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Design of Islamic Financial Certificates for Housing Development in Algeria

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Abstract: Algeria depends solely on publicly produced housing. Algeria's housing industry has been lagging behind in its development. This has caused many citizens to struggle with finding proper housing. Aside from being one of the highest countries in terms of rent rates, construction and distribution of public houses in Algeria takes more than 15 years of waiting. Despite that the quality of the housing is bad. This paper proposes Shari'ah-compliant housing certificates, a new Islamic financial instrument that would assist in house construction in Algeria. This instrument uses Istisnaʿ as the underlying contract and accommodates guaranteed returns as well as negotiability for investors. It has great potential in contributing to solving the prolonged problem of housing in Algeria as well as countries facing problems in financing the construction of housing.

Key words: Housing certificates, Istisnaʿ, Islamic Financial Instrument, Sukuk, Housing Development, Mudharabah, Sukuk

Abstrak: Algeria bergantung sepenuhnya kepada perumahan awam yang dibina oleh kerajaan. Industri perumahan Algeria agak ketinggalan dari segi pembangunannya. Ini telah mengakibatkan ramai rakyat bergelut untuk mencari perumahan yang sesuai. Selain menjadi salah satu negara yang mempunyai kadar sewa tang tinngi, pembinaan dan pengagihan rumah awam di Algeria mengambil masa lebih daripada 15 tahun menunggu. Malah juga mutu perumahan tetap lemah. Tulisan ini mencadangkan sijil perumahan patuh-Shariʿah, iaitu sebuah instrumen kewangan Islam baharu yang akan membantu pembinaan rumah di Algeria. Instrumen ini menggunapakai Istisnaʿ sebagai akad asasi dan menampung pulangan terjamin termasuk kebolehrundingan

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untuk para pelabur. Ia mempunyai potensi yang besar dalam menyumbang kepada penyelesaian masalah perumahan yang berpanjangan di Algeria dan juga negara-negara lain yang menghadapi masalah dalam pembiayaan pembinaan perumahan.

Kata Kunci: Sijil perumahan, Istisnaʿ, Instrumen Kewangan Islam, Sukuk, Pembinaan Perumahan, Mudharabah, Sukuk

1. Introduction

This paper aims at developing Islamic financial housing development certificates in order to address the critical housing problem faced by the Algerian market. Being the only country in the world where housing is solely publicly produced, the government has been constantly lagging behind in its plans due to economic as well as sociopolitical inefficiencies. The fact that it was not until early 2016 that the houses signed up for in 2001-2002 were completed and distributed to their owners (Ministry of Housing, Algeria, 2016) speaks for itself. In addition to waiting for over 15 years for the houses to be distributed under the Agence de l'Amélioration et du Développement du Logement (AADL) program, the new house owners discovered that many of the buildings were unstable and of very low quality (Office National des Statistiques, 2012). Involvement of the private sector in housing has been increasingly practiced by most of the developing countries. In Algeria, involving the private sector will not only increase the efficiency of house construction but also the quality as compared to the current status (Ministry of Housing, Algeria, 2016).

With the growing public interest in Islamic finance, there is no better time for a Shari'ah compliant model to be developed to address this core infrastructural issue that is hindering national economic development. One of the basic contractual arrangements of Islamic finance is Istisnaʿ, a financial facility where a specific asset, which initially does not exist, is bought for future delivery and future payment. Just like other Islamic financial contracts, Istisnaʿ (sale on order) has been incorporated into different instruments of financing, one among which is Sukuk. It is important to keep in mind that the key element of most Shari'ah-compliant Certificates is their representation of ownership of a real utility-generating assets, goods, or usufruct and not being mere debts like many conventional securities.

This paper will utilize the unique features of Istisnaʿ Certificates as a basis for a model that can be used for financing the construction of houses. Section 2 of the paper provides an overview of the current structure and condition of the Algerian housing scene and the role of financing. The section 3 introduces the proposed housing certificates model, followed by explanation of the calculations would work in section 4, a hypothetical example to illustrate the operational mechanism of the model in section 5, risk associated with these certificates to the various parties involved in section 6, marketing of the product in section 7, and some Shariʿah considerations in section 8. The paper concludes with recommendations for expanding the use of these certificates in section 9.

2. Housing Market in Algeria

In 2011, the Algerian Ministry of Housing and Urban Development (MHU) announced statistics which showed national housing to be amounting to 7.4 million units in total, for an estimated number of 5.7 million households. However, over 2 million of these are in extremely parsimonious conditions as they were built before 1962 (Centre of Affordable Housing Finance in Africa, 2015). Only 80,000 units are estimated to be supplied annually, struggling to meet the 250,000 units demanded each year. The shortage of over 1.2 million units reported makes dwelling occupancy rates in Algeria to be among the highest in the world (Centre of Affordable Housing Finance in Africa, 2015). Surveys have shown that lack of adequate house financing in Algeria remains one of the most serious challenges facing the prosperity of the sector (Independent Evaluation Group, 2010). This inadequacy has led to great social disturbances as evidenced by the 974 registered protests related to housing over a period of only six months (Centre of Affordable Housing Finance in Africa, 2015).

