the company in agricultural insurance resulted in improvement in performance and a decrease in insurance rates and the introduction of new covers specially in the irrigated sector.**

**The company also was able to revise and renew its policies whenever need arises for that, and developed its work by using new management methods and new technologies that help agricultural insurance performance like the use of global positioning system(GPS) and the related computer programs.**



## Covered Risks

Risks covered in irrigated agriculture which can be summarized in:-

- (i) Weather(heat, winds, humidity, etc).
- (ii) Low river levels which cause water shortages.
- (ii) Unintended canal breakage leading to irrigation problems.
- (IV) Inundation due to excessive rains or canal breakage.
- (v) Floods.
- (vi) Plant diseases.
- (vii) Pests.
- (viii) Weeds.
- (ix) Unintended fires.



## **Risks covered in rainfed agriculture:**

- (i) Drought arising from low rainfall.**
- (ii) Inundations resulting from excessive rains and floods.**
- (iii) local and national pests.**
- (iv) Crop diseases.**
- (v) Wind and wind storms.**

## **Horticulture:**

- (i) plant diseases.**
- (ii) plant pests.**
- (iii) fires.**

## **Animal:**

- (i) Deaths due to diseases and accidents.**
- (ii) burglary.**
- (iii) Abortion (at an additional rate).**



# Problems Facing Agriculture Insurance

Agricultural insurance in Sudan which came to existence during the Islamization of insurance and although it has found the way paved for its expansion and development, yet it is faced by many problems which can be summarized in the following:-

- (i) Lack of knowledge among the farming community.
- (ii) High rates of cover ranging from 5-9% because of the high risks.
- (iii) High administrative costs because of the small areas covered in comparison with the potential available.
- (iv) The increase in the risk of climatic changes which has resulted in droughts, floods, and the increase in temperatures.



**(v) The use of uncertified seeds and neglecting the use of technological packages by farmers.**

**(vi) Lack of coordination between financing institution and the management of the agricultural schemes to determine the volume of credit needed.**

**(vii) Re-insurance treaties are sometimes a deterrent to the progress of Islamic insurance experience . This is done through offering of small capacities at very harsh conditions .**



# Positive Signs

- (i) Islamic Insurance through the principle of “donation” has made a great break-through which attracted many new customers who are opposing commercial Insurance.**
- (ii) The government support of subsidizing the farmers by payment of 50% of the cost of insurance ,and by so doing it encouraged them to join insurance programs.**
- (iii) Most of the financing Institutions are now adopting the policy of linking finance to insurance to protect themselves.**

**(iv) Self-financed farmers are now aware of the importance of insurance and began to enter the circle of customers.**

**(v) The transparency linked to Islamic insurance is an important feature that will add to its strengths and acceptability.**

**(vi) The increase of Islamic Takaful insurance companies all over the world will lead to more Islamic reinsurance companies to the benefit of all and irrespective of their realigns. .**

# Micro - Insurance

Ta'awunyah Insurance Company, represented by its General Manager, has developed a unique micro-insurance contract in the name of "The Comprehensive Policy For micro-finance insurance".

This covers in addition to insurance of the subject of finance, the following:-

1/Income of the insured.

2/Total Permanent Disability of insured.



**3/Death of insured to the benefit of family.**

**4/Cover of members of the family.**

**5/ Cover of loan to the benefit of the financing institution.**

**6/Coverage of risks resulting from weather risks, rains,..etc. for agriculture, and also risks of animal production.**

**7/Hospitalization of insured.**

**8/A daily income to be paid to new widowed women who will be out of work for about 4 months and 10 days according to Islamic Shariaa rules.**



## Micro- Insurance Coverage's:

(i) Farmers in rain fed and irrigated sectors to about 63,000 farmers in the year 2012 and 42,000 farmers in the year 2013.

(ii) Different kinds of agricultural finance both to individuals and groups.

(iii) Different activities of animal, fisheries and poultry finance.

(iv) University Graduates finance which contributes to the solution of unemployment.

(v) Artisans finance.

