

Colonialism and the Disintegration of Indigenous Technology in Igboland: A Case Study of Blacksmithing in Nkwerre

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Abstract

Long before the advent of colonial administration, indigenous technology especially blacksmithing was a flourishing profession among the people of Nkwerre. The significance and influence of this industry were pronounced within and outside the community. Through this indigenous technology, the people developed various means with which their socio-economic as well as military needs were met. Consequent upon Nkwerre blacksmithing ingenuity, the people bagged the sobriquet, 'Nkwerre Opia Egbe' (Nkwerre, the manufacturer of gun). This is derived from their knack for blacksmithing. Unfortunately, this renowned traditional technology had suffered neglect and abandonment. Hence, Nkwerre has never been historically considered among blacksmithing communities par excellence. This is evident in much of the available literature. The decline in this local technology has been attributed to colonialism as well as the policies of the post-colonial government in Nigeria towards indigenous technology. The paper is set to achieve three purposes: In the first place; it examines the nature of blacksmithing technology and its relevance in pre-colonial and colonial Igboland which cannot be underestimated or over-emphasised. Secondly and the import of the paper, it assesses the impact of colonialism on the decline of this indigenous technology and finally to seek ways through which such indigenous technologies could be revitalised and modernised in order to suit the present trend in industrial and economic growth for sustainable development. In the methodology, primary and secondary sources were adopted. The paper is thematic, chronological as well as analytical in presentation

Keywords: Colonialism, disintegration, indigenous technology, blacksmithing.

1. Introduction

Indigenous technology which is the art of doing things,¹ has played a significant role in the daily activities of man in Igboland in pre-colonial and colonial era. Hence, S.A. Bobo averred that technology is spread by man and that man lives by technology.² This assertion is more relevant when the technology is indigenous (endogenous) often referred to as internally generated methods of learning and expressing initiatives or traditional technology.³ This remains a truism when the technological discoveries, inventions and innovation are made to meet the growing and insatiable needs and aspirations of a given society. Of particular importance is when the technology is discovered at its infant stage, developed, modified and consequently modernised to meet the increasing wants of the people. Through different technological innovations, people of various communities have been able to satisfy their environmental necessities.

Instances of indigenous technology abound in Igboland in pre-colonial and colonial times. In Nkwerre, blacksmithing was a remarkable indigenous technology in Igboland. Employing this ingenuity, the people had been able to satisfy their basic necessities. They produced all sorts of agricultural and hunting implements for economic, social, political and military purposes. Thus, they gained for themselves the appellation, Nkwerre, *Opia Egbe* (Nkwerre, the gun manufacturer). It is to this inventiveness that J. Cook, the Assistant District Officer at *Orlu* Province remarked: 'that the people of Nkwerri (sic) practising the art of blacksmithing could make flint guns, provided they obtained a piece of gas pipe for the barrel and could convert flint locks to percussion locks.'⁴ Significant and apt are these assertions about the flowering blacksmithing industry in Nkwerre prior to colonial rule. However, the technological resourcefulness in Nkwerre had suffered a devastating decline with the advent of colonialism. The import of the paper is to examine in historical light the creativity of the people's blacksmithing technology, evaluate the impact of colonialism on the distortion of the growing technology and recommends ways through which post-colonial government can encourage the development of indigenous technology in all ramifications. The paper posits that indigenous technology regardless the type, if encouraged, modernised and supported by government grants and policies, corporate organisations as well as other economic stakeholders would serve as a basis for industrial and economic take-off for Igboland and Nigeria at large.

2. Locating Nkwerre

Nkwerre was the administrative headquarters of Nkwerre/Isu Local Government Area and lies in the eastern part of the longitude 7° E of the Greenwich Meridian.⁵ The town is situated astride the *Orlu-Anara-Owerre* trunk B at about forty kilometres North-east of *Owerre*, the capital of Imo State, Nigeria. Nkwerre is about twenty square kilometres in area. It is bounded on the North by *Amaokwara* and *Eziama*, on the South by *Umudi* and *Owerre-Nkwoji*, on the East by *Isikenesi* and on the West by *Amaigbo*.⁶ Nkwerre lies on the Southern part of the *Awka-Orlu* uplands and topographically stands on a rugged local relief with both its highest and lowest parts at *Umugara*. The town is drained by one main stream, *Iyibeke*, which rises in the North-east and flows to the South-west.⁷ Some east-flowing tributaries of *Orashi* River also form small streams which meander through the Northern and Eastern parts of the town, forming natural boundaries at some places.

Geologically, Nkwerre is within the *Bende-Ameke* formation. The rocks are composed of lignite seams, clay, gravel and minute particles of iron stones.⁸ It is likely that these stones were of great use to the people, particularly the blacksmiths in the pre-colonial period. The climate of Nkwerre is typical of the rainforest belt to which it belongs. It has an annual rainfall of about 203.2 centimetres (80 inches) and a temperature range of between 70° and 90° F. The primary rainforest has given way to secondary forest. This is perhaps due to extensive bush burning and prolonged land usage which has resulted in soil exhaustion,⁹ a fact which has helped to condition the economic orientation of the people. Having considerably locate and examined the environment of our study, attention shall now be drawn towards the traditions of origin of blacksmithing in Nkwerre.

