

**Topic**

**The effective use of ICT and the fight against the infiltration of the Fulani herdsmen in Oyo State, Nigeria: The Co-Production Process Perspective**

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the Study

Nigeria, in recent times, has been confronted with a high rate of insecurity and the menace of the Fulani herdsmen and acts of terrorism sits comfortably at the peak of this insecurity. In the words of Johnson and Okunola (2017, p23), as a nation just rising from the ashes of the Boko Haram insurgency, the herdsmen-community clashes is something Nigeria cannot afford at the moment. Pastoralism, which is essentially what the Fulani herdsmen do, is ideally the mobile aspect of agriculture that entails the movement of man (herders) and animals (herds) from place to place in search of ideal grazing areas in terms of fresh pasture and water (Moran, 2006, p42). This has put them in contention with the host communities that they pass through with their herds. This is as a result of the devastation that they leave in their wake while passing through these host communities. According to Ogunbameru (2008), the rate of havoc caused by these Fulani herdsmen has increased exponentially over time and this has an echoing effect on the safety of lives and property especially in Oyo state, which is the case study of this thesis. The nomadic Fulani herdsmen are found across West and Central Africa. In Nigeria, the Fulanis are mainly situated in the Fulbe Gombe, Fulbe Adamawa, Fulbe Sokoto, Fulbe Mbororo, and Fulbe Borgu (Kasarachi, 2016, p194). Most Fulanis are usually nomadic herders because their main occupation is the breeding of sheep and cattle for economic consumption in Nigeria. (Kasarachi, 2016, p196). Recently, there has been reports of arm robbery attacks, killings of women, and kidnapping for ransom by the Fulani Herdsmen along Ife-Ibadan express way which is causing a situation of insecurity in the region (Nigerian Police Report, 2019). The various communities in Oyo state that have been affected by the activities of Fulani herdsmen have had nothing but tales of woe and songs of distress especially owing to the inability of security agencies in the state to provide adequate security. Lack of man power for the rank and file of the Nigeria police to ensure the provision of adequate protective measures to safeguard the lives of inhabitants of these communities, especially the commuters in the Ife-Ibadan express way, which has always been a big issue.

In 2013, the Nigerian Police launched an online crime reporting platform to aid the co-production of security between citizens and the police (The Nigerian Police Report, 2014), which involves the

participation of the citizens of the affected areas to actively participate in the policing and security welfare of the area. Despite the nationwide launching of ICT platforms by the Nigerian police, incidents of animosity keep taking the front pages of the Nigerian dailies as the killings and kidnapping of innocent people by the Fulani herdsmen is still on the increase daily in Oyo state (The Vanguard Newspaper, May 21, 2019, p:2). This thesis attempts to look at the issue of co-production of security between ICTs and security agencies in Oyo state as regards to the terror activities carried out by the Fulani herdsmen.

## **1.2 Statement of the Problem**

According to (Oludare, 2015), “the persistence of insecurity has been claiming precious lives of citizenry and government efforts to tackle the problem through various menial methods and approaches such as the use of police, military, vigilante and local hunters seem not to be yielding success”. Bearing the above in mind, the possibility of having effective and efficient security against the scourge of the Fulani herdsmen in Oyo state and other sundry crimes through co-production of security between ICTs and the security agencies is a novel prospect!

However, the very idea of this co-production process is fraught with many problems which this thesis sets out to answer, even just a few. One of the problems this research work sought to address is the deficiency in appropriate study material on security co-production from the Nigerian perspective. This in turn limits the understanding of indigenous scholars interested in the field of co-production. This thesis also seeks to address the problem of the perspective of effectiveness of the co-production process. How effective is the process? The effectiveness of the process determines the efficacy of the application and its longevity. Some other problem areas also include that of types and levels of engagement by both the ICTs and security personnel involved in the co-production process, attitude of public officials involved in the co-production process, which boils down to what they considered as unpredictability of actions, reactions and general behavior of the citizens involved in the co-production process.

## **1.3 Objectives of the Study**

The broad objective of this thesis is finding out the effectiveness of the co-production of security between ICTs and security agencies in combating the infiltration of the Fulani herdsmen in Oyo State. To guide this thesis in the right direction, a number of sub-objectives are proposed by the

researcher below;

- i) To find out if the types and levels of engagement of the parties involved affects the effectiveness of the co-production process.
- ii) To find out if the issue of trust between the ICTs and the security agencies is significant to the co-production process.
- iii) To ascertain the sustainability of the co-production Process.
- iv) To investigate the compatibility of public organizations with respect to co-production.
- v) To find out if the attitude of public officials involved in the co-production process is relevant to its effectiveness.

#### **1.4 Research Questions**

In consideration of the above objectives; the below research question was developed; *what factors have had an effect on the perception of effectiveness of co-production using ICT in Nigeria?* To further understand the relevance of this question to the study, a number of sub-questions were drawn from the main research question to help answer it. Which are as follows:

- i) *What are the types and levels of engagement of the parties involved in the co-production process?*
- ii) *Is the issue of trust between the ICTs, citizens and the security agencies significant to the effectiveness of the co-production process?*
- iii) *How sustainable is the co-production Process?*
- iv) *Does the compatibility of public organizations with the co-production process affect its effectiveness?*
- v) *Is the attitude of public officials involved in the co-production process relevant to its effectiveness?*

#### **1.5 Relevance of the Study**

The academic and societal relevance of this research work cannot be over emphasized. Answering the above question and sub-questions will provide some useful insights to better deal with some of the

challenges encountered while using ICTs in security co-production process and how these challenges can be prevented to achieve effective results in curbing the killings of the Fulani herdsmen in Oyo state, Nigeria. It would also provide a framework which would detail explicitly how the co-production process can effectively be achieved. It is also academically relevant as it would be a valid addition to the knowledge base of empirical investigations with ties to terrorism, insurgency, use of ICT in handling security issues, and generally contributing the literature framework of the active variables.

### **1.6 Scope of the Study**

This study is geographically scoped to Oyo state in Nigeria as it would be physically impossible to cover all the states in Nigeria with the time allotted to carry out this research work. The study is split into six different sections. The first section, which is the introductory part, comprises of the study's background, statement of problem, objectives, the societal and academic relevance of the study, including the research question and sub-questions. The second part discusses the general overview, conceptualization of terminologies, and the literature review. The third part presents the structure of the security agencies and operationalizes the process of co-production. The fourth section is the methodology, which systematically discusses how data were collected. The fifth part presents the analyses and discusses the research findings. The last but not the least is section six, which starts with the presentation of the conclusion of the study, offers recommendation for future researches and limitations of the study.

## CHAPTER TWO

### 2.1 THEORETICAL FRAMEWORK

This section discusses the conceptual elements and the relevant literature for co-production of public services. It explores the previous literatures of co-production and ICT, by making use of scholarly evidence and sets the foundation in which the collaboration of co-production and ICT is divulged.