(vi) Household finance for all activities.

(vii) Trade finance .

(viii) Electricity connections finance to help suburbs to have this service.

(ix) Finance of water filters.

(x) Finance of disabled.



## Benefits of micro- insurance:-

- 1-Increased The production.
- 2-Make available the capital for production.
- 3-Make available income sources for community members.
- 4-Contribute to the solution of unemployment problem.
- 5-Secure the social protection of the dignity to the financed person.



**6-Keep away the insured and family from any threats.**

**7-Increasing the awareness of financial and insurance benefits.**

**8- Diffuse the sense of security among communities members.**

**9-Turnover of available finance in the banking and investment systems to those who are in need for it.**

**10-Increase activities of financial ,insurance and investment institutions .**

**11- Diffuse the knowledge of finance and insurance knowledge.**

# The objectives already mentioned will lead to achieve Government plans like:

1/Social development.

2/Economic development.

3/Monetary plans.

4/Political order.

5/Develop micro-finance.

6/Diversification of banking sector funds.

7/Diversification of insurance sector funds.



## **The Pillars on which Agriculture Insurance And Micro-Insurance are Sprang From:**

**All insurance services for agriculture ,animal, poultry and micro-finance are executed according to the principles of Islamic insurance and which are summarized in:-**

**The Shariaa Frame For Islamic Insurance in Sudan**

**Introduction:**

**Why Islamic Insurance contract and not The Commercial Insurance Contract?**



**Commercial insurance contract was not defined in Islamic thinking and it is considered a new contract to the Islamic community.**

**For this ,Islamic Shariaa thinkers studied its nature on the objective to classify it according to the known Islamic contract.**

**After careful study, they reached the opinion that the commercial contract is “a financial commutation contract” and to civil law thinkers the commercial contract is a probable contract and that both contracts if they do not meet Shariaa requirements , are considered unIslamic contracts because they contain the element of being not transparent.**

**For the sake of clarification, would like to clarify the financial commutation contract and the probable contact .**

## **1-Definition of Commutation Contract:**

**“The commutation contract “ is a contract which means transfer of benefit between the two parties to the contract. commutation contracts are part of ownership .**

**2- The Commutation contract will be executed by either parties have to exchange the recoupment i.,e. price commutation.**

## 2-Characteristics of commutation Contracts:

Financial commutation contracts, are characterized by following:

- (i) It is based on mutual transaction between the two parties and on condition that no one party will take advantage of the other or misguide him and this has no relation to the different accounting shares if the parties are in agreement to that .
- (ii) commutation contracts are characterized by occurrence of profit or loss in their original behavior, this is not related to individuals.
- (iii) In making a commutation contract the subject of contract shall be known because this is contradictory to the meaning of " commutation" and shall only be in money valued subjects.
- (iv) It is conditional that it shall be fully known to achieve the correctness of exchange of benefit.
- (v) It is conditional that it shall not mix commutation to donation to finalize the commutation contract and not mix the two contradicting types.
- (vi) In case the subject of the contract is a benefit ,then it has to be conditional when established ,in time , place and description.



### 3-Types of commutation Contracts:

Commutation contracts, are many ,and can name some of them like sales, usury, hire-purchase, etc.

**Commutation** here in these contracts is evident and material **commutation** clear in most of these sale contracts.

It can be moral because in these types of contracts (loan and pledge) what is meant is cooperation and love to deepen and strengthen the ties between people.

### 4/The Probable Contract:

The insurance contract is a probable contract according to law experts, and that all probable contracts are contracts in which the two parties or one of them when signing the contract, the payment or the gain from the contract is not known.

The gain comes later according to the occurrence of the probable accident and that the probable contract is a contract where the two contracting or one of them when signing the contract, will not know what he will pay or gain. The loss or gain comes later.



