UTILISATION OF REGULATORY MECHANISMS OF PROJECT FINANCE FOR THE ENHANCEMENT OF WATER SUPPLY SYSTEMS IN NIGERIA

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Abstract
Millions of Nigerians have limited access to clean water supply services. This article focuses on examining the utility of project finance and its mechanisms in revamping Nigeria's urban and rural water supply services. Adopting the doctrinal research methodology, it enunciates multifarious aspects of project finance and its applicability in enhancing access to funding for purposes of developing urban and rural water supply services and systems in Nigeria. The article finds that the praxis of project finance will shore up the prospects of capacity building towards the realisation of enhanced and efficacious urban and rural water supply services in the country. Thus, it advocates for the utility of project finance and its requisite regulatory mechanisms for purposes of capacity building towards an efficacious urban and rural water supply systems and services across Nigeria.

Key words: Project finance, Nigeria, Water supply services, bonds, securitisation.

1. Introduction

Men have used water since the dawn of history and all biological life is dependent on water.[1] Access to clean water remains a major problem globally. In 2021 alone, it has been estimated that than 1.42 billion people - including 450 million children – are living in areas of extremely high water vulnerability.[2] This means that 1 in 5 children worldwide do not have enough water to meet their everyday needs.[3] The situation in Nigeria is more worrisome because it is not that these people do not have access to water but the issue here is access to clean and portable water. In 2021, about 70 per cent of Nigerians were reported to have access to basic water services, however more than half of these water sources were contaminated. And although 73 per cent of the country's population had access to a water source, over 86 per cent of Nigerians lacked access to a safely managed drinking water source.[4] This problem is further compounded with the fact that children are the most vulnerable victims with 26.5 million Nigerian children (29% of Nigerian children) experiencing high or extremely high water vulnerability. Inadequate access to clean water in Nigeria

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[1] E Wagner and JN Lanoix, Water Supply for Rural Areas and Small Communities, World Health Organization Momograph Series , no. 42(Geneva, 1959) 13

[2] United Nations Children's Emergency Funds (UNICEF) Press Release, Nearly one third of Nigerian children do not have enough water to meet their daily needs, (22 March 2021) < https://www.unicef.org/nigeria/press-releases/nearly-one-third-nigerian-children-do-not-have-enough-water-meet-their-daily-needs#:~:text=Although%20about%2070%20per%20cent,available%20to%20a%20Nigerian%20daily. > accessed 18 February 2022

[3] ibid

[4] ibid

has been identified as a contributory factor to high mortality rate especially among children.[5] Such situation was attributed to the consumption of contaminated drinking water which exposed the populace to water-borne diseases leading to the death of over seventy thousand children annually. The problem of access to water in Nigeria has been graphically depicted by the World Bank as follows:

> In 2019, approximately 60 million Nigerians were living without access to basic drinking water services, 80 million without access to improved sanitation facilities and 167 million without access to basic hand washing facility. In rural areas, 39 per cent of households lack access to at least basic water supply services, while only half have access to improved sanitation and almost a third (29 per cent) practice open defecation-a fraction that has marginally changed since 1990.[6]

Factors that attribute to this problem include corruption, embezzlement of public funds, misappropriation of funds, corrupt leaders in power, inadequate funds. This is because as an oil producing state with rich natural resources, it is surprising that even in the 21st century, a nation such as Nigeria will be so impecunious as to be unable to provide something as basic as clean water for its citizens.[7] Urban and rural water supply inadequacies in Nigeria are fundamentally attributed to paucity of funds. Hence, it is expedient to explore strategies to raise funds by way of project finance. The theory and practice of project finance is complex. These involve the issue of raising funds, management of conflicting interests of host government and sponsors and the management and amelioration of risks, the question of possible completion of a given project, the question of repayment of loans and generation of profits by investors.

Project finance is usually used to attract international financing for many large scale projects, helping to meet investment needs in infrastructure and other sectors[8]. The development and spread of project finance has been motivated by mainly the world wide process of deregulation of utilities and privatisation of public sector capital investment. As an appropriate method of long term financing for capital intensive industry where the investment financed has a relatively predictable cash flow, it has played an important part in providing the funding required for this change[9]. In this article, Nigeria, a developing country in West Africa is focused on as a case study to discuss different aspects of project finance mechanism, bearing in mind that this country is in need of the construction of water supply and water treatment plants and related infrastructure in both urban and rural areas. This article also discusses the advantages, disadvantages, risks and possible suggestions on ways to ameliorate the risks associated with project finance.

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[5] UNICEF, 'Water, Sanitation and Hygiene' <https://www.unicef.org/nigeria/water-sanitation-and-hygiene> accessed 14 October 2021.