It is worth noting that Algeria is the only country in the Middle East and North Africa (MENA) region that still follows the "public production" housing model that was followed by the former Soviet Union. While some people see it as a good stand for the government to support the sector, the unsolved chronic problems in the housing sector clearly shows a failure on behalf of the government, which must be transformed through involving the private sector in developing housing (The Government of Algeria, 2014)

The access to financing in the country is often just as problematic, with 80 percent of the banking assets held by six state-owned banks. This poses more challenges for people to access house financing. The Algerian Government has developed five different housing programs focusing on the small and medium income groups (Centre of Affordable Housing Finance in Africa, 2015). The programs are summarized along with the unique feature and purpose of each in the Table 1 below:

Table 1: Summary of the main government housing programs in Algeria

	Monthly Income Level (USD)	**Program**	**Features**	**Year of establishment**
1	180-1,090	LR The Rural Housing Program	Receiving subsidy of USD 8,800 for renovation	1984
2	< 240	LPL Public Rental Housing	Earning less than 1.5 times the minimum wage; finance construction entirely on the government and rent is low (USD 12-23 per month)	1984
3	240 – 1,090	AADL (Agence de l'Amélioration et du Développement du Logement)	Lease-to-own program with small upfront payment for entry; lease guaranteed by state with zero interest	2001
4	240 – 1,090	LPA (previously known as LSP) (Logement Promotionnel Aidé): The Assisted Housing Programme)	Assisted Housing Program; upfront grant of USD 5,000 or USD 8,700. Land is provided by government at discounted rates for developers to reduce the cost. Unit cost between USD 32,500 – USD 36,800	(LSP 1984, LPA 2011)
5	1,090 – 2,180	LPP (Logement Public Promotionnel)	The Commercial Housing Program aimed at assisting middle class; depending on the area of the house, financing at 3 percent interest and a 10 percent payment required to be eligible.	2014

Source: Authors' Compilation from Publications of the Algerian Ministry of Housing (2004-2016)

2.1 Performance of these programs

Most of the programs in the table above (except LPP) were initiated by the government after independence in order to solve the increasing housing issue facing the growing population through the use of its

national budget. Many of the programs were set up but not implemented for several years during the civil unrest of the 1990's; most of them were put into effect by the end of the 1990s through several decrees that were announced with regard to the execution of the programs.

The government introduced plans of set targets over 5 year periods, between 1999 and 2004 810,000 units were constructed; followed by 912, 326 houses between 2005-2009. However, the 2010-2014 program had a target of 2.2 million units to be built. Despite the massive investment of US $60 billion that was committed, only half of the targeted amount i.e. 1.1 million units were constructed. In addition to the pending 650,000 units from 2014, 1.6 million units were set as a target for the following 2015-2019 period, estimated at US $56 billion.

Public Rental housing (LPL), is one of the major programs, taking around 50% and 40% of the houses constructed in 2014 and 2016 respectively. The LPL targets low income groups.

Social Participatory Housing (LSP), an old model targeting low-middle income group (between monthly income of US $240 to $1,090) was discontinued and replaced in 2011 due to inefficiency and incompatibility of the management as people who had signed up for the houses had yet to receive them. LSP was replaced by Assisted housing Program (LPA) with the same financing condition but an altered management system. Nevertheless, LPA is currently being dissolved to be merged with AADL, the Lease-to-Own program which is also facing issues of its own. The people who signed up for AADL in 2001-2002 have just started to collect the keys to their houses that were ready in June 2016. Even then, only 11,600 houses, a portion of the houses targeted, are ready for occupation.

The LPP, the newest program that was set to target the higher-middle income group has proven to be problematic. Due to its interest bearing loan structure, the people are aware of its religious stance and despise it. According to the minister of housing, LPP seems to be problematic; hence the ministry is considering discontinuing or modifying it.

The quality of the houses produced is another major issue that poses another significant challenge for the sector. Due to the major delays faced mainly due to the incompetency of local constructors, the government had to hire several Chinese contractors for major housing projects. But construction inefficiencies and projects mismanagements

persisted. By the end of 2016 in the UN meeting, the minister of housing in Algeria threatened that several contractors would be terminated if the inefficiencies were to prevail.

With the massive delays that have been witnessed by all the programs, it has become apparent that the government is lacking capabilities and efficiency in running these public housing programs. Statistics show that if this critical problem is not solved, the shortage of housing in Algeria would increase again to reach 3 million units in the next 5 years (Kuwait Financial Centre, 2008).

Despite the government's effort of providing various programs, especially to suit lower income groups, financing in the housing sector is still a major issue. This is in addition to corruption and continuous holds that are put on the programs due to socio-economic and political instability. Despite the houses that have been built since 1960's (precarious as they are), the shortage in housing is very apparent as many people are still living in slums. The private housing market is extremely expensive for the middle and low income groups. In 2015, the ratio of house price to income in Algiers was estimated to be 20.93: 1, prohibiting the low and middle income groups from affording homes.

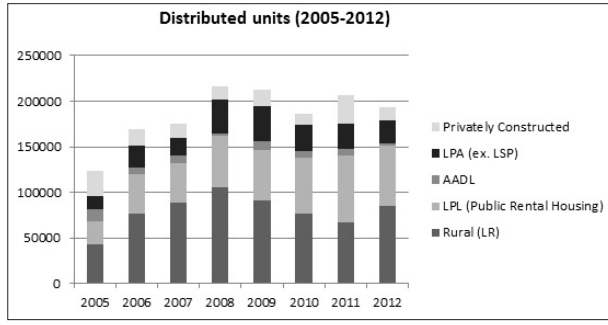

Figure 1: Housing units distribution between 2005-2015

Source: Author's compilations, Ministry of Housing, Urban and City Planning Statistics, www.gov.dz/Pages /Statistiques.aspx

This drives us to the conclusion that the programs, in spite of being modified, still face core challenges. Not only are the public housing programs inefficient and unsustainable, figure 1 above shows, the number of privately constructed houses is minimal. This state reflects the over- reliance on the government and the low presence of the private

sector in the housing industry. Thus, the Algerian Government can play a significant role to trigger the flourishing of the housing industry by opening it up for the private sector through removing the current restrictions on rental rates. This is because placing price ceilings on house rentals discourages house owners from renting out their properties as well as makes it less appealing for investors to inject their money in the restricted industry which has no competition. Many countries such as Saudi Arabia and Kuwait used to have restrictions on rental prices which were slowly loosened and eventually removed. This not only promotes efficiency but competition within the industry as well. This will lead to a good and fair pricing mechanism (International Monetary Fund, 2014). However, in order to balance this transition and prevent economic upheavals, the government must increase the financing of the industry through means of giving special rates or incentives that would in turn attract investors into the housing and construction industry.