#### 2.1.1 Co-Production

##### **What is the meaning of Co-production?**

The meaning of co-production lacks a conceptual definition because of its complicity and the numerous governance management in the process including the wide range of stakeholders and their engagements in the process (Howlett & Ramesh 2017: p 3;). However before we move to the definition of the concept, it is important to take a brief historiography of its origin. The study of what co-production entails first started in Chicago by Ostrom, (1970) as a result of the high rate of crime in the USA. The study became paramount to know whether the high rate of crime that was on the increase in Illinois was as a result of the withdrawal of street police from the neighborhoods into cars. The result of the findings of Ostrom's study showed that there was a correlation between the withdrawals of the street police to the persistent increase in criminality in Chicago. This was possible because the police lost contact with citizens who previously provided useful intelligence information to the police (New Economic Foundation, 2008). Co-production was later conceived at Indiana University in 1973 (Parks et al., 1981). During the experimentation stage of co-production, it was mainly focused on citizens' and the relation to their involvement in the production process of services in an equal relationship between professionals, citizens and their neighborhood. (New Economic Foundation, 2008) This later created a great enthusiasm among public administration scholars in the United States of America (USA) in the 1970s and 1980s (Parks et al., 1981). According to Ostrom, (1996, p: 1073), "co-production refers to a process in which players, who are not workers in the same organization come together to facilitate the production of a good or a service". Inferring from the above definition by Ostrom, the co-production process consists of two halves, the actors on one side and the regular service providers or producers on the other side.

Initially, the concept of "co-production was focused on unique competitive advantage of economic efficiency gained from working together with a customer in a business to business context"



(Fitzsimmons, 1985). However, the concept later attracted different types of scholarly definitions. But the definition provided by Ostrom (1996), seems to have gained acceptance by scholars of repute, thus, is being widely used in contemporary literatures. Ostrom's, (1996) study argued that co-production of public services is "the process through which inputs used to provide a good or service are contributed by individuals, who are not in the same organization" (Bovaird, 2007; Jakobsen, 2013). She later went further in (1999) to broaden and expatiate on her definition to include: "the combination of activities that both public service agents and citizens contribute to the provision of public services", which in a nutshell, simply denotes that the former are involved as experts, or 'those that have the authority of production', while the later citizen production' is on the grounds of voluntary interests by individuals and groups to improve the quality and/or quantity of the services they seek." (Parks et al, 1981). It is imperative to note, that the understanding and a clear foundational interpretation of this thesis is developed and based on the above definitions, which is, that the co-production of security by ICTs and security agencies in Oyo state, is service provision through various players, that is the ICTs and security agencies, who are not from the same organizations, coming together to contribute to the provision of public service, in this case, and effective and efficient method of community policing. Subsequently, Percy's (1984) contributions drew attention to Whitaker's definition of co-production in 1980, which included not only "citizen productive involvement, but also efforts to raise service consumption and influence policy decisions that are important to service delivery". He went further to explain that in the case of service provision, where the consumer behavioral change is demanded, the involvement of those actors would be inimical to successful service delivery drives. (Percy 1984) Additionally, Parks et al. (1981), perceived co-production to involve joint actions between two parties, who, working together, determine the output of their joint action. In this perspective we can argue that Parks, et al (1981) were referring to two parties as consumer and the producer, thus the concept of co-production, which is contrary to the silent role played by the consumer in the creation, the efforts of the consumers are central to the production of the desired output.

Linders, (2012) provided explanation of co-production in government institutions as agencies and argues the role that is played by citizens and government as co-producers of service delivery using the online platform for service provision.

He explains that co-production can be defined as collaboration between government agencies and

citizens where the former controls the primary role in service delivery and “the later provides assistance to enable the government to be more effective and responsive to citizens’ satisfaction” (Linders, 2012, p: 447).

It’s worth noting to understand that even though the plethora definitions that are used to explain the concept of co-production; many scholars still struggle to come to a common agreement as per the exact meaning of co-production and how to apply it (Van der Hel, 2016; van Kerkhoff, and Lebel 2015; Turney, 2014;). This complication stems from the fact that the concept has been rooted in different academic disciplines. For example apart from scholars like (Ostrom 1977a, 1999b, Parks et al, 1981) whose definition of co-production initiative were popularly accepted in the Public Administration, many other scholars like (Latour, 1990; Jasanoff, 1996) have developed the co-production in Science and Technology, including Sustainability Science (Kates et, al, 2000, and cash et al, 2003). However, despite the differences in conceptualization of the concept by different disciplines, the central working benefits and principles of co-production should be that public service users are able to have a say in the process. The posited objective according to some scholars, is that it gives advantages to the participants (Boviard, 2007). Even though the predominantly positive inclination of the co-production literature, some scholars have come against these claims and voiced concerns that co-production may not deliver on all that it has promised and may in fact, increase costs, reduce user choice and block innovation. (Neshkova and Guo 2012 and Irvin, Stansbury, 2004). Having conceptualized the meaning of co-production, this now brought the study to look at the forms of co-production that are available below;

### **Types of Co-production**

There are different types of co-production according to Verschuere, Brandsen, & Pestoff, (2012, p. 1094), the core element in public administration and they are; (a) the individual co-production and (b) the collective co-production. The two typology became apparent based on the way and manner the concept were coined together, i.e. “co” and “production” (Alford, 2014 ;).

The former involves the individual who was engaged in the production process while the later includes the processes that produce the services.

(Alford 2014) differentiated between the process by arguing that the; “individual co-production was

a process whereby an individual contributes or co-produce service with the intention to benefit directly from the process, while on the other hand, Brudney & England, (1983) posits that “the collective co-production was the process of co-producing services in which there is a group benefit; for example the co-production of security in a neighborhood which benefits the entire people living in the neighborhood. This means that the end result is not directly confined to users but to other types of actors like the citizens or the volunteers (Nabatchi et al., 2017). The collective or shared co-production can also be defined according to (Humphreys, 2008; Markkanen & Burgess, 2016), as “the interaction of citizens due to an active interest on the part of the citizens or public, to produce a product or service or product/service alterations independent of state players input and stewardship”.

### **Outcomes of Co-production**

Co-production as a process can be assumed to have an attendant consequence on the creators of public service and the participants or players in the production process. This section takes a look at perceived upshots that are associated with the co-production process.

- i) **Bridging the divide between participants and creators:** There seems to be a wide lacuna in the orientation of the participants and the service creators in the co-production process. And according to Vanleene, Verschuere & Voets, (2015), this divide can be an issue of trust between the participants or public and the creators of service.
- ii) **Better value for money:** In 2007, Auh et al.: stated that citizens or clients’ participation in the manufacture of goods and/or services improves the quality of the service delivery and changes the orientation from the outcome of the production to the process. This simply puts; efficiency and effectiveness of the co-production process, to a better value for money or resources expended during the production process.
- iii) **Government and/or service creator responsiveness:** Vanleene, Verschuere & Voets, (2015) argued that co-production enables the government, as service creators, or private firms as the service creators, to create more room to accommodate the other participants or players, i.e the public, and respond more favorably to them.
- iv) Subsequently, Wang and Van Wart (2007, p.270) cited in Vanleene, Verschuere & Voets, (2015), that “to be accountable is to provide information about one’s performance, to take corrective action when needed, and to be responsible for one’s performance in the society”.

- v) **Effectiveness:** It has become an important academic discourse to know whether co-production of services or goods have been effective enough for the co-producers and the end users. (Njoh, 1993) demonstrated two manifestations of effectiveness in co-production between government and citizens which he called the ‘subjective and objective’ indicators. For example the “subjective” indicator demonstrates how satisfied and safe the community feels about the frequent numbers of times the mobile security guards patrols their community while the “objective” indicates the frequency and the capacity of the community street patrol by the mobile security guards.
- iv) **Societal participation:** The co-production process is generally about societal participation of all the actors involved in the co-production process. The actors include the service providers and the citizens that would benefit from the service created by the co-production process. Ostrom (1999) cited in Abeysekera (2015) posited that in order for effective collaboration or co-production, the service providers must have the input of the clients or citizens, hence, the societal participation of all and sundry involved in the co-production process

### **Factors that Affect Co-production**

Listed below in this thesis are some factors that concern co-production as an operational concept, factors that would affect its efficacy, efficiency and effectiveness. Though the list is in no way exhaustive, but are as a matter of fact, evolving and tends to be contemporary.