[6] The World Bank, 'Improving Water Supply, Sanitation and Hygiene Services in Nigeria' <www.worldbank.org/en/news/press-release/2021/05/25/improving-water-supply-sanitation-and-hygiene-services-in-nigeria> accessed 14 October 2021.

[7] This researchers will focus on the issue of inadequate fund and whether project finance proffers any solution.

[8] Priscilla Anita. Ahmed, *Project Finance in Developing Countries, International Finance Corporation* (World Bank Publications, 1999)

[9] E. R. Yescombe, *Principles of Project Finance*, (Carlifornia: Academic press, 2002).

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2. The Concept of Project Finance

Project finance generally refers 'to a non-recourse or limited recourse financing structure in which debt, equity and credit enhancements are combined for the construction and operation, or the refinancing of a particular facility in a capital-intensive industry.'[10] Project finance has also been defined as 'the process of financing a specific economic unit that the sponsors create, in which creditors share much of the venture's business risk and funding is obtained strictly for the project itself.'[11] Project finance is usually used to build energy infrastructure for both industrialised and emerging markets; development of pipelines and refineries for exploitation of natural resources. It is also used in the construction of capital intensive projects, example, water treatment plants and underground water pipes and plumbing. Project finance is generally governed by contract law, case laws, and company law, as well as fiscal and insolvency legislations.[12]

3. The Basic Procedure of Project Finance

The identification of project is a vital and first stage in the planning and execution of project finance. This could be done by either the government or private sector. The project promoter must make a commitment, visit the targeted country (not compulsory), meet and strategize with potential partners. This is highly recommended for better assessment of the profitability and success of the project to avoid some risk[13]. At this stage also, it is necessary to consider whether the project in question is needed in the given environment or country. As this article portrays, the construction of water supply and water treatment plants and related infrastructure in both urban and rural areas is a desirable demand in Nigeria. As a developing country, the construction of water supply equipment and water treatment plants and related infrastructure in both urban and rural areas is needed in this society unlike in countries such as the United Kingdom, Germany and the likes, which have well developed water supply systems.

Secondly, the sponsors of the project form an association to pursue the project.[14] The host government is usually part of the sponsors. There is a careful detailed plan to determine the feasibility of launching the project. Here, the market, cost, revenue, and the competitive advantage, especially on the issue of competitive price to encourage the users of the project, as in this case, a reasonable water supply rate is determined. Most developing countries can only be encouraged to patronise the services of water supply rate that the price is low. For Nigeria, the case is no different. This is because more than half of the population are so impecunious that they can barely manage to afford 2 square meals, especially because they survive on less than 1 dollar daily.[15] Therefore, it

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[10] Andrew Fight, *Introduction to Project Finance* (Butterworth-Heinemann, 2006) 1; Scott L. Hoffman S.C *The Law and Business of International Project Finance,* (3rd edn Cambridge, Cambridge University Press, 2007); S. Gatti*, Project Finance in Theory and Practice, Designing, Structuring, and Financing Private and Public Projects*, (Academic Press, 2008).

[11] Joàno M. Pinto, 'What is Project Finance?'< https://dx.doi.org/10.21511/imfi.14 (1-1).2017.06> accessed 14 October 2021.

[12] ibid

[13] Michael Sudarkasa, Five basic steps to finance your project. African Technology Forum < http://web.mit.edu/africantech/www/articles/5steps.html > accessed 14 October 2021.

[14] Michael Rowe: Trade and Project Finance in Emerging markets, unit 5, lecture note on International Business Transaction, 115.

[15] According to the National Bureau of Statistics (NBS), its "2019 Poverty and Inequality in Nigeria" report highlights that 40 percent of the total population, or almost 83 million people, live below the country's poverty line of 137,430 naira ($381.75) per year. See The World Bank Brief, Nigeria releases new report on poverty and inequality in country,

will be in the interest of the project for the price for the price to be affordable. Thirdly, identification of sources of technology follows. Owing to the complex nature of water supply construction project, there is the need to bring in or employ the services of technical consultants or staff for the right skills needed for the water supply project. Advisors and experts analyse the project and search for finance.[16] Identification of sources of project finance is the next stage. It is important to note that in trying to obtain funds for the project, the sponsors of the project usually contribute some percentage in the execution of the project. This establishes their commitment to the project and it would encourage other financial bodies to invest in the project.