## **1-Definition of Islamic Insurance according to Sudanese Experience:**

**The Sudanese experience is characterized by its clear definition of “Islamic Insurance” in the two sections of insurance(life& non-life) and this is clear in definitions embodied in the rules governing insurance work in Sudan.**

**The Government issued a law for Insurance and Takaful in the year 2003 to replace the 1992 insurance law. According to this law, Islamic Insurance in Sudan is regulated and the definition of Insurance and Takaful are clearly stated:-**

## 1-1/Definition of Insurance Contract:

The Insurance contract is a binding contract in which the insurer is bound to act on behalf of all the insured or the beneficiary and to pay a sum of money or compensation in the case of an accident to the insured or the occurrence of the loss covered by the contract .

This is done against a certain amount of money paid by the insured to the insurer as a donation to cover insurer obligations.

## 1-2/Definition of Takaful contract:

Takaful Contract is a contract whereby the insurer agrees and on behalf of the insured to pay to the beneficiary a sum of money or a periodic income in the case of occurrence of the cause that lead to the payment of Takaful benefit. This is conditional to the payment of a certain sum of money to the insurer as a donation.



# The principles of Islamic Insurance According to The Sudanese Experience:

## 1-3 Donation:

In its literal meaning, donation means payment without expecting remuneration, only what is needed is the acceptance of the donor.

On donation principle, The Islamic insurance contract is based, and for that it is considered one of donation contracts to overcome the problem of unclearness contained in commercial insurance contracts.

## 2-Compliance of the Insurance Company with Shariaa rules

The Islamic Insurance contract is characterized by "Donation of Premium" and accordingly it is a Donation contract ,for this the Islamic insurance company has to abide by Shariaa rules in case of executing any work for which it is established .This means it has to be firm on the following:-



- (i) Appoint a Shariaa Supervisory Board of a number of Shariaa , law, economics thinkers to look after companies work and ensure that all is in conformity with Islamic Shariaa rules.
- (ii) The Islamic Insurance company shall invest its money in places and channels which do not contradict with Shariaa rules, and to be done under the supervision of the Board.
- (iii) The company shall extend its insurance services for those who request provided that these services are not against Shariaa rules like liquor, pigs –also all financial dealings which contain an element of usury.
- (iv) The company shall work according to Shariaa rules when dealing with insurance companies and with reinsurers and also with brokers who do not work according to Shariaa rules.

### 3-Distribution of the insurance fund(s) surplus:

The surplus is the remaining balance after payment of all claims, and other obligations including the agency commission if it contains the general and management expenses or agency commission plus the general and management expenses and then the revenue of investment is added to the remaining premium to make the insurance surplus to be distributed over the participants in the fund(s) according to their contributions.

### 4-Sharing in Loss:

Insurance is based on the Islamic principle of cooperation to help the needy "وتعاونو علي البر التقوي".

If the paid premiums ,reserves, capital and reinsurers contributions, are not enough to meet the volume of losses which occurred during the insurance period, the company has the right to ask participants for cover.

### 5-Participate In Management :

The participation of the insured in management of the fund comes through participate reprehensive(s), General Assembly and through the Board of Directors.