Hence, in the overall analysis, the current public housing structure faces several main challenges: heavy reliance on government support, uncompetitive construction agencies resulting in low quality output, as well as inefficiencies in management and construction that lead to extensive delays. As noted earlier the aim of this paper is to develop a model that would overcome these challenges. But in order to examine the readiness of the private sector to take part in the housing construction sector, we need to have an idea of the economic situation. The graph (Figure 2) below illustrates the private capital formation that acts as a proxy for private investment in Algeria, as well as the government expenditure as a percentage of GDP.

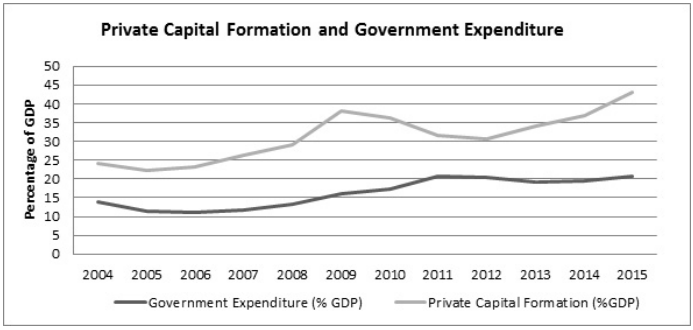

Figure 2: Private Capital Formation and Government Expenditure as percentage of GDP

Source: IMF data, http://data.imf.org

It can be inferred from Figure 2 that despite the current difficulties faced by the Algerian housing sector, the prospects remain positive. The increasing amount of private capital forming within the economy means higher mobilized funds. This would provide an opportunity for the private sector to penetrate the housing market to promote a much needed efficiency and competence. It would remain to the government to allow and attract these potential public as well as private investments into the housing sector (International Monetary Fund, 2014). Towards this end, this paper will provide a model of certificates that could be used by the private sector as well as commercial banks to mobilize resource to finance housing projects that will earn profitable returns for its investors (certificates holders).

In the following sections, the Shari'ah compliant model mechanism would be elaborated. The main steps, including the construction financing and profits distributions, would be highlighted. This would address the core of the problem which concerns financing the supply side of the market. That is the reason why it is best to use Istisnaʿ-based housing certificates. This arrangement would ensure stable returns as well as negotiability of the certificates due to the nature of their underlying assets.

3. Proposed Housing Certificates

It is pertinent to highlight that the proposed model is designed for a market in which the private sector's presence is yet minimal. This gives an opportunity for private corporations and financial institutions to directly issue the housing certificates without having to necessarily rely on any major banks' issuance. In order to maintain certain regulatory framework, the government would oversee and supervise the projects done through the governmental Office of Real Estate Management (Offices de Promotion et de Gestion Immobilières – OPGI) which currently oversees the construction and allocation of housing units by the public sector. Hence, introducing the proposed model would modify the current role of OPGI to act as a supervisor for the private housing construction as well (World Bank, 2014).

Certain details must be considered while designing the certificates in the light of the nature of the housing industry in Algeria. The major cost in housing goes to the design and labor. It is also important to note

that the builder is not interested in keeping the inventory (i.e. house) thus having an exit is a crucial element in the model.

Several alternatives can be looked into when formulating a financing model. Crowd funding could be used in such cases, especially with middle income groups as it would not require large investment amounts. Although it is usually used for ventures and innovative entrepreneurship financing, crowd funding could also be applied to housing Certificates, in which case, the housing project would be funded by a large number of investors. Therefore, a model was developed based on Istisnaʿ and Modarabah (contractual partnership with one party providing capital and the other acting as working partner). Using Istisnaʿ would ensure negotiability since the certificates represent the non-sold parts of the houses which is a real asset which allows tradability as opposing to using other contacts of financing (i.e., Murabahah) from which debt would be the underlying asset which cannot be traded.

The word Istisnaʿ is derived from the Arabic word 'Sanaʿa', which literally means "making, manufacturing, or constructing something." Istisnaʿ is a special kind of sale (Baiʿ). It is an Islamic financial contract, generally long-term, whereby a party (manufacturer or producer) undertakes to manufacture, build, or construct assets at an agreed price and for a fixed future date of delivery. Unlike Murabahah (cost+ sale) and Ijarah Sukuk (lease-based Islamic securities), Istisnaʿ Sukuk (Istisnaʿ-based Islamic securities) issuance involves minimal work despite its practicality. However, according to International Islamic Financial Market reports, Istisnaʿ Sukuk is almost absent from the international arena. In Malaysia, it accounted for only 3% for the period 2001-2008, and 0.02% of the total Sukuk issuance for the period of 2009-2012. (International Islamic Financial Market, 2014). The application of Istisnaʿ Sukuk financing for two power plants in Malaysia in 2002 and 2003, and the construction of the Sarawak International Medical Centre in 2004 (Chik, 2012) is noteworthy. In the United States, an Istisnaʿ-Ijara structure was built to finance construction projects (McMillen, 2000). The unique quality that makes Istisnaʿ rather attractive is that it enables an asset to be purchased despite its inexistence (Ibrahim & Kamarudin, 2014).

3.1 Prerequisites for developing model

To ensure efficiency in executing the housing certificates, certain elements need to be looked into before certificates can be issued. First, the Islamic financial institution must prepare the contract and give it to the land owner, be it the state or a private owner. In addition, another contract should be drawn with the architects and designers. Several house designs could be made for each project to enable buyers to choose a design that matches their taste. Secondly, the financial institution will also undertake the necessary preparation for issuing the Certificates with respect to the regulations and procedures set by the security commission and market regulators. Once these steps are taken care of, the financial institution may then start executing the model. The cost of all these primary procedures and contracts would amount to considerable costs that could take up about 10% of the value of the certificates.