Finally, is the mitigation of project risks. Like many events, project finance is also faced with some unforeseen challenging risks such as political risk, environmental hazard, and etcetera. Therefore, there is the need for guarantees from government, insurance, securitisation and other necessary forms of risk mitigating factors. This is also necessary because loans are arranged to be repayable from operating revenues.[17]

4. Requirements for Project Finance

(a) Technical Feasibility: Lenders want to know the certainty of the technological processes of the water project and whether the technical feasibility is generally accepted. Lenders require verifying options and sometimes they have to invite independent engineering consultants for advice because they would not want to lose their investment.[18]

(b) Economic Viability: The project is expected to be economically sufficient and successful to generate income project even in unfavourable conditions. The market price should be with the market rate and should be accessible to consumers[19]

(c) Availability of Raw Materials: Raw materials and other factors of production are very important because it affects product price. When there is scarcity of raw material, cost of production will be high and this will increase product price that might lead to decline in demand, and vice versa. Sourcing raw material locally will reduce the cost for production.

(d) Good Management: Experienced and capable management is vital to see to the running of the project at every stage because it will help in the accomplishment to the project.

(e) The Project should be needed in the Proposed Environment: It is also important that the project is situated in a place where it is needed. As the question portrayed, the water supply project is expected to be a major means of water supply. This depicts that there is inadequate supply of clean water in Nigeria. There is the positive prediction that the people require water as a basic necessity. There exits high demand for clean water in virtually all urban and rural areas in Nigeria. Most rural settings lack access to clean water supply as they often depend on 'wells' (a kind of hole dug

(28 May 2020) < https://www.worldbank.org/en/programs/lsms/brief/nigeria-releases-new-report-on-poverty-and-inequality-in-country > accessed 18 February 2022.

[16] Rowe (n 15)

[17] ibid

[18] Andre Fight (n 5).

[19] ibid

in the ground for the collection of water) and other untreated water sources from streams and rivers.

5. Construction Contracts

As required in this article, it will be necessary to discuss the nature of construction contract in project finance because construction contracts might be simple in theory but notoriously difficult in practice. Owing to this, there are some variants to the formation of some general standards which include the following:[20]

(a) How will the construction arrangements be structured? In a complex construction project comprised of various interlocking parts (example, a combination of civil, mechanical and electric job), the fundamental decision to be taken is whether to have a contractor responsible for all of the works. There is also an option in international projects like the water engineering firms where the contract companies form a contracting consortium which assumes all the responsibility while the employer retains his single point of call.[21]

(b) Who is responsible for the design of the works? In a simple construction contract, design is the employer's responsibility. The alternative approach is for the employer to let a "design and build" construction contract where the contractor's professional team commissioned by contractor make a design. Both approaches found in major projects, especially the later approach is more prevalent in international competitions where the government put large infrastructure projects out for design, examples bridges and underground water pipes[22].

(c) Is there a fixed price for the works? The price for the works in a major project is normally fixed to some degree but it is important to be aware of standard price "re-openers". A contractor's price may include provisional sums (estimates for work which he was for whatever reason, not able to price items of work and items for which he is to be paid on a cost reimbursement (plus agreed profit margin) basis. Furthermore, any fixed price will usually be capable of being increased for any extra work that the contractor has to carry out because of the occurrence of risks assumed by the employer. These risks would, in a typical construction contract, include the risk of unforeseen ground conditions, the risks of discovery of fossils and antiquities and the risk of a change of law affecting the works[23].

(d) Is there a fixed date for completion of the works? Whilst a date for the completion of the construction is invariably specified, there are usually certain risks assumed by the employer (example, unforeseen ground conditions and exceptionally adverse weather conditions) which will entitle the contractor to an extension of time and, of an obligation to diligently pursue the works). The way to avoid it is to stipulate that the date in question is extended by any period during which the project company is prevented from carrying out the activity in question by force majeure"[24].

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[20]G.V. Vinter, *Project Finance* (3rd edn Sweet & Maxwell, 2005).
[21] ibid.
[22] ibid.
[23] ibid.
[24] Graham D. Vinter, *Project Finance* (3rd edn Sweet & Maxwell 2005) 94-97.