**Types and levels of commitment:** According to Van Eijk, (2017), citizens’ and professionals’ perceptions on their co-production partners’ engagement impact greatly on the efforts one is willing to invest in the co-production process. This is to say that ICTs and security agencies commitment levels to engage in the production process has a direct effect on the creation and usage of the co-production

**Attitude of public officials involved in the co-production process:** The research carried out by Roberts et al. (2013) shows that some politicians, government officials and professionals consider co-production undependable, given the unpredictable behavior of citizens that would be involved in the co-production process. Thus, the security agencies in Oyo state may be reluctant to engage in the co-production process with ICTs due to the fact that they may distort the co-production process.

### **Compatibility of public organizations with respect to Co-production:**

Davidson & Reventlow (2011) stated that; “compatibility of public organizations and other actors

with respect to co-production as the availability of a decent infrastructure to communicate with citizens”. They went further to argue that infrastructure like adequate communication channels to communicate effectively are an issue which affects the co-production process of security by ICTs and security agencies.

**Sustainability of the Process:** Aligning with Neshkova and Guo, (2012), on the circle of the process of co-production, this study believes that the life cycle of the process or its sustainability is a very important factor that cannot be downplayed in the co-production process. Some researchers have been concerned about the sustainability of co-production. Kates, Clark, Corell, Hall and Jaeger, (2000 p: 2) opined that “sustainability science must be developed through the processes of co-production to enable the various stakeholders understand the condition under which co-production is appropriate and effective”. It is noteworthy to emphasize the fact that, even in countries where co-production has been among the tools of government for a long time, the problem of sustainability is still an ever present one.

**Trust:** Trust is an important variable to enhance transaction between people because it is a mechanism that helps people to believe that their interest is being handled with impartiality. The effect of trust was demonstrated in the work of Wang and Van Wart (2007), when they argued that people believe that interest would be treated fairly if there is trust and the government is reliable to carry out its role. Co-production without trust may be problematic as the reoccurring issue of confidence between the ICTs and the security agencies cannot be denied.

### **2.1.2 Information and Communication Technology (ICT)**

#### **What is Information and communication technology (ICT)?**

The degree in which ICT is successful in producing the desired result have been acknowledged by the public and the private sectors as a means towards future possibility in combating the current global security challenges. Hey; Tansley; & Tolle, (2009) have argued that ICT and its attendant tools are helping to transform the world economy and the society as a whole, thus making the role of information and communication technology (ICT) in fostering development an ever important one that cannot be over emphasized.

According to Christenson, (2010) (ICT) is the; “technology that gives easy access to information through telecommunication. Subsequently, the concept cannot be distinguished from Information Technology (IT) only that ICT focuses primarily on communication technologies that includes

Wireless network, cell phones, the internet, and other communication devices. The innovation of ICT has been tested by the security agencies in the USA as information intensive that assist in providing access to quality information (U.S. Department of Justice, 2012).

Moorman (2012), argued that “ICTs are a complex and different set of goods, applications and internet services used for producing, distributing, processing, transforming information which includes telecoms, payment plans, computer services and electronic media”. Other scholars like, Liao, 2010; Rigby; Edler, (2005) posit that technology is the process of using various resources in order to meet human needs, wants or purpose. ICT has been conceptualized as; any data analysis system that includes communication protocols that are used in collation, computation and storage of information for further processes. According to Zikopoulos et al. (2013), ICT is defined as a mechanism used by scientists to adopt software and platforms by which they are automatically obtaining and processing millions of records, and then getting new knowledge directly from data. While other scholars like Leetaru, 2011; Verbeke et al., 2014; Pang; Lee, 2008; Lewis, Zamith; Hermida, (2013) have argued that ICT are the facilities that adopt computer-based methods to analyze content that are important in the field of social sciences and media studies

### **Types of ICT**

According to Byrne and Marx (2011), there are different kinds of ICTs, which are divided into two categories, and they are as follows; (a) The Soft Technology (ST) which is referred to as the Information-Based Technologies IBT and (b) The Hard Technology (HT) also known as the Material-Based Technology (MBT). The ST according to Hummer, (2007) comprises of hard technological applications such as the smart phones, speed cameras, gunshot location devices, CCTVs, biometrics and improved fingerprint identification etc while the HT is composed of soft technologies such as database collection space, data management system, mobile data terminals, computer-aided dispatch (CAD) systems, information sharing via the internet, computerized crime analysis and the crime mapping software (Pattavina, 2005)

### **Roles of Information and Communication Technology**

Information and communication technology (ICT) is a vital and integral part of every facet of human endeavor in these contemporary times, as it has been incorporated into scientific routine (Borgman,

2007; Dutton, 2010). This is noticeable in the work of academic community where tools have been exploited intensively (Gentil-Beccott et al., 2009). The capacities of ICTs have been exploited by government institutions and the private sectors, and have served as important channels of communication and disseminate information for effective service delivery to the agencies and citizens. A simple example of where ICT has become an important tool in communication to buttress the above Moorman (2012) definition is where government agencies at several levels interact with citizens through the use of information communication device system. This kind of communication can also be found between national and Multi-national Corporations using ICT tools to collaborate and coordinate with Governments' institution at the regional and local government levels. It's paramount to note how the effectiveness of application of ICT in governance has facilitated the creation of online incident reports, internet platforms and portals, which allows citizens to report incidents, displeasures and satisfaction to government officials. (Giest, Koene, Vallejos, Pitkanen, & Fosci, 2016, p. 1). Several government agencies in the Netherlands for example have also taken the advantage of using the ICT innovation in promoting their services and products through the use of citizen-centered-service delivery initiative called the Web 2.0 movements "associated with the online identity creation, online user-generated content, and other online relational networking" (Magro, 2012, p. 149). The Web 2.0 ICT advancement has been supportive in the actualization of social media handles, like Facebook, Whatsapp, Twitters and Blogs (Duweh, 2013,), which enables the government to turn into citizens' oriented agencies where information's concerning demand and supply are disseminated (Sun, Ku, & Shih, 2015, p. 505).

Byrne and Marx (2011) have also argued that the ICT innovation has facilitated the organization of strategies for both the public and private sectors in curbing and preventing criminal activities (Reichert, 2001; Chan, 2001; Harris, 2007). The Use of ICT facilities in governance is serving as a booster for the New Public Management Reform and has brought in efficiency accessibility and effectiveness in public service delivery to citizens and businesses (Santos and Heeks, 2003). The idea of using ICT in community policing was first introduced in the twentieth century in the United State (Harris, 2007).

The idea quickly ushered in the three new technological innovations called the automobile, telephone and the two-way radio device, which was meant to meet the security challenges (Harris 2007). These three facilities simply serve as a synergy that aided crime control, a situation where citizens were

able to reach out to the police whenever their lives were in danger and the police will then respond as needed via the radio communications and speed vehicle to the crime location in order to quickly diffuse the trouble. To have a better understanding of why the use of computer technology in security operations is highly valuable, one must take a look at how it is being created and put into use.

**Communication:** A fact, which has become very evident in the contemporary business world and indeed the society at large, is the use of ICT to help to facilitate easier, better and faster communication from an individual, public, private sectors and researchers in various disciplines (Pearce, 2010)

**Data Management:** The days of large filing rooms, rows of filing cabinets and the mailing of hard copy documents have almost become a thing of the past. Today, most organizations store digital versions of documents on servers and storage devices. These documents become instantly available to everyone in the organization, regardless of their geographical location. And from our past work experiences, this attribute and benefit of ICT is highly important to the co-production of security as a data base managed by the ICTs can instantly be accessed by security personnel in order for the policing work to be efficient and effective.