3.2 Proposed Model Mechanism

The basic mechanism of these housing certificates includes the following main steps:

Step 1: Flow of proceeds and housing certificates issuance

A Modarabah contract will be initiated between the contractor and Certificate Holders to state that the underlying proceeds from the investors would be used for material and construction purposes. This makes the contractor the Modarib (working partner) and the Certificate Holders Rab al-Mal (the capital provider). This is a very important stage because it would determine the price and amortization of the certificates. Thus several points must be noted:

i. Certificates may be made according to the project whereby each project would have its series of certificates beginning at their own dates;
ii. In order to prevent overcharging for the projects, funds would be obtained through certificates which may either be issued once for each project, or issued according to the construction phase and for each series where the encashment is at staggering stages, in which case the profit will be calculated accordingly. A housing project consisting of a certain number of units could be included in each series. Thus funds would be called for as

the project grows. For example, at the beginning of the project, the first 10% of the project would be required at subscription; then payment would follow according to the phases of work completed, and profit calculated as the money is received. Hence the contribution of the certificate holders would not be calculated at the very beginning but rather at each stage, which is easy to compute based on the cash inflow and the pre-determined profit margins.

Moreover, as illustrated in Figure 3 below, the proceeds will partially be used to finance the construction of the house through a contractor. This would include a performance letter of guarantee provided by a bank whereby the payments will be made to the contractor according to the stages of construction. It is assumed that the potential buyer would pay a percentage of the total price as a down payment according to the Istisnaʿ undertaking, depending on the construction phase at which the client signs the contract. This contribution will go alongside the certificate holders' proceeds to the house project.

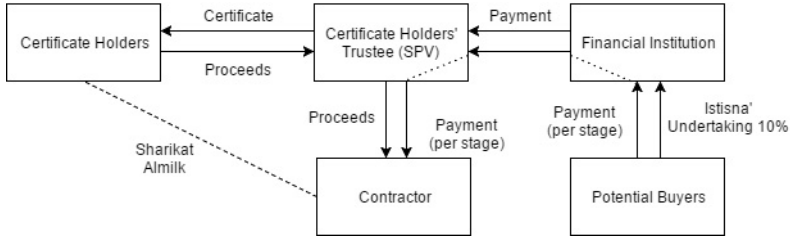

Figure 3: Flow of the proceeds to the housing project and the issuance of the housing certificates

Step 2: Undertaking the housing project

The financial institution would secure a written promise from the potential buyer to buy the property on an 'interval' basis and would collect the down payment. The down payment could be set at a certain percentage of the total price of the project (e.g. 10%). Here, it is important to note that the promise could be made as early as the time of the certificate issuance.

In the overall analysis, there will be a partnership contract between the certificate holders and the contractor; and an Istisnaʿ contract between the financial institution and the potential buyers. The payments

of the Istisnaʿ will be made on the basis of sale undertaking, that is, they provide the house down payment (e.g. 10%) and then undertake to buy small parts of the property at scheduled payments. The potential buyers would be provided with payment distribution schedule that would present the proportions of the payments which would be taken as profit and as cost; this would be done for purposes of transparency. Here it must be noted that the portion of payment as sale would decrease towards maturity, that is because at the beginning, the amount of profit will be on the whole property; at the end, the amount of the profit will be on the remainder. Assuming that the installment is fixed, it is important to note that the total installment will be the sale price and the profit would be calculated over the whole project on a marked up basis.

Step 3: Distribution of profit to certificate holders

Once the housing project starts, the contractor would carry out the construction in stages. The financial institution would then have to manage the project's liquidity as it receives the installments from its potential buyers and makes the payments to the contractors along with the profits promised to the certificate holders.

Profits to the Certificate holders may be paid periodically on a monthly, quarterly or annual basis, as agreed in the prospectus. It is important to note that fixing the profit for certificate holder at LIBOR+ (e.g. LIBOR+2%) would not be the best option in a country such as Algeria where the average inflation rate is around 5%. Thus in order to ensure the attractiveness of the certificate for investors, the returns for the Certificate can be set at LIBOR plus an amount that is greater than the inflation rate (e.g. LIBOR+2% +5%), or the agreement may choose to have a rate that is independent from LIBOR (e.g. 10%).

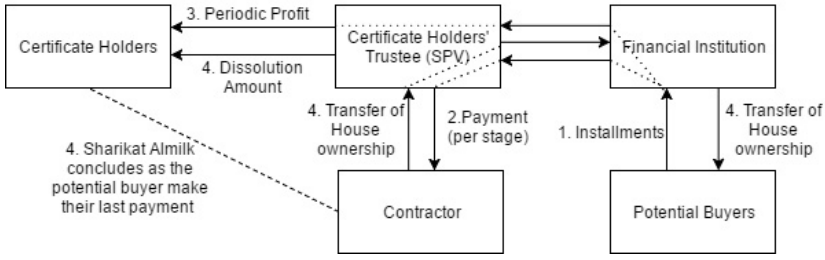

Figure 4: Cash flow of certificates and holders' capital returns

Step 4: Amortization of certificates or capital returns to holders:

The capital return scheme mu st be clarified in the agreement. Capital raised from issuing the housing certificates can be refunded in a lump sum at maturity, or amortized at periodic intervals. They may be issued for a medium term of five years or even for a long term of six to ten years, depending on the underlying housing project. If the capital is to be returned at maturity, the project will keep the amount and may use it to finance the construction throughout the project period and only pay the profit based on the pre agreed ratio periodically as per the prospectus. If the capital is amortized, then the periodic payments to certificate holders will include the profit as well as part of the contributed capital. And at maturity, they would receive the dissolution amount consisting of the profit and the remaining unpaid capital. It is important to note that the return on capital and installments are determined by the Istisnaʿ schedule which is derived from the sale side; in the hypothetical illustration of the model, it was assumed that the capital raised from Certificates holders is paid throughout the financing period, making the payment to investors consisting of two components- profit and their shares' buy back.