6. Forms of Project Mechanism

a) Build-Own-Operate-Transfer (BOOT): In this mechanism, the project company constructs the project and owns and operates it for a set period of time, earning the revenues from the project in this period, at the end of which ownership is transferred back to the public sector. Example, the project company may build a power station, own it for twenty years during which time the power generated is sold to an off taker (example, a state owned electricity distribution company) and at the end of that time, ownership is transferred back to the public sector.[25]

b) Build-Operate-Transfer (BOT): This is also known as Design-Build-Finance-Operate (DBFO) projects. In this type of project, the company never owns the assets used for the project services. However, the project company constructs the project and has the right to earn revenues from its operation of the project. (It may also be granted a lease of the project- this is known as build-lease-transfer (BLT) or build-lease-operate-transfer (BOLT). This structure is used where the public nature of the makes it inappropriate to be owned by a private-sector company- example, a road, bridge, or tunnel- and therefore ownership remains with the public sector.[26]

c) Build-Transfer-Operate (BTO): This is similar to a B.O.T Project except that the public sector does not take over the ownership of project until construction is completed.[27]

d) Build-Own-Operate projects are ownership: remains with the project company throughout its life span. The project company gets the benefit of any residual value in the project.[28] Generally, a project company would always prefer to own the project assets, but if this does not apply, the most important thing is not to own assets but in the right to receive cash flows from the project. [29]

At this point, it is necessary to recommend the B.O.T. model for the water network/system in question because it is a possible model for attracting private and improved efficiency into essential public investment projects.[30] It will help transfer technology in developing country such as Nigeria. There are other advantages for recommending this mechanism which is discussed later.

7. Sources of Finance For Water Project

The huge amount of money required for the execution of the water systems can be obtained through the following means: Money from government through grants, loans; equity, bilateral loans, multilateral, commercial loans, capital market instruments (example private placements and commercial paper), subordinated shareholder loans, swaps and other risk management instruments overrun facilities and working capital facilities.[31]

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[25] ibid.
[26] ibid 10
[27] ibid 10
[28] ibid 11
[29] ibid 11
[30] Baidoo, K. Can BOT Model work for Ghana? General News of Friday <http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=183> accessed 15 October 2021.
[31] 'Guide to Infrastructure Financing https://assets.henley.ac.uk/v3/commonImages/icma-import/AFME_Guide_to_Infrastructure_Financing9.pdf accessed 14 October 2021.

Advantages of Project Finance

The advantages of project finance are numerous. The first is that project finance affords for a favourable tax treatment as it is driven by tax efficient consideration. Tax allowances and tax breaks for capital investments can stimulate the adoption of project finance. Projects that contract to provide a service to a state entity can use these tax breaks or subsidies to inflate the profitability of such ventures. Project finance promotes the avoidance of restrictive covenants in other transactions. Since project finance is separate and distinct from other operations and projects of the sponsor; existing restrictive covenants do not typically apply to the project financing. It permits a project sponsor to avoid restrictive covenants such as debt coverage ratios and provisions that are a cross-default for a failure to pay debt, in the existing loan agreements and indentures at the project sponsor level.[32] Furthermore, the benefits of project finance afford parties the opportunity of contracting using favourable financing terms. This is because where a project is properly structured financially, it enhances credit and risk profile and makes it possible to obtain more favourable pricing than that obtained from the project sponsor's credit risk profile.[33] There is a tendency to ensure political risk diversification. Here, the establishment of Special Purpose Vehicles (SPVs) for projects help protect the sponsors from adverse political developments such as forceful takeover of government, change of policies.[34]

Another advantage is the wide spread of risks associated with the project. Joint ventures help the sponsors to share risks among different parties. A decision to finance the project alone can jeopardise the sponsor's future if the project fails.[35]Additionally, project finance affords the opportunity for collateral limited to Project Assets: Usually, non-recourse finance loans believed to come only from the project assets. While limited recourse to the assets of the project sponsor is sometimes required as a way of incentivizing the sponsor. It creates an opportunity for lenders to participate in a workout than a foreclosure. Where there is difficulty in the execution of the project, the best chance of success is in finding a workout solution rather than foreclosing. Lenders are more likely to cooperate in a scenario to minimise loses.[36] Another advantage of project finance includes the benefit of technology transfer. Therefore, the execution of highly technical projects like construction of bridges, refineries and water networks helps in transferring modern technology to less developed countries.[37]There is also the encouragement of expertise. Here, project finance encourages expertise because specialists for different stages are employed to handle specific areas because the huge infrastructure demands the involvement of experts to the execution of the project. Project finance creates employment opportunities for both skilled and unskilled labour. The citizens of the host country are likely to be employed because there are some aspects of the project, usually the unskilled labour that would require local recruitment.