**Management Information Systems:** According to Hicks (2003), management information system can be defined "as formalized computer system that collects, stores, processes and reports data from various sources to provide information needed to manage the process of making decision."

The above definition lends to the idea that data storage is only of benefit if that data can be used effectively and efficiently. A study conducted by Hickman and Reaves (2003), further elaborates that security agencies can use data as part of their strategic planning process as well as the tactical execution of the co-production process. Management Information Systems (MIS) enables organizations to track data, information, effectiveness and productivity levels (Hicks 2003).

**Customer Relationship Management:** According to Nugen and Yuen (2007), allot of companies are now using IT to improve on the way they acquire, market, design and manage customer relationships and other business dealings.

Based on this, we can argue that customer Relationship Management (CRM) systems capture every interaction an organization has with a customer, or in the case of co-production, it also captures the actors to make a more enriching experience possible.



### **2.1.3 Policy Effectiveness**

According to Zheng, (2010), effectiveness measures the degree to which an entity or organization achieves its goals and objectives. He explains further that, effectiveness usually requires an entity to have a goal, a process to achieve it and actually meeting these goals. This also means that; the goal of being effective is mainly built around the process and procedures of interactions among the functional areas of an entity, and being able to produce the desired or wanted effects. (Doganova, and Eyquem-Renault 2009). It is important to note that it is hard to define what effectiveness really means, because of some complication in measurements, whereby each perspective introduces a different dimension to the meaning and hence its measurement. In regards to this thesis, effectiveness of policy is looked at from the view point of the co-production process and how entrenching the process can be in the society as a policy that may or may not yield the desired results.

## **CHAPTER THREE**

### **METHODOLOGY**

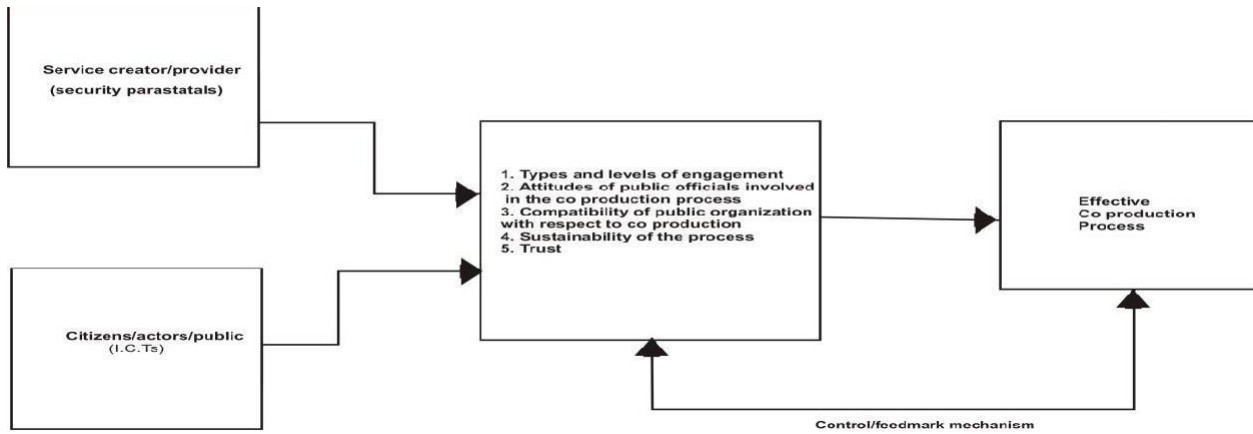
This chapter details the steps that were taken in carrying out this research work. Steps including the research design, methods used in collecting data, ways the data was analyzed and other procedures pertinent to this research work.

#### **3.1 Research Design**

The investigation conducted for this thesis centers around the main research question which is; *what factors have had an effect on the effectiveness of co-production using ICT in Nigeria?* This study is based on mixed method research design. The study, which is deductive in nature, uses both existing and historical literature combined with the use of the interview method to gather data that would be used for inference to draw conclusions at the end of the work.

The study aimed to collate information on opinion and knowledge from different sources concerning views and experiences on the effectiveness of ICTs in curbing the frequent attacks that are being perpetuated by the Fulani herdsmen against the people of Oyo State. Using a case study to look at this case, is particularly interesting because the perception of individuals as regards the co-production process of security involving ICT and security agencies is paramount in measuring the effectiveness of this process.

The diagram below brings to the fore why this research work considers the synergistic effort of the ICTs and the security parastatals, a co-production process. The issue of security is not a one-sided affair, especially in a security restive place like Nigeria. Security challenges are faced with the cooperation of all parties involved to ensure an effective and efficient solution to the security challenge is reached. The ICTs working alongside the security agencies in a collaborative effort has proven to have had positive outcome over time. This is only possible because both actors have decided to co-produce security solutions as a service that still involves, to a certain extent, citizens that reside in the place of operationalization of these security solutions created by the co-production process.



**Source: researcher's field survey (2019)**

This research will be conducted using a single case study analysis.

## **Case Study Analysis**

A case study design is used in this research work. According to Yin (2014), "A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real world context especially when the boundaries between phenomenon and context may not be clearly evident". Subsequently, Toshkov, (2016,) has opined that; a case study strategy is adopted in a study when a researcher is; "interested in an in-depth information in order to justify a particular finding of a specific case". The menace of the Fulani herdsmen is a real world case with far reaching implications both on the national and international stage of global security and politics. The contextual and phenomenal boundaries border on the socio cultural beliefs of the Fulani people, who believe in nomadism as a way of life.

The application of the case study design, is justified because the research question this thesis sets out to answer, requires a field study of an existing subject, which in this case, is the working relationship between security agencies and ICTs in Oyo State, in creating a security service through the efforts of co-production and how the effectiveness of this process is perceived. The issue investigated by this thesis is a contemporary one, therefore using a case study analysis would suffice. A single case study was used, not because it is currently the only insecurity problem in Nigeria, but because there are a lot of similar insecurity problems, which span the length and breadth of the country. It would be physically impossible, given the time limit required to prepare this research work. A single case study was used, firstly, because it mirrors other insecurity issues in other locations, with the exception of a few changes along the socio-cultural lines. And secondly, because it holds specific interest to the researcher, as the researcher lived his formative years in Ibadan, Oyo state and during this period; insecurity was not an issue that bedeviled the populace of the state. A mingling of people who brought the herders to their backyard seemed to have propelled an insecurity issue from the back burners to an ever present one, which this researcher can relate to and hence, the choice of Oyo state as a case study.

## **3.2 Method of Data Collection**

The data used in this research work to attain logical conclusions were gathered from interviews of different individuals in the security and the ICT sector because the researcher wanted to investigate the perception of people in both the security and ICT sphere about the factors that have had an effect

on the effectiveness of co-production while using ICT in Nigeria. The main reason we decided to use this methodology was as a result of some academic findings that pointed to the usefulness of interview as a proper method of exploring information on specific social phenomenon and especially to have a deeper perception of opinion of people (Gill et al., 2008, p.291). The interviews were conducted by selecting the respondents to be interviewed at random as far as they were either working in a security agency or the ICTs sector. They were approached during their working hours to ensure that the researcher had adequate opportunity to meet as many people as possible. This helped to throw more light on how the co-production process of security involving the ICT and security agencies is perceived by all the stakeholders involved. The effectiveness can also be measured by the answers that would be given at the interviews conducted. The questions to be asked during the interviews would be geared towards the perception of effectiveness of the process of co-production.