4. Calculating installment amortization schedule and certificate profit distribution

In order to illustrate the model correctly, it is pertinent to highlight the method through which each flow is calculated and determined. We would look at the calculations from the aspect of (i) potential clients who provide the installments as inflow to the project;(ii) the certificate holders to whom the profit is distributed, and (iii) the contractors who require a stable amount to be paid to them as the project progresses.

According to the Algerian Ministry of Housing, the average apartment size in Algeria is 80m^2 (3 bedrooms). For the sake of illustration, it is assumed that all apartments in the condominium are of the same size and cost. The cost of construction per meter square averages to 38,000 Algerian Dinars (approx. US $380) (Ministry of Housing, Algeria, 2016) on the assumption that the condominium contains 100 apartments and each condominium is one project for which an issue of certificates has been done. The total cost of construction would be assumed to be US $3,040,000. Hence the amount paid to the house constructor/contractor is determined as follows:

$$Total\ Project\ Cost = \sum_{i=1}^{n}(Cost\ per\ Square\ Meter \times House\ Area\ in\ Square\ Meter) \quad (1)$$

where n is the number of units in the entire project. On the other hand, the developer, under the supervision of the OPGI undertakes to approach potential buyers, provide them with various designs to choose from and sign them up for the project. The following equation is used to determine the installments for the buyers:

$$Total\ Price\ Receivable = Total\ Project\ Cost * (1 + Mark\ up\ Rate) \quad (2)$$

Furthermore, the Istisnaʿ sale agreement must be prepared before issuing the certificates, so that the total profit is known in advance, based upon which the division of the profit between investors and developer is made known. In this way the return on capital becomes known in advance and guarantees may be added to confirm execution. In order to ensure Shari'ah compliance, third party guarantee could be used as additional protection for the model and its cash flows.

The Istisnaʿ installments payable by the house buyers are calculated as follows:

$$Installment\ Payment = \frac{r(Total\ Price\ Receivable)}{1-(1+r)^{n}} \quad (3)$$

where *n* is number of scheduled payments, and *r* is the profit rate.

Once the installments are calculated, the amortization schedule that would be given to the client would be easy to derive where each payment will partially be towards the purchase of a portion of the house and the remainder would be the Istisnaʿ profit. To illustrate further, an amortization schedule based on a hypothetical example is included in Section 5 below.

Once the installment payments are collected from the clients, the Islamic Financial Institution would deduct its commission and management fees (i.e. 2% p.a.), leaving the remaining amount to be distributed based on the Modarabah arrangement between the Certificate holders (Rab al-Mal) and the Contractor (Modarib). In the hypothetical example, Modarabah profit is distributed between Certificate holders and Contractor at 90% and 10%, respectively. The payment to the Certificate holders is calculated as follows:

$$Mudharabah\ Payment_i = (Installment\ Payment - IFI\ comission) * r_i \quad (4)$$

where r is the Modarabah profit share; and i is the Modarabah party, Contractor or Certificate holders.

Furthermore, the contractor could impose a down payment on the client to protect itself as well as ensure the seriousness of the buyers. However, in the following hypothetical illustration, a down payment is not imposed. This is mainly to not inflict any extra burden on the house owners as the model aims to address the issue of middle income groups. In addition, in a country where housing shortage prevails, even if a customer opts out, replacement is likely to be found as there is a large demand.

5. Illustration of model

To illustrate the profit calculation mechanism for the certificate, an assumptive model is provided depicting the basic features of these certificates. While the actual implication allows for certain flexibility which will be explained later, the following assumptions were set for the sake of illustration:

Assumptions

i. Project's length is 5 years, at the end of which Certificates expire and the house ownership would be transferred to the buyers;
ii. The beneficiary of the finance and the obligor are an Islamic financial institution in Algeria;
iii. The cost of producing one unit is estimated to be $30,400; hence a condominium of 100 units would approximately cost $3,040,000 which is the total proceeds collected from the certificate holders and it will be given to the contractor as a lump-sum at the beginning;
iv. The Islamic Financial Institution would receive a commission that would cover the management cost amounting to 2% p.a., paid on quarterly basis;
v. All 100 houses would be sold and matched to the needs of the buyers. This would allow guaranteed returns;
vi. The units will be sold to the buyers at 20% mark up as this lays in the average profit margins for the housing industry (Wegman, 2015; Quint, 2016);
vii. Capital is paid back to the certificate holders at maturity along with the profit entitled to them at that period; and

viii. "Cost" is the total price paid to constructor to build the condominium.

The calculation of the cash flows based on the model and assumptions are shown in Table 2 below that presents the cash flows on year to year basis including the final dissolution and maturity period of the certificates.

Table 2: Housing Certificate cash flows

Year	Year 1				Year 2				Year 3	
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
	CASH IN ($)									
Certificate Proceeds ($10 each)	3,040,000									
Buyers' Instalment (PMT)	217,753	217,753	217,753	217,753	217,753	217,753	217,753	217,753	217,753	217,753
	CASH OUT ($)									
Construction Cost (Contractor)	3,040,000									
Islamic Financial Institution Commission (2% of total cost)	15,200	15,200	15,200	15,200	15,200	15,200	15,200	15,200	15200	15200
Net Profit	202,553	202,553	202,553	202,553	202,553	202,553	202,553	202,553	202,553	202,553
Profit to Contractor (Modarib) – 10%	20,255	20,255	20,255	20,255	20,255	20,255	20,255	20,255	20,255	20,255
Profit to Certificate-holders (Rab al-Mal) – 90%	182,298	182,298	182,298	182,298	182,298	182,298	182,298	182,298	182,298	182,298
NET INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Year	Year 3		Year 4				Year 5			
Quarter	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	CASH IN ($)									
Certificate Proceeds ($10 Dollars each)										
Buyers' Instalment (PMT)	217,753	217,753	217,753	217,753	217,753	217,753	217,753	217,753	217,753	217,753
	CASH OUT ($)									