3. Towards the Traditions of Origin

There are many varying myths that surround the beginning of blacksmithing in Nkwerre. According to one of the myths, it explained that *Chukwu Okike* (the biggest *Chi* that creates) sent *Ogadazu* (Nkwerre god of iron and blacksmithing) to *Okoto* forest in *Umunachi* in Nkwerre.¹⁰ According to this myth, *Ogadazu* was further instructed to teach any son of *Okwaraeshi*, (the legendary founder of Nkwerre town) he met the art of blacksmithing. From the account of this tradition, the first person *Ogadazu* met was a man called *Nachi* who became the father and founder of *Umunachi* (sons of the divine smith and ruler).¹¹ *Ogadazu* met *Nachi* in *Okoto* forest where he was gathering fruits. *Ogadazu* provided *Nachi* with a sledge hammer, an anvil and a pair of bellows. These are considered to be basic equipment for blacksmithing. He taught *Nachi* the knowledge of metallurgy and how to turn iron ore into iron and use this iron in forging any metal wares one wanted. This is why Nkwerre blacksmiths always say: ‘*Ogadazu*, the god of iron and smithing in *Okoto*, we eulogise you for your marvellous knowledge of metallurgy...’¹² *Nachi* collected the sledge hammer, the anvil and the pair of bellows from *Ogadazu* and began to participate in the art of making items of various sorts from iron and metal through divine intervention. According to this tradition, *Nachi* became the first blacksmith in Nkwerre and thus established his first forge near *Okoto* forest, the abode of *Ogadazu*.¹³ From here in *Umunachi*, blacksmithing passed from one family to the other and one Nkwerre village to another. This version on the origin of blacksmithing in Nkwerre has never been upheld as plausible as the tradition may seem. One of the reasons put forward is that this story is never profound in the people’s folklore. More so, it is said that *Umunachi* village never established trading influence like other Nkwerre blacksmithing villages. Nonetheless, it is generally acceptable that *Ogadazu* was the god of blacksmithing in Nkwerre and that the *Umunachi* village was noted for blacksmithing.

Another version of the tradition of origin held that it was *Okwaraeshhi* who introduced smithing into Nkwerre. This version of the development of blacksmithing is maintained by the *Eshi* of Nkwerre, *Eze Dr. Barrister C.J. Okwara*, the *IV* of Nkwerre.¹⁴ He claimed that it was the natural intelligence and inventiveness of *Eshi* that made it possible for blacksmithing to thrive. According to this view, blacksmithing started at *Onusa-Nkwerre* where *Okwaraeshi* resided. Thus, the art passed through the process of transmission to all the other villages. He maintained that the exact time blacksmithing commenced in Nkwerre could not be ascertained in history. This tradition is equally supported by *Aloysious Onyejiaka* who opined that *Eshi*, the father of *Okwaraeshi* as a hunter must have learnt the craft before he migrated to the present town of Nkwerre.¹⁵ Thus, through transmission *Eshi* passed on the art to his son *Okwaraeshi*, and the latter continued the process. However, many other informants have disagreed with this tradition. They argued that there was no empirical evidence to substantiate this claim as, *Onusa*, they stressed did not establish trading spheres like *Umukor*, *Umunubo*, and *Umuyem* did.

There is still another version that maintained that *Umukor* people originated blacksmithing in Nkwerre.¹⁶ According to this tradition, the art subsequently spread through extended relations who became apprentices to *Umukor* people. This is not supported by any factual evidence. We cannot extensively rely on this information as oral traditions are still divergent and silent about *Umukor* inventing the art of blacksmithing in Nkwerre. Perhaps, *Ihekwoaba* was influenced by the many members of *Umukor* smiths in the trade. However, the

contribution of *Umukor* blacksmiths to the popularity of Nkwerre blacksmithing industry cannot be doubted. They were considered among the best blacksmiths in Nkwerre and were noted for producing quality products like hoes, knives and all types of *erefere*, *egbe-cham* and barrelled guns. It would appear that *Umukor's* ingenuity led to Nkwerre smithing gaining prominence in Igboland. This is also attributed to their long distance trading. Nevertheless, their role in the origin of the art is yet to be definitively determined by research.

Still another version has attributed the origin of blacksmithing to a man called *Igwe-Ojo* from *Umunbo* quater.¹⁷ Apart from the fact that Nkwerre traditions claimed independent origin of blacksmithing, there are theories and speculations that Nkwerre must have learnt the art of smithing either from *Awka*, *Ohuhu*, or *Agulu Umuna*. In the absence of concrete archaeological evidence, it is difficult to determine which of these towns learnt blacksmithing from the other and even from where in Igboland the technology started from. *Njoku*, in his work '*Awka and Early Iron Technology in Igboland: Myths, Probabilities and Reality*,'¹⁸ has refuted *Awka* being the pioneer of iron technology in Igboland. Therefore, the claim by some scholars that Nkwerre must have derived their smithing knowledge from *Awka* cannot be substantiated.