### **3.3 Source of Data**

In the course of conducting this study, data were collected from primary sources:

**Primary Data:** This was done through conducting personal interviews and getting firsthand information from the respondents directly.

The interviews conducted consisted of 50 participants, 25 respondents from the ICTs and 25 respondents from the security agencies in Ibadan Oyo State, Nigeria.

Within the total composition, 70% of the respondents were male and 30% of the respondents were female. This composition was further divided into 40% of participants between the ages 28 to 37 years, 30% between the ages of 38 to 47 years and 30% were between the aged 48 and above. 70% were married, 20% were single while 10% said they were divorced.

In terms of their educational qualifications, 50% of the interviewee said they had their Higher National Diploma (HND) qualification, 30% percent had Bachelors BSc qualification while 20% had Ordinary National Diploma OND qualification with 32% having between 2 to 5 years work experience, 65% between 6 to 9 years of experience and 3% with less than 1 year of experience on the job. The interviews were conducted as on the spot interviews without necessarily booking an appointment with the respondents to prevent a delay in the gathering of data, due to the time sensitive nature of the research work. Considering the sensitive nature of this study, as the Fulani herdsmen skirmish is an ongoing one in Oyo State, the interviews were restricted to the town centers for

security reasons. This would also give room for unbiased analysis of the gathered data.

### 3.4 Data Analysis

The various data gathered in the course of carrying out this work, were analyzed using thematic analysis methods to come to logical conclusions on the perception of the effectiveness of the co-production process. According to Clarke & Braun (2014), "Thematic Analysis provides an accessible, flexible, foundational method for qualitative data analysis, with clear guidelines for conducting analysis". The interviews and the answers given were used to draw conclusions. The set of questions asked had underlying themes relating to each of the dependent variables discussed in the previous chapter. The responses to the various questions created impressions or themes on how they felt about the issues raised by the research questions. The impressions were properly analyzed and identified to draw conclusions to answer the research questions.

### 3.5 Operationalization

VARIABLE	DEFINITION	INDICATOR	SOURCE
Types and levels of commitment	The willingness of the players or actors in the co-production process.	Involvement of players and actors	Interview questions 6 and 11
Attitude of public officials involved in the co-production Process	The disposition of public officials towards the co-production process	Positive attitudes	Interview questions 7 and 12
Compatibility of public organizations with respect to Co-production	The ability of public organizations to work effectively in the co-production process	Effective communication channels	Interview questions 8 and 13

Sustainability of the process	How long the co-production process can last.	Life cycle of the process	Interview questions 9 and 14
Trust	The absence of animosity among the players in the co-production process	Willingness to share information	Interview questions 10 and 15
The perception of effectiveness of the co-production of security by the security agencies and ICTs in Oyo state	The opinions or views of the respondents as regards the effectiveness of the co-production process	Themes gathered by the interviewer from the answers provided by the respondents	Interview questions 16 and 17

The operationalization opens up a clearly defined pathway, in order to lay out a well detailed and systematic conceptualization that points to the effectiveness of the co-production process between ICT and security agencies, for example the police in fighting the infiltration of the Fulani Herdsmen in Oyo state. The types and levels of engagement have an impact on the co-production process of security in Oyo state. These types and levels of engagement predict the quality of the end product of the co-production process. If there is no trust between the ICTs and the security agencies, there is bound to be grey areas that could ultimately affect the co-production process.

The attitude of public office holders involved in the co-production process, for example, the Commissioner of Police (CP), the Divisional Police Officers (DPO) etc to name a few, can also have a lasting effect on the quality and life span of the co-production process.

In a situation whereby the public service holders have a nonchalant attitude towards the process, or do not trust the other parties in the process or for bureaucratic reasons, the co-production process may become unsustainable to maintain. Judging from the different independent variables that make up the empirical element, such as types and levels of engagement, attitude of public officials involved in the co-production process, compatibility of public organizations with respect to co-production,

sustainability of the process, trust and the perception of effectiveness of the co-production, a thematic analysis of the response of the respondents to the interview questions would help to find out the presence or absence of these independent variables. For example, compatibility of public organizations with respect to co-production would be analyzed by asking questions that have to do with effective communication channels, which when thematically analyzed, would be used to draw inference on the compatibility of public organizations with respect to co-production. The sustainability of the process would be measured by asking questions along the lines of the life cycle of the process. The application of thematic analysis across all answers to the questions would yield results that would enable us to measure the sustainability of the process, i.e. if the process can be sustained. This method would also be applied across all other independent variables to ascertain if they are present, the degree to which they affect the effectiveness of the process and how important they are to the whole process.

### **3.6 Validity and Reliability of Research Instrument**

**Validity of Research Instrument:** In order to avoid the reliance on documents analysis and to validate the research instrument, the researcher ensured that the questions asked during the interview were subjected to content and construct validity under the experienced hands of my superiors and some erudite scholars in the field of management. The validity of the research instrument i.e. the interviews conducted was in line with the research question posed at the start of this thesis. Questions were asked as regards to how the respondents viewed the dependent variables against the effectiveness of the co-production process of security between the security agencies and ICTs.

The interview method which was directly focused on the interviewee made the validity to be on a high side. The case study and the direct interview also boosted the external validity which according to some research “can eliminate the idea of generalization” (Toshkov, 2016)

**Reliability of Research Instrument:** To accomplish the reliability of the instrument that was used, the researcher employed the test –retest – method to ascertain the reliability of the measuring instruments. This test retest method was carried out across both the respondents from the security field and respondents from the ICT field. The interview questions were first administered to a selected group of respondents and re-administered to them again after a while to confirm that the



interview questions are reliable and the answers received can be used to answer the research questions at the end of the work.

## **CHAPTER FOUR**

### **DATA COLLECTION AND ANALYSIS OF FINDINGS**

#### **4.1 Introduction**

This chapter is concerned with the method in which the data was collected from the interviewees in the course of finding out the factors that have had an effect on the perception of effectiveness of co-production using ICT in Oyo State, Nigeria. The interview questions were analyzed in line with how the dependent variables affect the co-production process.

In view of the above, the schematic operationalization table in chapter 3, revealed the key variables that have been identified which are discussed below:

#### **The Perception of Effectiveness of co-production**

In order for collaboration of co-production of security to be perceived as effective, the ways and manner in which the partnership is understood or interpreted by the players cannot be underestimated because the time, interest, and willingness invested in the process by the players can influence the performing capacity, which in turn has effect on the effectiveness of the whole process. Interview question 16 and 17 are used to investigate whether players' perception of effectiveness has influence on the co-production process.

#### **Types and levels of engagement**

The type and level of engagement of the players in the co-production process should be considered as it is an important criterion in discussing the perception of effectiveness of the co-production process.

In light of the above, the type and level of engagement of citizens in the co-production process is a key determinant for the success of the process. A process with a positive level of engagement and using the appropriate type of engagement has a direct correlation on the level of effectiveness of the said process. For example, when ICTs and most of its important paraphernalia, i.e Closed Circuit Television (CCTV), Spy Drones (SD), Communication Walkie Talkies (CWT), Global Positioning System (GPS), Internet Facilities (IF), etc are sufficiently and positively engaged in the fight against the infiltration by Fulani herdsmen in Oyo State. The effectiveness of the process is bound to be achieved as the security agencies can tap into the resources of the ICTs to achieve their strategic intent, which is, crime reduction and prevention.

To measure how the level and types of engagement affects the effectiveness of the co-production process, interview question 6 and 11 were specifically crafted to test this variable.