Construction Cost (Contractor)										
Islamic Financial Institution Commission (2% of total cost)	15200	15200	15200	15200	15200	15200	15200	15200	15200	15200
Net Profit	202,553	202,553	202,553	202,553	202,553	202,553	202,553	202,553	202,553	202,553
10% profit to Contractor (Modarib) – 10%	20,255	20,255	20,255	20,255	20,255	20,255	20,255	20,255	20,255	20,255
Profit to Certificate-holders (Rab al-Mal) – 90%	182,298	182,298	182,298	182,298	182,298	182,298	182,298	182,29	182,298	182,298
NET INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

For transparency purposes, each customer would be given a detailed amortization schedule which would specify the portions of installments that would go towards the principal payment (i.e., purchasing of the house), and the portions of profit. Table 3 below represents the amortization schedule that would be given to the clients in the hypothetical model. The Table 3 shows the Istisnaʿ instalments and the components for each payment period.

Table 3: Istisna' Sale payment schedule (in $)

Payment No.	Payment	Value of Asset	Istisnaʿ Profit	Payment to Purchase house	End Value
1	217,753.59	3,648,000.00	63,840.00	153,913.59	3,494,086.41
2	217,753.59	3,494,086.41	61,146.51	156,607.07	3,337,479.34
3	217,753.59	3,337,479.34	58,405.89	159,347.70	3,178,131.64
4	217,753.59	3,178,131.64	55,617.30	162,136.28	3,015,995.36
5	217,753.59	3,015,995.36	52,779.92	164,973.67	2,851,021.69
6	217,753.59	2,851,021.69	49,892.88	167,860.71	2,683,160.98
7	217,753.59	2,683,160.98	46,955.32	170,798.27	2,512,362.71
8	217,753.59	2,512,362.71	43,966.35	173,787.24	2,338,575.47
9	217,753.59	2,338,575.47	40,925.07	176,828.52	2,161,746.95
10	217,753.59	2,161,746.95	37,830.57	179,923.02	1,981,823.94
11	217,753.59	1,981,823.94	34,681.92	183,071.67	1,798,752.27
12	217,753.59	1,798,752.27	31,478.16	186,275.42	1,612,476.85

13	217,753.59	1,612,476.85	28,218.34	189,535.24	1,422,941.60
14	217,753.59	1,422,941.60	24,901.48	192,852.11	1,230,089.50
15	217,753.59	1,230,089.50	21,526.57	196,227.02	1,033,862.47
16	217,753.59	1,033,862.47	18,092.59	199,660.99	834,201.48
17	217,753.59	834,201.48	14,598.53	203,155.06	631,046.42
18	217,753.59	631,046.42	11,043.31	206,710.27	424,336.14
19	217,753.59	424,336.14	7,425.88	210,327.70	214,008.44
20	217,753.59	214,008.44	3,745.15	214,008.44	0.00

Furthermore, another schedule (see Table 4) is given to the Certificate holders to show the breakdown of the components of the payment they receive, in order to identify the parts of the payments that are used to buy back their share of the house and the amount that is Mudharabah profit.

Table 4: Certificate Holders' payments schedule (in $)

Payment	Payment	Value of Certificate	Mudharabah Profit	to Purchase Share	**End Value**
1	217,753.59	3,648,000.00	63,840.00	153,913.59	3,494,086.41
2	217,753.59	3,494,086.41	61,146.51	156,607.07	3,337,479.34
3	217,753.59	3,337,479.34	58,405.89	159,347.70	3,178,131.64
4	217,753.59	3,178,131.64	55,617.30	162,136.28	3,015,995.36
5	217,753.59	3,015,995.36	52,779.92	164,973.67	2,851,021.69
6	217,753.59	2,851,021.69	49,892.88	167,860.71	2,683,160.98
7	217,753.59	2,683,160.98	46,955.32	170,798.27	2,512,362.71
8	217,753.59	2,512,362.71	43,966.35	173,787.24	2,338,575.47
9	217,753.59	2,338,575.47	40,925.07	176,828.52	2,161,746.95
10	217,753.59	2,161,746.95	37,830.57	179,923.02	1,981,823.94
11	217,753.59	1,981,823.94	34,681.92	183,071.67	1,798,752.27
12	217,753.59	1,798,752.27	31,478.16	186,275.42	1,612,476.85
13	217,753.59	1,612,476.85	28,218.34	189,535.24	1,422,941.60
14	217,753.59	1,422,941.60	24,901.48	192,852.11	1,230,089.50
15	217,753.59	1,230,089.50	21,526.57	196,227.02	1,033,862.47
16	217,753.59	1,033,862.47	18,092.59	199,660.99	834,201.48
17	217,753.59	834,201.48	14,598.53	203,155.06	631,046.42
18	217,753.59	631,046.42	11,043.31	206,710.27	424,336.14

19	217,753.59	424,336.14	7,425.88	210,327.70	214,008.44
20	217,753.59	214,008.44	3,745.15	214,008.44	0.00

Thus at maturity, the summary of the model is as follows:

Table 5: Summary of total payments to each party

Account	Amount (US $)	Ratio to Total Project Cost
Total Amount paid to contractor	$ 3,445,107	1.13
Total Amount paid to Certificate Holders	$ 3,645,964	1.20
Total Amount Received by Buyers	$ 4,335,071	1.43

From the illustration of the model, a few points can be concluded regarding the unique features of the model used. An advantage of this model is that potential buyers do not really bear the cost of financing. Since they make their payments based on house sale on an Istisnaʿ basis with a markup, the project would manage its liquidity to match the inflows and outflows.