Just like there are great benefits in project finance, disadvantages also exist. First, the process of project finance is complex and complicated and can result in conflicts among the many participants

[32]S. Gatti, (n 5).
[33] ibid
[34] ibid
[35] Herman Vantrappen and Daniel Deneffe, 'Joint Ventures Reduce the Risk of Major Capital Investments' <https://hbr.org/2016/04/joint-ventures-reduce-the-risk-of-major-capital-investments> accessed 14 October 2021.
[36]S. Gatti, (n 5).
[37] ibid.

with the negative effect of increment of cost to pay lawyers, to compensate third parties[38]. There is also the problem of increased lender risk. This is because sometimes the available means to enhance the risk acceptable levels are limited since the banks are not equity risk takers. This also leads to expensive process of due diligence by specialised consultants such as engineers, lawyers. Furthermore, there is the challenge of who supervises the lender. The strong desire for the protection of interest, recovery of debts, drives the lender to supervise the project closely. This could lead to interference that might jeopardise the completion of the project if unresolved dispute arises. Increased Insurance Coverage is another challenge encountered in project finance. The non-course nature of project finance means that risks need to be mitigated. Some of these risks can be mitigated via insurance. This however can increase cost which in itself, raises other risk issues such as pricing and successful syndication. Another disadvantage centres on the cost of the transaction which is usually high and in some cases may outweigh the benefits of the project. The complexity of project financing arrangement can result in a transaction whose costs are so great as to offset the benefits of the project financing structure. Project finance is time consuming due to the complexities involved in setting things in notion and its bureaucratic nature.

Funding Water Project In Nigeria

With the support of the World Bank and other development partners, the Federal Government of Nigeria has developed several initiatives designed to address its citizen's limited access to safe and portable water. A good example of such initiative is the National Urban Water Sector Reform Program (NUWSRP). The NUWSRP has several objectives which include: sector reform, water utility sustainability and commercial viability, infrastructure improvement, service reliability and performance enhancement and increased access to quality piped water networks in urban areas nationwide. Achievements have been recorded through the NUWSRP. They include the construction of over 2,300 additional water points, 6,546 sanitation compartments and hygiene facilities across the country; creation of 12,435 direct and 24,870 indirect jobs since 2015 and the certification of a total of 33 Local Government Areas within nine States as Open Defecation Free (ODF).[39]

Apart from this, Nigerian government in 2021, secured a $700 million loan from the World Bank for specific water projects. The beneficiary states comprise Imo, Delta, Bauchi, Ekiti, Katsina, Kaduna and Plateau who are to benefit from the first tier of the $700 million loan.[40] Despite these projects, the federal government has stated that most of the problems associated with water supply in the country are the responsibilities of state governments. This was made known by the Minister of Water Resources, Suleiman Adamu who noted that the federal government's job in the area of water supply is to provide support for states. According to him "what Nigerians need to understand is that federal government is not responsible for providing water in their taps, that is the responsibility of state governments and that is why we don't have a federal water board.[41]

[38] Gatti (n 5).

[39] The World Bank, 'Nigeria: Ensuring Water, Sanitation and Hygiene for All' (26 May 2021) < https://www.worldbank.org/en/news/feature/2021/05/26/nigeria-ensuring-water-sanitation-and-hygiene-for-all > accessed 19 February 2022.

[40] Sodiq Omolaoye, Nigeria secures $700m World Bank loan for water projects, The Guardian, 21 December 2021, < https://guardian.ng/news/nigeria-secures-700m-world-bank-loan-for-water-projects/ > accessed 3 March 2022.

[41] ibid

In relation to legal instruments regulating project finance in Nigeria, they include:

a) Infrastructure Concession Regulatory Commission (establishment) Act 2005- this law covers private sector participation in federal infrastructure.
b) Companies and Allied Matters Act. This regulates the affairs and dealings of assets of companies generally.
c) Stamp Duties Act;[42] this is the fiscal instrument relating to perfection of security in Nigeria
d) Bankruptcy Act;[43] this relates to insolvency legislation and applies to individuals and corporate entities.
e) Conveyancing and Law of Property Act of 1881;
f) Property and Conveyancing Law of 1959 (PCL);
g) Land Use Act;[44] this regulates dealings in land and securities on project sites.
h) Mortgage and Property Law, 2010- applicable to land transactions in Lagos state.
i) Registration of Titles Law- applicable to land transactions in Lagos State
j) Foreign Exchange (Monitoring and Miscellaneous Provisions) Act.[45] This is the authoritative law relating to dealings in foreign currency and applies to international project finance transactions or transactions in foreign currencies
k) Secured Transactions in Movable Assets Act 2017. This provides for secured transactions and the registration and regulation of security interests in movable assets and related matters.