### **Attitude of public officials involved in the co-production process**

The attitude of public officials when it comes to the co-production of security plays a vital role in its perceived effectiveness. Therefore, political and professional reluctance to lose face and control was considered as a reason for the poor attitude towards the support for co-production.

Having stated the above, it is safe to say that the co-production process is gravely jeopardized, if the attitude of public office holders is nonchalant and dismissive.

This in turn would breed discord among all players in the co-production process due to the type of attitude that the public office holders exhibits.

The interview question 7 and 12 provides a means of measure to find out how important attitude of public officials can influence the effectiveness of the co-production process.

### **Compatibility of public organizations with respect to co-production**

The compatibility of public organizations to the co-production process has a lasting effect on the perception of effectiveness of the co-production process. The levels in which the ICT and the security agencies are able to work together play a significant role for effectiveness. For example communication channels and communication gadgets are required for effective co-production of security in Oyo State. Infrastructures like adequate communication channels are an issue which affects the co-production process of security by ICTs and security agencies. Another example is poor internet facilities, absence of spy drones and other relevant ICT gadgets, which are pivotal in the workings of the co-production process. The inability of information trading between ICTs and security agencies can hamper the effectiveness of the co-production process. Interview question 8 and 13 serve as a measure to determine its relevance to the effectiveness of the co-production process.

### **Sustainability of the Process**

The sustainability of the process comes to play when the perception of its effectiveness is investigated. To ascertain its effectiveness, the sustainability of the process or its life cycle cannot be over emphasized. When the process is not allowed to run its full course, it would not be able to live up to its full potential, which in turn, reduces the effectiveness of the co-production process.

The process is relatively new in Nigeria; therefore it affects the quality of co-production in Oyo State, Nigeria. Therefore combining the other factors affecting the co-production process, will give a clear picture of how sustainable this process will be in Oyo State between ICTs and security agencies on the herdsman scourge in the state. Interview question 9 and 14 serves as measure to test this variable against the effectiveness of the co-production process.

### **Trust**

The issue of trust between the ICTs and the security agencies is an issue that cannot be denied. They may both have the feeling that the other is compromised, which could lead to the loss of life and property, thus, the difference in engagement levels experienced by them.

Trust is an important issue for a relationship to work between two or multiple parties, hence its importance to the co-production process. The absence of trust can spell doom to the co-production process. Interview question 10 and 15 investigates the effect of trust on the effectiveness of the co-production process.

## **4.2 Analysis of Findings**

### **4.2.1 Analysis of introductory interview questions**

#### **Do you agree that there is a prevalent infiltration of Fulani Herdsmen in Oyo State Nigeria?**

During the course of data collection, a total number of 30 interviewees agreed that there is a prevalent infiltration of the Fulani Herdsmen in Oyo State, Nigeria, while 20 respondents did not see anything wrong with the presence of the Fulani herdsman in Oyo State.

#### **Do you think that the security parastatals, for example the police, are doing enough to curtail the rising security situation in Oyo State?**

When the interviewees were asked if the police agencies in Oyo State were doing enough to mitigate attacks by the Fulani bandits, a total number of 24 respondents agreed that the police were doing enough to curtail the rising security situation in Oyo State, while 26 respondents agreed that the security situation in the state can be improved upon.

### **Is information and communication technology required in the fight against the infiltration of Fulani herdsmen in Oyo state?**

30 respondents were of the opinion that information and communication technology were required in the fight against the infiltration of Fulani herdsmen in Oyo State, while 20 respondents said that ICT was not necessary for effective policing in Oyo State.

### **Do you understand the meaning of the co-production process?**

When they were asked about knowledge of co-production process, about 30 respondents claimed to understand the co-production process, while 20 percent were clueless and were not having any working knowledge of the concept of co-production.

### **How do you perceive the security policies and programs of Oyo State?**

when the interviewee were asked if there were adequate security policies and program to cum the animosity, 27 respondents perceived that the current Oyo State security policies and programs are inadequate in combating crimes and sundry vices, while 23 respondents were of the opinion that the security policies and programs were effective in combating crime in the state, but that they can still be improved.

## **4.2.2 Analysis of Questions for ICT Personnel and Security Personnel**

### **The perception of effectiveness of the co-production of security by the security agencies and ICTs in Oyo State**

When the issue about the perception of effectiveness of co-production was asked whether it would influence the end result, 19 respondents from within the ICT agreed that the way people perceive the co-production process have an effect in the effectiveness of the whole process, while 6 respondents said that their perception of the process have nothing to do with the effectiveness of the process.

On the issue of perception of effectiveness of co-production, whether it would influence the end result, 17 respondents from the security parastatals agreed that the way people perceive the co-production process had an effect in the effectiveness of the whole process, while 8 respondents said that their perception of the process have nothing to do with the effectiveness of the process.

The perception of the respondents reflect the general feeling of the people towards government programs, either in security or otherwise. Some of the respondents answered as though their feelings don't matter to the government so their perception generally would have no effect on the effectiveness of the co-

production process.

### **Types and levels of engagement**

During the interview of the ICTs personnel, 12 respondents were of the opinion that the involvement of security agencies was adequate, while 13 respondents viewed the involvement of the security agencies less than adequate and can be improved upon. According to one respondent, ‘...the security agencies are not doing enough to help fight crime in this state...’

On the side of the security personnel, 8 respondents viewed the involvement of ICTs in the co-production process as adequate, while 17 respondents were of the opinion that ICTs were not adequately involved in the co-production process and that policy makers have to invest more on sophisticated ICT hard and software.

From the responses of the respondents, the types and levels of engagement of security personnel boarded on how well the security agencies responded to distress calls and how readily accessible to solve crime these security personnel were.

This perception of security agency involvement stems from the massive corruption inherent in the system and the respondents generally related to this and hence the types of replies they gave as regard the above heading. The general feeling of the respondents towards the types and levels of engagement of the various actors has a disturbing effect on the perception of effectiveness of the co-production process. They seem to feel that their perception of the effectiveness of the co-production process is inversely proportional to the type and levels of engagement of the players or actors of the co-production process.

### **Attitude of public officials involved in the Co-production Process**

On the question of attitude of public office workers, 16 respondents from the ICT were of the opinion that public office workers involved in the co-production process had shown negative attitudes toward the process, while 9 respondents agreed that the public office holders involved in the co-production process showed positive attitude towards the process.

On attitude, 13 respondents from the security parastatals were of the opinion that public office workers involved in the co-production process had shown negative attitudes to the process, while 12 respondents agreed that the public office holders involved in the co-production process showed positive attitude

towards the process. In the words of one of the respondents ‘...our members of government don’t care about the lives and property of the common man and so they don’t show interest in what concerns us especially security matters...’

The negative attitudes recorded from the ICT respondents were as a result of them originating mainly from the private sectors, which to a certain degree, are not regarded by government officials. The number of respondents from the security parastatals or agencies who claimed that public officials showed positive attitude were as a result of the fact that the security agencies are mainly funded by government money and they benefited from these public officials in exchange for providing security services for these public officials. The respondents generally believe that negative attitude of the actors involved in the co-production process negates the perception of the effectiveness of the process. This is so as the respondents see the involvement of government in things that concern the common man as something to take with a pinch of salt.

### **Compatibility of public organizations with respect to Co-production**

More so, on the issue of the synergy provided by the ICTs in security co-production, 20 respondents from the ICT said that the security agencies do not readily accept the help of ICTs in the fight against the infiltration of Fulani herdsmen in Oyo State, while 5 respondents were of the opinion that security agencies accept the help of ICTs in combating crime in the state.