As indicated in the hypothetical simulation, in order to minimize cost of issuance of Certificate, the Islamic institution may choose to only issue certificates at the beginning of the project that would ensure cost coverage for the first stage. However, this must be done while taking into consideration the expected length of the project and the suitable payment schedule for potential buyers.

Since the Certificates are based on Istisnaʿ, the house project remains the underlying asset throughout the project's life until maturity, when the house is complete and the potential buyers pay their last installment and take possession of the house. It is only then that the house ownership is transferred to them. It is important to note that the buyers take possession of the house at the end of the construction; hence we must differentiate between taking possession and ownership transfer. The fact that the underlying asset, i.e. the house 'belongs' to the project ensures the negotiability of the Certificates at any point in time and hence makes it easy for their holders to exit, if they so wish.

6. Risks involved

Table 6 Risk Profile Summary for each party

Party	Risk Profile Summary
Buyer	Contractor Performance Risk Market (Price) Risk
Certificate Holders	Profit Rate Risk Market Risk Liquidity Risk Credit (and Performance) Risk
Contractor	Market (Price) Risk Credit Risk Liquidity Risk
All Parties	Shari'ah Risk

A major risk component in this model is liquidity risk (see Table 6), since the project involves several cash inflows as well as outflows; any delay in payment from the clients' side might adversely affect the project as a whole. To mitigate that, as a liquidity management tool, parts of the profits are transferred into a reserve on an annual basis to act as a buffer should any liquidity risk arise. In such a case, the money from the reserve would be used to pay any amounts that are due. This would ensure liquidity risk to be minimal.

Credit risk (i.e. default risk) is another major risk that Certificate Holders and Contractors may face. It is usually correlated to the credibility of the individuals who are potential owners and it can be mitigated using appropriate guarantees and collaterals. As noted earlier, potential buyers are required to pay a down payment to ensure their seriousness. And due to the nature of the housing industry, it is less likely for a person to bail out buying a house once they have made such payments.

Contractor Performance Risk is an important risk that faces the buyer of the house, although relying on private contractor as proposed in the model is expected to promote better quality of house, especially compared to the current status of housing in Algeria.

Another very important risk element especially in a country such as Algeria is profit rate and market risk. This includes foreign exchange

risk, USD price in Algerian Dinars, as well as price risks of construction and materials and price risk of real estate including the land (Rahman et al., 2010). With the prevailing market rates fluctuating, certificate holders and contractors may adversely be affected as the opportunity cost of their investment would be higher. Having the certificates being denoted in US Dollars would ensure better stability of return for the certificate holders in terms of return. Besides, all transactions being in US Dollars would give a very strong incentive for foreign investors as well as Algerian citizens living abroad to invest in these housing projects or as potential buyers. Also, as has been suggested in the model, the profit rate agreed upon contractually could be determined with inflation taken into consideration (Ramli & Ramli, 2013).

Shari'ah risk is a risk that faces all parties. This risk arises from the Shari'ah compliance of each contract and its dynamics. In the model, the main contracts are Istisnaʿ Sale, Musharakah (joint partnership) and Wakalah (Agency relationship). Each of these should be analyzed in order to highlight the possible Shari'ah incompliance. For Istisnaʿ, certain elements such as specification of the house structure at the time of written offer, and known time of delivery to avoid *gharar* (ambiguity) (ISRA, 2014) need to be in existence in order to avoid any Shariʿah incompliance issues. On the other hand, in a Modarabah contract, the Modarib (Contractor) must ensure transparency in reporting and distributing the returns and profits to the Certificate Holders on regular bases (Bank Negara Malaysia, 2010).

7. Marketing the Product

The structure allows production and distribution of houses at competitive prices for clients and attractive profit to investors. Since the contractor would be in charge of managing the project, there would be direct contact with investors as well as the construction company. With part of the profits being placed in a reserve, with time, that money can be used to start other construction projects which would even promote self-financed projects. This would further contribute to lowering the cost of housing, especially if local or in-house construction companies could be developed - a solution for the problem of very high real estate prices.

Since Istisnaʿ is the basis of the arrangement with potential buyers, certificate holders would be ensured not only stable and pre-known returns and payments, but also negotiability of the Certificate which makes an exit easy.

Aside from fulfilling the dire need of such financing models in the country, this model would also ensure quality and efficiency. Being held by the private sector, the Islamic financial institution as well as the construction company will be bound to carry out their duties competently.

In addition, it is also attractive to customers because not only are the prices competitive, but it can also accommodate for flexibility of dates and payments. This would enable the client as well as other parties involved to identify the payment details and decide what is most suitable to them and agree upon it. Furthermore, since it is based on Istisnaʿ and it is privately managed, there is a choice of having more than one design of housing for the clients to choose from. This would further make the houses more attractive for the public.

Another positive point to highlight is the fact that as the current housing market in Algeria is facing tremendous shortage, even if a client defaults or requires an exit, the market risk of not finding another client to buy the house is likely to be very low.

7.1 Profitability

The profitability to the certificate holders in this house financing model comes mainly from the Istisnaʿ sale of the housing to the potential buyers. Being based on Istisnaʿ gives it the advantage of having a stable return just like Murabaha and yet maintaining its negotiability. This would also protect it from market risk since it is pre-agreed. Furthermore, this would provide better control for the project management to manage its funds and cash flows and hence better liquidity matching.