Risks of Project Finance

There are risks involved in project finance. Some of the risks associate with it is highlighted below.

i. Design and Construction Risks: One of the risks that might be faced in construction project is that the design on paper may not fit the site. For example, a water supply plant design fit for England may not be fit for Nigeria or Ghana. Therefore, this could pose a construction risk because there could be the probability that the natural environmental constitution of the proposed site might be adversely affected if such a project is construction. The design on paper might also not fit the legal regulation of the host country. The construction and development risks could result to shortfalls in output costs, overruns, delays in completion and workforce availability.[46]
ii. Political Risks: This might be caused by actions such as changes of laws that may adversely affect the project.[47] According to Rowe, political risk could be worrisome in acute project financing especially where the project is likely to be closely linked to the infrastructural requirements of the host country and may require a series of permits and concessions. It is important to mention that forceful takeover of

[42] Stamp Duties Act, Cap S8, Laws of the Federation of Nigeria, 2004
[43] Bankruptcy Act, Cap B2, Laws of the Federation of Nigeria, 2004
[44] Land Use Act, Cap L5, Laws of the Federation of Nigeria, 2004
[45] Cap F34, Laws of the Federation of Nigeria, 2004
[46] Gatti, (n 5) 33.
[47] Stephany Griffith-Jones and Ana Teresa Fuzzo de Lima, 'Alternative Loan Guarantee Mechanisms and Project Finance for Infrastructure in Developing Countries' <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.624.1244&rep=rep1&type=pdf> accessed 14 October 2021.

government can pose a risk for the investors because it may lead to absolute halt of an on-going project thereby leading to financial lose. However, presently, forceful military takeover is becoming a thing of the past.

iii. Fluctuation of Exchange Rates: Fluctuations in exchange and interest rates, volatility in world prices, inflation pose serious financial risks for the lenders.[48]

iv. Regulatory Risks: This could take place where there are unanticipated changes in regulations or failure of the government to implement some regulations that could affect the project.[49]

v. Price or Tariff Risks: There could be risk of the government failing to implement tariff adjustments because of political considerations. There is the tendency that the lenders would have been attracted by the cost or other tariff policies of the host government before going into such project. The host government could also not be implementing these policies because of economic problems.[50]

vi. Force Majeure/ Frustration: Sometimes there are unforeseen artificial or natural events that could delay or frustrate the intended or on-going project. These could be political violence including war, sabotage or terrorism.[51] There could also be natural disaster such as earthquake capable of frustrating a project.

vii. Weather and Climate Risks: A change of weather can pose a risk. For example, during snow, construction cannot continue. Also, in some parts of Africa like Nigeria, during the pick of rainy season, constructions come to a halt.[52]

viii. Technology Risk: This could arise in a situation of innovative technology that has not been fully understood. It might be hard to imagine that a project finance venture would be structured on the basis of completely unknown technology. Therefore, the risk arises that a specific license, valid in theory, proves inapplicable in a working plant. The sponsors would rather opt for tried and tested technology.[53]

ix. Operating Risk: This might arise at the post-completion stage of the project. There might be some defects that would affect the output of the project. The question as to who bears this malfunctioning risk might arise. If this is not specifically agreed upon in the contract, most times, the government will bear the risk.[54]

x. Environmental Risk: There is a probable negative impact in the construction of many projects. For instance, the construction of water network could lead to pollution. In most developing countries where there is no strict implementation of environmental laws, the pollution is likely to be severe. In some cases also, tourist parks are destroyed during construction which defaces the city and loss of tourists and income for the locals.[55]

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[48] Basil L Moor, 'A Global Currency for a Global Economy' (2004) 26 (4) *Journal of Post Keynesian Economics*, 631-653.

[49] Regulatory Risks < https://corporatefinanceinstitute.com/resources/knowledge/finance/regulatory-risk/> accessed 15 October 2021.

[50] G. V. Vinter, (n 17).

[51] Ewan McKendrick (ed), *Force Majure and Frustration of Contracts* (2nd edn, Oxon: Routledge, 1995).

[52] M. Sorge, 'The nature of Credit Risk in Project Finance' (2004) BIS Quarterly Review 91.

[53] ibid.

[54] ibid.

[55] Nik Norulaini Nik Ab Rahman and Norizan Esa, 'Managing Construction Development Risks to the Environment' https://link.springer.com/chapter/10.1007/978-4-431-54804-1_16> accessed 15 October 2021.

xi. Legal Risk: There is the need to ascertain whether the commercial law of the host country offers contract enforceability should problems emerge during the construction of project. Therefore, the lenders' lawyers must play a role in analysing all these.[56]

xii. Macro-Economic Risk: The problem of devaluation of currency of the host country might arise while the project is on-going. This is a serious risk for the sponsors.[57]

xiii. Credit Risk or Counterparty Risk: This risk is in connection with the parties to the contracts with the SPV for various intents and purposes. The credit worthiness of the contractor, project buyer, the input supplier, and the plant operator is carefully assessed by lenders through an exhaustive due diligence process. The significance of the credit risk lies in the nature of the venture itself; off-balance-sheet financing with recourse to shareholders/ sponsors and a very high level of financial leverage.