## 6-The Separation Between Company Shareholders Capital and Policy holders Donation:

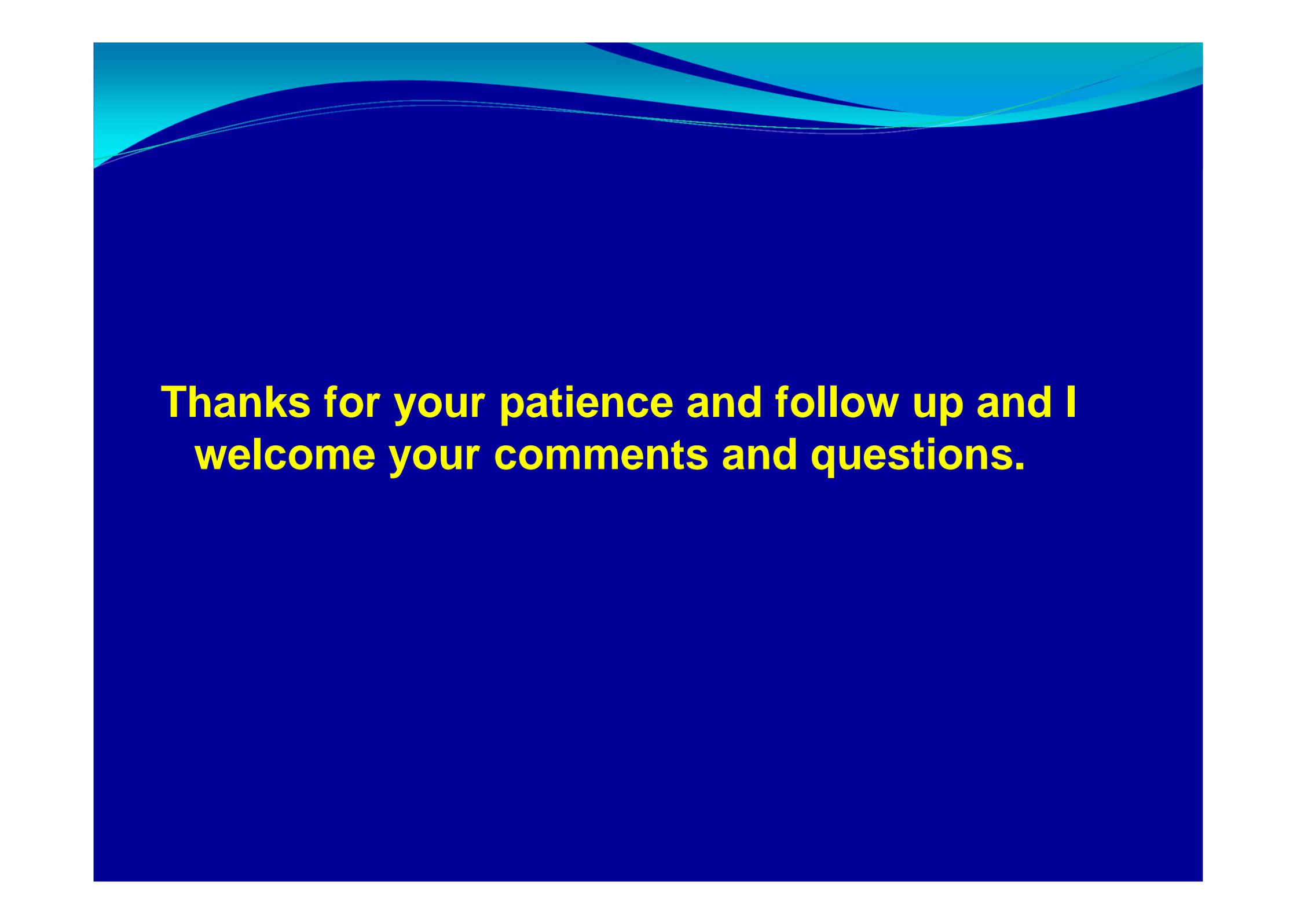
- The Islamic insurance company will have to separate shareholder capital from Takaful and insurance policies contributions ,and to invest these two sources separately and not mix them,The revenue from the investment will be added to each source, when policy holders bear the investment expenses of shareholders capital, a certain share of investment revenues is added to their benefit the reverse happens.
- The import thing here is that all these investments shall be on “Mudaraba” basis and invested in forms and ways which meat Islamic rules and approved by “Shariaa Supervisory Board”.

## **7- Re-insurance:**

**Re-insurance in Sudan is bounded by the following:-**

- (i)50% is to be allocated to Sudanese National Re.**
- (ii)10% is to be allocated to PTA-Zep Re which is the Islamic Takaful window under Comessa.**
- (iii)5%to be allocated to Africa Re-Takaful in Cairo.**
- (iv)35% to be allocated according to directions of Shariaa Supervisory Board.**
- (v)It is allowed to reinsure with commercial reinsurers capacities not used by Islamic insurance companies,**
- (vi)Priority is given to cooperative insurance companies.**



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**Thanks for your patience and follow up and I  
welcome your comments and questions.**