7.2. SWOT Analysis

In order to evaluate the model proposed in this paper, a SWOT analysis is done to highlight the Strengths, Weaknesses, Opportunities, and Threats accordingly, with a brief explanation following each:

Strengths

1) This housing product has several strengths that give it an advantage over the current housing structures used in the country;

2) Shari'ah Compliant. Unlike the existing house financing models used in the country, this would give a Shari'ah compliant alternative;
3) Fixed and stable returns (involving Istisnaʿ sale). This would safeguard the investors' interests. Unlike models that depend only on diminishing Musharakah, the inclusion of Istisnaʿ gives us the chance to employ the advantage of having a constant, stable, and known return throughout the house financing. And with the use of a second party guarantee through the bank, the flow of the project could be monitored throughout its progress;
4) Negotiability of Certificates and ease of exit. This can be achieved by selling the certificate as a certificate representing part of the whole project. It does not require substantial government financial support, since it could be managed by private financial institutions or Islamic banks. This would also trigger competition among the private sector and incentivize it to grow;
5) Flexibility. Depending on the house financing project and the needs of its clients, the model could be modified to distribute the profits on monthly or quarterly basis, depending on the agreed arrangement.

Weaknesses

1) House financing is a long term project., This could increase the risk exposure to economic and socio-political turbulences;
2) The Algerian financial market is inactive and the high presence of the parallel market could be a huge challenge when attempting to introduce new private initiatives. This is specifically relevant to financing the building materials.

Opportunities

1) The application of this model would trigger tremendous growth in the private sector's involvement in economic development. This would increase competition and promote efficiency. Currently a major weakness in the country's economy is its reliance on government. Private sector's growth would mean higher competition, which would in turn trigger private

companies to perform efficiently and ultimately promote a better economic growth;

2) Like most of the countries in the region, thousands of Algerians live abroad. Many of these would be interested in investing their money locally. The proposed housing certificates could also attract foreign investors into the market, which would mean greater mobilization of funds into ongoing projects;
3) The proposed model poses a great opportunity for the housing sector of Algeria to rejuvenate itself. Along with the involvement of the private sector, the chronic problem of the housing sector in Algeria could come to an end through establishment of better quality houses. In addition, due to the nature of the system, issues such as waiting periods would be reduced.

Threats

1) One of the main concerns is the government holding on to its restrictions on the housing sector and not allowing any private involvement. Injecting their money into restricted projects held by the government would not be appealing to investors.
2) Another threat could be the lack of financial literacy, whether it comes from the clients, financial institutions, or even property developers, especially towards Shari'ah compliant models, which are considered to be alien to the Algerian housing industry, let alone the country. However, this could be avoided through promoting the model through provision of technical assistance and training for the targeted parties.

8. Shari'ah Considerations

Just like in the case of any new Islamic financial product, it is important to highlight the Shari'ah viewpoint about the underlying contracts, be it in their individual nature or as a whole model. The fact that the housing certificates described in this paper involve various contracts that take place at various stages of the model's execution means that we must ensure that any possible Shari'ah concerns are addressed thoroughly.

One of the possible Shari'ah concerns comes from the fact that the Sukuk represents an undivided ownership share in the underlying asset. This issue has been rightly settled by Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) as well as the

OIC Fiqh Academy who were of the opinion that it is okay for Sukuk to represent a project and not necessarily a divided asset. The AAOIFI (2008) defines Sukuk in their Shariah Standards as, "Certificates of equal value representing undivided shares in the ownership of tangible assets, usufruct, and services or (in the ownership of) the assets of particular project or special investment activity" (p. 308). From this it can be explicitly concluded that there is no Shari'ah objection for having certificates that represent whole projects.

Another element that may raise Shari'ah concerns is the fact the according to the OIC Fiqh Academy, Istisnaʿ Sukuk are non- negotiable since the underlying asset is a debt in kind (i.e. the house). However, it must be clarified that the Academy's opinion was in the light of the Istisnaʿ Sukuk which typically involves parallel Istisnaʿ to ensure exit is possible. That is not the case here as there is no parallel Istisnaʿ needed in the proposed model since the exit is done through the house purchased by the client after constructing it. Therefore, this is not a Shari'ah concern and the proposed Sukuk is indeed tradable and negotiable.

Therefore, it is safe to say that there is nothing in the proposed model and the structure of these certificates that are in conflict with the Shari'ah or may limit their listing and negotiability in the market. Once the terms and conditions of the certificates' mechanism have been laid out in consultation with the relevant Shari'ah board, constant supervision would not be required as the terms and conditions of the contracts are sufficient to ensure Shari'ah compliance of the project.

9. Conclusion

In conclusion, the proposed housing certificates have the potential to contribute significantly to the troubled housing sector in Algeria. Not only do they provide the market with a Shari'ah compliant alternative but also attractive potential returns are offered for investors. With the positive outlook posed by the domestic savings and investment balances in the coming years, it is a great opportunity for the private sector to make its way into the housing industry. This should take place in line with supportive government regulations which include loosening the restrictions on housing and reducing subsidies. In order to prevent prices from spiralling and causing unwanted disturbances, the government could incentivize the sector through special tax exemptions

or reductions. This would attract funds into the housing development sector and promote efficiency.

The proposed certificate arrangement has an advantage over other Shari'ah compliant house and mortgage models due to the involvement of Istisnaʿ which not only offers certificate holders with fixed and determined returns but also maintains negotiability throughout the project's life. Although the paper focused on Algeria and the model was designed to address the challenges facing the Algerian market, the model could be applied in other contexts. It could be used to finance the construction of houses even in countries where housing construction is privately dominated. The proposed model acts as a Shari'ah compliant alternative to housing construction financing.

Lastly, the proposed housing certificate can provide stable returns to investors, and flexibility to clients seeking house financing; as well as induce reduction of government support to the sector, all of which means higher efficiency and better house financing schemes. Moreover, the flow of funds throughout the model implies that good liquidity will be maintained across the involved parties despite the fact that it is considered to be mid to long-term financing arrangements which usually face liquidity problems and market exits. But in order to witness the success of such arrangements, the Algerian Government must take the initiative and adopt new policies which will attract private local as well as foreign investors and property developers into the market.

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