They cited ineffective communication channel, as 18 respondents were of the view that security agencies did not have an effective communication channel with ICTs, while 7 respondents saw nothing wrong with the available current communication channels with the ICTs.

In the case of acceptability, 15 respondents from the security parastatal said that the ICTs do not readily accept the help of security agencies in the fight against the infiltration of Fulani herdsmen in Oyo State, while 10 respondents were of the opinion that ICTs accept the help of security agencies in combating crime in the state.

One interviewee shed a lot of light on this when he said ‘...the computer people feel that they don’t need our help because they think their computer can see everything...’

When asked about adequate communication channel, 17 interviewees were of the view that ICTs did not have an effective communication channel with security agencies, while respondents saw nothing wrong with the current communication channels with the ICTs.

From the responses above, it is clear that the communication channel which is meant to bridge the communication gap between the security agencies and the ICT firms is near non-existent. The general consensus on the issue is that the communication link between them is ineffective even though it might exist. This impacts on the perception of the effectiveness of the process when respondents feel that communication which is a key issue can be skewed to the point of passing misinformation down the channels and creating distrust. An effective communication process on the other hand, can greatly work in the favour of positive perception of the effectiveness of the co-production process.

### **Sustainability of the process**

On the question of durability, 17 respondents in the ICT believed that the co-production process would last if done properly, while 8 respondents did not see any future in the co-production process, as they said it would not last if embarked upon. Subsequently when the question of sustainability was asked, 18 respondents were of the opinion that public office holders should encourage the sustainability of the co-production process, as their collective voices would lend credence to the process, while 7 respondents were indifferent to this question.

On the durability, 10 interviewees from the security parastatals believed that the co-production process would last if done properly, while 15 interviewees did not see any future in the co-production process as they said it would not last if embarked upon.

When the issue of encouragement of the sustainability was asked, 14 interviewees were of the opinion that public office holders should encourage the sustainability of the co-production process, as their collective voices would lend credence to the process, while 11 interviewees did not feel the need for public office holders to encourage the sustainability of the co-production process.

The respondents gave various reasons why they think the process will be unsustainable which in turn, does damage to the perception of effectiveness of the process. They put forward various arguments relating to inconsistencies of government policies, nonchalance of public office holders, and a plethora of other variables. The perception of the respondents, and indeed the general public on the effectiveness of the process has a direct correlation on the working mechanics and procedures of the process, which in turn boils down to its sustainability.



## **Trust**

With the issue of trust, 18 respondents within the ICT sector viewed the trust issues between the ICTs and security agencies as dicey due to the lack of trust by the security agencies, while 7 respondents felt there was trust on the part of the security agencies, in which 15 respondents said that calling for a stakeholders meeting could increase the level of trust between the security agencies and the ICTs, while 10 respondents were indifferent to this question.

On the issue of trust, 20 interviewees from the security parastatals viewed the trust issues between the ICTs and security agencies as cold, while 5 respondents felt there was trust on the part of the security agencies but 23 interviewees also said that trust levels can be improved between the ICTs and security agencies by the willingness of the ICTs to share timely and sensitive information, while 2 respondents were of the opinion that the trust levels cannot be changed.

Trust, according to the respondents, is a pivotal point in ensuring the success of the co-production process. Where there is no trust, nothing seems to work. According to majority of the respondents, the trust issues between the actors in the process is doing nothing but putting a wedge in the spoke of progress. Each party feels they do not need the other to achieve their strategic security intent and feel that they can do it all on their own. Trust breeds synergy which is the best way for parties working on one project to achieve its objective.

### **4.2.3 Analysis of General Questions for both ICTs Personnel and Security Agencies Personnel**

When the interviewees from both the ICTs and Security Agencies were asked their opinion on the effectiveness of the process of security co-production in Oyo State, 30 of them were of the opinion that the co-production of security in Oyo state is effective, as the fight against Fulani herdsmen is basically under control, while 20 of the respondents argued that the co-production process is not effective as there are still crime and sundry vices in the state.

Subsequently a total number of 30 interviewees believe that the effectiveness of the co-production process can be improved by constant dialoguing with all the relevant stakeholders in the co-production process, while 20 of the respondents were indifferent to this question.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter involves drawing conclusions and putting forward recommendation that would enrich the body of knowledge and serve as a blue print when discussing issues that boarder around co-production of security.

#### **5.2 Summary**

This thesis, titled 'The effective use of ICT and the fight against the infiltration of the Fulani herdsmen in Oyo State, Nigeria: The co-production process perspective.' looked at the various definitions of co-production and how variables such as types and levels on engagement, attitude of public officials involved in the co-production process, compatibility of public organizations with respect to co-production, sustainability of the process, compatibility of public organizations with respect to co-production and trust affect the effectiveness of the co-production process.

Chapter one covered the background to the study and other concepts lie significance of the study and its scope, etc.

Chapter two dealt with the review of related literature which covered concepts like the definition of co-production and its types, the meaning and definition of ICTs etc

Chapter three discussed the methodology employed in carrying out this research work. Sources of data, method of data analysis, operationalization table, etc. were discussed in this chapter.

Chapter four analyses the data gathered from the interviews conducted by the researcher. The information generated from the analysis in this chapter were used to come to logical conclusions as regards the effectiveness of the co-production process of security between the ICTs and security parastatals in the fight against the infiltration of Fulani herdsmen into Oyo state Nigeria.

#### **5.3 Conclusions: An answer to the research question**

Having carried out this research work, the following conclusions were reached by the researcher.

The co-production of security between ICTs and security parastatals in Oyo State is a much needed method of effective policing as evident from the answers of the respondents during the interview sessions. The type and levels of engagement of the actors involved in the co-production process determines how effective the co-production process will be.

It is also evident from the analysis that positive attitudes of public office holders involved in the co-production process is required in order to achieve optimal effectiveness of the co-production process. The channel of communication open to both parties is also a bottle neck to the effectiveness of the co-production process and perhaps, the most important variable which has the highest effect on the perception of the process. This is evident in the fact that there is no trust among the parties and hence the unwillingness to communicate with one another. The lack of adequate communication channels seems to be the root of the problems bedeviling the process as if there is no communication, there cannot be trust, or positive attitude or even appropriate levels of engagement among the concerned parties.

The process of co-production of security is the solution in combating crime in Oyo State, and indeed the whole of Nigeria as the SYNERGY between the ICTs and security agencies covers all the bases of physical policing combined with the effective use of ICT tools to achieve the strategic intent of solving and preventing crime.

#### **5.4 Recommendations**

Having drawn various conclusions, the researcher puts forward the following recommendations.

ICTs and security agencies should open channels of proper communication with each other to properly understand what the co-production process is all about and how to implement it effectively. Drawing from the above conclusion which cites poor communication channels as the variable with the highest impact, its importance cannot be overemphasized and should be addressed with utmost importance.

A lot of credibility needed by the co-production process is domiciled in the attitude of public office holders as they are influential and can garner support for the co-production of security from both the security agencies and the ICTs, the public and the government. In essence, public office holders should ensure that they have a positive attitude towards the co-production process.

The players involved in the co-production of security should ensure that the process has sustainability in order to optimize effectiveness. This should be done by ensuring that the life cycle of the process is fully achieved and this can be done by proper networking among players to fully exploit every phase of the co-production process. The recommendations put forward will ensure that the co-production

process is optimal and effectiveness maximized which in turn will help combat the infiltration of Fulani herdsmen into Oyo State.