xiv. Risk of Administrative Corruption: There could be risk of cancellation because of allegations of corruption, impropriety and no competitive tender.[58]

a) Mechanism For Dealing With Risks

Below are possible ways to ameliorate risks in project finance.

i. Insurance: This is a very important mechanism in the amelioration of risks in project finance. It is needed to protect lenders security (cash flow and assets).[59] It is also important that the lenders in the water finance make a detailed insurance so that all vital factors are covered. The insurance should cover areas such as property damage, business interruption, political risks, comprehensive general liability, design errors, and so on. The lenders must be well detailed to avoid responsibilities. Insurance provides an avenue to shift risks from participants to a party not directly involved in the project, usually the insurance company[60].

ii. Politcal Risk Guarantees: 'These include explicit risk guarantees, credit derivatives and new insurance products against macroeconomic risks such as currency'.[61] These guarantees help to mitigate the political risk faced by lenders/sponsors. The government has to grant some concessions. There should be guarantee against macroeconomic risk.

iii. Firm Guarantees Backed by Money: To avoid ambiguity, a specific cost has to be attached to a specific sponsor to be sure of specific terms. In this way, there is a firm guarantee of the financial obligation or responsibility of the different sponsors of the project.

iv. Take or Pay: Sometimes, take or pay contracts provide the equivalent of a financial guarantee. In this type of agreement, a prospective user into a long-term contract make periodic or payments by instalments for specified minimum amounts in return for the supply of goods and services produced by the facility.[62] However, Moore Harold puts forward that a force majeure provision ameliorates the harsh effects of a take or pay contract and enforcement is based on language of the contract. In the failure to perform a

[56] S. Gatti, (n 5) 34.
[57] S. Hoffman, *The Law and Business of International Finance* (3rd edn. Cambridge: Cambridge University Press, 2007).
[58] Ahmed, (n 3)
[59] Gatti (n 5).
[60] C. Chengwing, 'What is the Role of Insurance in the Project Finance Matrix?' <http:docs.google.com/viewer?a=v8q=cache:ekdAhtdofs]:www.dundee.ac.uk> accessed 15 October 2021
[61] Gatti (n 5).
[62]ibid.

contract, the courts reject that a change in government constitutes a force majeure as the court is interested in the intention of the parties. In McLouth Steel Corporation v. Jewel Coal & Lake, the parties entered into a contract containing a provision excusing the performance of both the seller and buyer...in the event and during the continuance of any action of governmental authority. Though the Virginia Air Pollution Control Board ordered the seller to cease operating a particular plant, the court found that "no final (present) order or any possible future governmental action had prevented or appeared likely to prevent the buyer's compliance with the contract.[63]

v. Proceeds Retention Accounts: The repayment of the loan is an indispensable element in project finance. And to repay this loan, the proceeds of complete contract are important. Therefore, who receives the proceeds generated by the contractor is very important. The contract should make provision for who is in charge of retention of money generated.

vi. Resort to International Laws: on the issues of environmental and other legal risks, resort can be made to general international environment law and public international law to resolve possible risk and conflicts.[64] This is because most developing countries do not have advanced law in environmental law.

vii. Hedging: There should be hedging to take care of macroeconomics risks.

viii. Concession Agreements: There should be a detailed concession agreement between the host government and sponsors on the operation of the project to recover the sponsorship of the finance. Also, on the raw material, there could be an agreement on possible and cheap supply for the construction of the project.

8. Enhancement of Project Finance.

a) BONDS: This is a certificate representing creditorship in a company.[65] A bond issued by a project corporation is basically similar to a loan from the borrower's perspective, but it is aimed mainly at the non-banking market and takes the form of a tradable debt instrument. The issuer (that is the project company) agrees to repay the bond holder the amount of the bond coupled with an interest on fixed future instalment dates. The investors who buy these bonds are interested in a good long term fixed rate return without taking equity in particular insurance companies and pension funds. Bonds may also be used as securities, notes or debentures. Bonds can also be used for project finance such as the construction of water network.

There are different types of bonds namely: baby bond, bearer bond, convertible bond, guarantee bond, and so on. They have different time ranges for bonds such as short term bonds which usually between one and five years, medium term which last between five and twelve years, long term bond which is between twelve years and thirty years. Others include perpetual, which is redeemable on terms and callable, redeemable prior to maturity at specific price of issuer.[66] Diverse advantages are associated with bonds finance. It has less restrictive covenants/terms than bank loans. There is also the preservation of sponsor's financial flexibility because the sponsors are compelled to use their own credit lines for this reserve

[63] Wilfrid Oliver, Project Finance & Insurance PF Bond Market: Final Comments Bauer College of Business Professor S.V. Arbogast Class 10: Spring 2005 < https://slideplayer.com/slide/4673655/> accessed 15 October 2021

[64] <https://unimelb.libguides.com/internationallaw/environmental> accessed 13 October 2021.

[65] Sorge (n 38) 96.

[66] Rowe (n 8) 122.

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which would otherwise deplete the unissued portion of credit facilities with banks. The possibility of accessing a different investment base makes project bonds more independent than bank lending. Furthermore, tenor of financing is advantageous. A book runner can structure an issue with a larger tenor than in the loan option. Sometimes project bonds can bridge the tenor gap with a longer term risks than those acceptable to banks.[67] Finally, bonds can be arranged in a shorter time without unnecessary delay.

On the other hand, bonds can be associated with some disadvantages. For example, renegotiation of contractual conditions and refinancing. This is one of the major weaknesses. This occurs when project finance falls short of the forecast or when certain covenants have been broken. There is also the problem of lack of expert credit agency support. Extra cost and time are involved in rating the bonds. Waivers and amendments are impracticable, as well as the time-table is more inflexible.[68]

b) Procedure For Issuing Project Bonds

i. Rating agency gives information and assessment of creditworthiness.[69]
ii. Funds derived from the investors are channelled to the bond-paying agent usually the bank which then transfers to the SPV.[70]
iii. Choice of the project bond book runner is made to outline and plan a bond issue and establish possible final investors.[71]
iv. The book runner sets up syndicate with which to show the under righting risk for all the issue, probably with the aid of one or more managers.[72]
v. The subscription agreement is made after negotiations for syndicated loans between the issuer and the book runner on bank services and rules of risks sharing.[73]
vi. The final bond prospectus is determined bearing all the various details of the bond.[74]

9. Securitisation

This is an important mechanism to ameliorate possible risks in the Nigerian urban and rural water supply project. Some authors argue that bank's securitization of project loans create new asset class for institutional investors, collateralised debt obligations as well as open-ended funds have been launched to attract higher liquidity to project finance.[75]In the principle of securitisation, a risk is split into small negotiable units which can easily be sold and bought on capital markets.[76] Securitisation involves the collection of a pool of assets and a financing on a bankruptcy-remote basis, through the issuance of securities in the capital markets. In respect of project finance, rather than enter into a loan agreement with a bank, the Special Purpose Vehicle (SPV) issues notes directly to investors or to separate SPV securitization issuer, who then refinances through a

[67] Scott Hoffman, note 26, page 21.
[68] Philip R. Woods: Project Finance, Securitization, subordinated debt vol. 5 (Sweet & Maxwell 2007) 76.
[69] Gatti (n 5)227-228
[70] ibid 228
[71] ibid 229
[72] ibid 230
[73] ibid 231
[74] Stefano Gatti, note 4, page 231.
[75] Marco Storge, note 23, page 96.
[76] Project Finance: The added value of insurance, available on <http://www.mccombs.utexas.edu/debt/irom/bbca/risk/rmi/arnold/downloads/projectpara0005filepdf> accessed 22 December 2010.

securities offering. The income received from the sale of notes is used to finance the project, and the future flow of income from the project provides the means to make payments on the project.[77]

The basic elements of securitisation are:

(a) There is transfer or sale of loans.
(b) There is the disintegration of large loans to a number of small investors.
(c) There is possible consolidation of many small loans to attract specific investors.

Reasons For Securitisation

(a) It helps the banks to clean up their balance sheet.
(b) It helps to fulfil regulatory requirements that might be set down by host countries.
(c) It helps to spread risk as there are many investors who take up small loans.
(d) It helps to solve liquidity problems
(e) It obtains a lower cost of funds.[78]

Procedure of Securitisation

(a) Decision on the specific amount is taken.
(b) There is formation special purpose vehicle.
(c) Rating by the rating agency takes place.
(d) Finally, there is call for bids.[79]
(e)There is lack of uniform accounting principles.

11. Conclusion.

Project finance is a highly technical and complex mechanism. It has been a mechanism for execution of huge projects both in developed and developing countries. Looking at the numerous advantages discussed in this article, it is greatly recommended for the establishment and development of efficient urban and rural water supply schemes in Nigeria while taking precautions on the possible risks.

[77] James J. Croke, Jr: project Finance and Securitization : A Natural Hybrid, HeinOnline—18Transnat'l Law 159 2004-2005
[78] Botchway Francis: Lecture note: Securitization Basis, 21.
[79] ibid note 45, 21