### **5.5 Areas for further research**

Due to the limited supply of academic literature concerning co-production, further studies can be carried out on the co-production of other public services, such as power generation, health services, e.t.c. and its impact on the socio economic life of the communities involved in the co-production process.

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Leiden University,  
Institute of Governance and Global Affairs  
Campus, The Hague,  
The Netherlands

Dear Sir/Madam,

**APPLICATION FOR AN INTERVIEW SESSION**

My name is...Martins Sadoh...and I am a student of the above mentioned university.

I am carrying out a research work titled "The effective use of ICT and the fight against the infiltration of the Fulani herdsmen in Oyo State, Nigeria: The co-production process perspective."

Please answer the questions that would be asked by the researcher to the best of your abilities and all information gathered are for academic purposes only.

Thank you

.....

## **Section A (personal information)**

### **1. Sex**

Male ( )    Female ( )

### **2. Age**

18-27yrs ( )

28-37yrs ( )

38-47yrs ( )

48 and above ( )

### **3. Marital Status**

Married ( )

Single ( )

Divorce ( )

### **4. Educational Qualification**

OND ( )

HND ( )

B.Sc ( )

Others ( )

### **5 Organization of employment**

ICTs ( )

Security parastatals ( )

### **6. Years of work experience**

less than 1 ( )

2 years to 5 years ( )

6 years to 9 years ( )

### **7. Religion**

Christianity ( )

Muslim ( )

## **Section B Interview questions**

- 1) Do you agree that there is a prevalent infiltration of Fulani Herdsmen in Oyo state Nigeria?
- 2) Do you think that the security parastatals, for example the police, are doing enough to contain the rising security situation in Oyo state?
- 3) Is information and communication technology required in the fight against the infiltration of Fulani herdsmen in Oyo state?
- 4) Do you understand the meaning of the co-production process?
- 5) Ho do you perceive the security policies and programs of Oyo state?

### **Questions for ICTs personnel**

- 6) To what extent do you see the involvement of security agencies in the co-production process?
- 7) Are public office holders involved in the co-production process showing positive attitudes

towards the co-production process?

8) Do the security parastatals have an effective communication channel with the ICTs?

9) Do you think that public office holders involved in the co-production process should encourage the sustainability of the process?

10) Do security parastatals and agencies trust the ICTs involved in the co-production process?

### **Questions for security personnel**

11) To what extent do you see the involvement of ICTs in the co-production process?

12) Are public office holders involved in the co-production process showing positive attitudes towards the co-production process?

13) Do the ICTs have an effective communication channel with the security agencies?

14) Do you think that public office holders involved in the co-production process should encourage the sustainability of the process?

15) How do you think the trust issues between the ICTs and security parastatals can be improved?

### **General questions for both ICTs and security parastatals**

16) How would you describe the perception of effectiveness of the co-production of security by the security parastatals and ICTs in Oyo state?

17) In what ways can the perceived effectiveness of the co-production process be improved upon for optimal performance?

## INTERVIEW TRANSCRIPT

Interviewer:

Interviewee: Makinde Olaseun

Time: 2.43pm

Date: Feb 17, 2020

Location: Bodija, Ibadan Oyo state

Interviewer: Good day sir!

Interviewee: Good afternoon, how may I help you?

Interviewer: I am carrying out a research work titled "The effective use of ICT and the fight against the infiltration of the Fulani herdsmen in Oyo State, Nigeria: The co-production process perspective." And I would like you to answer a few questions to help aid my research work

Interviewee: Ok o! I will try to help you but I don't have time o [laughs]

Interviewer: [laughs] No wahala I really appreciate. So let us start from the basic questions. I know you are male but just state it for record purposes [smiles] what sex are you?

Interviewee: [laughs] nawha o! you see say I be man nah! Ok, I am male.

Interviewer: Thank you. How old are you?

Interviewee: I am 45 years old

Interviewer: What is your marital status?

Interviewee: I am married with 3 kids

[Door opens and closes in the office]

Interviewer: what is your highest educational qualification?

Interviewee: I have a bachelor's degree in information technology

Interviewer: [coughs] excuse me sir. So I am right to assume you work in the ICT sector?

Interviewee: yes!

Interviewer: Ok sir. Now that the introductory questions are out of the way, we can get to serious business!

Interviewee: ok then

Interviewer: Do you agree that there is a prevalent infiltration of Fulani Herdsmen in Oyo state Nigeria?

Interviewee: well to the best of my knowledge, these so called herdsmen are becoming a problem



in this state. Any little patch of bush you will see them and honestly speaking, I don't feel safe with them around us.

Interviewer: So you agree that there is a prevalent infiltration of Fulani herdsmen in Oyo state?

Interviewee: yes. [phone rings] excuse me please {picks call and talks for a minute} sorry about that please go on

Interviewer: ok sir. Do you think that the security parastatals, for example the police, are doing enough to contain the rising security situation in Oyo state?

Interviewee: well we cannot say that they are not trying, in fact I think they have tried with the little resources at their disposal .The security agencies are not doing enough to help fight crime in this state

Interviewer: Ok sir. Now the next question.

Is information and communication technology required in the fight against the infiltration of Fulani herdsmen in Oyo state?

Interviewee: Oh yes! As a matter of fact, I see it as the only tool available to fight crime to a standstill in this country because we are in a technologically advanced period.

Interviewer: Are you just saying this because this is your field of expertise?

Interviewee: [laughs] I am saying it because it is the truth

Interviewer: ok sir. Do you understand the meaning of the co-production process?

Interviewee: I think it means 2 or more people coming together to produce something abi? [smiles]

Interviewer: [laughs] Oga you tried nah. How do you perceive the security policies and programs of Oyo state?

Interviewee: Well I am not expert in that field but I would say that they can do better than what they presently have on ground.

Interviewer: To what extent do you see the involvement of security agencies in the co-production process?

Interviewee: The security agencies are not fully involved in this co-production thing. They see themselves as more efficient working alone instead of us working together.

Interviewer: Are public office holders involved in the co-production process showing positive attitudes towards the co-production process? [coughs]

Interviewee: Public office holders is another whahala (problem) they don't care at all at all!

Interviewer: Ok. Now the next question. Do the security parastatals have an effective communication channel with the ICTs?

Interviewee: people that ignore us and see as useless in this fight against terrorism? They do not even communicate with us at all!

[somebody steps into the office briefly]

Interviewee: please excuse me [steps out]

[returns shortly]

Interviewee: ok. sorry about that. Please continue

Interviewer: No problem sir. Now the next question. Do you think that public office holders involved in the co-production process should encourage the sustainability of the process?

Interviewee: Of course they should! It is a project that will benefit everybody so they should encourage it.

Interviewer: Thank you sir. The next question. Do security parastatals and agencies trust the ICTs involved in the co-production process?

Interviewee: Oh boy no trust there o! I have even been a victim of this no trust thing sef. Na wha o! They look down on us a lot and even tag us scammers sometimes. So for me there is no trust there.

Interviewer: Thank you so much sir. We still have a few questions to go hope you don't mind sir.  
[shuffles papers]

Interviewee: Ah! Not at all o

Interviewer: Ok sir. How would you describe the perception of effectiveness of the co-production of security by the security parastatals and ICTs in Oyo state?

Interviewee: Well I think it still has a long way to go before the effectiveness can be fully grasped and appreciated.

Interviewer: In what ways can the perceived effectiveness of the co-production process be improved upon for optimal performance?

Interviewee: the issue of trust between the two organizations would greatly improve the performance of the process

Interviewer: Thank you very much for your time sir. That would be all Interviewee: You are welcome

[interview ends]