In this segment, we have tried to sift the varying traditions of origin on blacksmithing in Nkwerre. In spite of all speculations, we synthesise that Nkwerre oral traditions strongly support independent and indigenous origin. In his account, *Joe-Kwes Onwukwem* stressed that blacksmithing in Nkwerre began *kamgbe Eshi* (time immemorial).¹⁹ This statement was reinforced by other informants like Honourable *Ugochukwu Ihekwoaba*, Honourable *Kenneth Ihekwoaba*, *Osuala Chhijioke Ajunwa* as well as *Nze Ojukwu Samuel* who collectively asserted that Nkwerre did not learn blacksmithing from anywhere rather that it was autochthonously.²⁰ The people maintained that the idea of blacksmithing emanated from their resourcefulness and any attempt to explain the origin of the art in favour of outside influence cannot be sustained with substantial evidence. Besides, the claim of independent origin might have arisen from the fact that iron technology started at such remote antiquity that the people have forgotten how it came about. Therefore, the origin of blacksmithing in Nkwerre and Igboland in general still awaits further research. Until this is unravelled, all claims should be treated with caution.

4. Organisational Pattern of Nkwerre Blacksmithing Technology

Due to constraint of space and time, what we attempt here is brevity of organisational pattern of blacksmithing in Nkwerre. So, we shall take a cursory look at the processes of iron smelting, the smith's techniques and products as well as the marketing of the smiths' products. In Nkwerre, smelting was a respectable profession and it was not for weaklings. Whenever able-bodied men agreed on a smithing project, they first look for a suitable smelter. To get a good smelter, some conditions should be considered. They must ensure that in order to avoid conflagration in the area, the site must not be near people's homes, shrines, farms, towns or watch-nights' shanties. This is because the charcoal pit site and the blast furnace belch out showers of sparks, wisp of smoke and occasional huge flames.²¹ The pit is often sited very close where huge logs of trees could be easily obtained. In fact, the charcoal pit and the furnace were not normally far from the groves. Smelters also ensured that their workshops were not sited in a water-logged area. In Nkwerre, for example, having got the entire paraphernalia ready, the first thing the smelters did was to mine the ironstone or alternatively, they paid cowries' shell this purpose.²² Following this, the smelter built the furnace which is about 1.50 metres high.²³ In Nkwerre, the services of the pot makers from *Uhuala* were utilized. The smelters supervised the work to make sure that the pot makers followed the laid down specifications. While the building of the furnace was in progress, the smelters scouted for special trees to cut down and burnt to provide the much needed charcoal for their work. The hard wood used included sasswood, African oil bean and *icheku*.²⁴ In some other places like *Umundu*,²⁵ smelters preferred logs of *penteclethra-macrophylla- akpaka* trees among others. Having considered in brief the processes of iron smelting, we shall turn to the smiths' techniques and products.

At the beginning of blacksmithing in Nkwerre, it was haphazard. However, and with time, the art spread and underwent changes for improvement. The changes were so remarkable that the craft which began crudely and modestly with the making of needles, kitchen knives, cutlasses, hoes et cetera, subsequently, attained the sophisticated stage of gun-making and repairing of cannons. The blacksmiths through their ingenuity designed many crude working tools such as *Osusuala* (anvil), upon which the smith forged his tools for manufacturing *Otutu* (hammer)²⁶ which was a major tool usually with a heavy head at the end of a handle and it was used for beating metal and nails into desired shape. *Eko* (bellows) were made up of goatskin which were filled into a pair of hollowed, conical pieces of wood.²⁷ The smiths also used *mkpa* (pliers) and *igbogiri* (file).²⁸ Since there was no knowledge of coal at the time, it was not strange that the smiths used *icheku* (charcoal derived from African oil bee) to generate heat. With all these tools, Nkwerre smiths were able to practise their craft skilfully.

The products of Nkwerre smiths varied as the occasions demanded and according to the needs of the people. Quite early in history, Nkwerre smiths embarked on the production of *ola* (rings), pots, armlets and staff which was a symbol of authority for *ozo* title holders. The smiths became proficient with improved skill. As the smith became proficient, the master smith left rudimentary smithing to apprentices. At this time, the master smith devoted much attention to producing agricultural tools such as *ogu* (hoes), *ube* and *mbazu-igwe* (for making mounds and digging trenches). Other tools were *Ikeagwu-agadi* (tools used for weeding), *nkwukwuogu* (digging sticks) and *mma* (machetes) for clearing paths.²⁹ The use of the tools helped to increase food production such as yam, vegetable, maize and cocoyam. Ultimately, the great need to barter the smiths' product with the agricultural foodstuff encouraged progress and productivity in blacksmithing.

To the hunters, the Nkwerre smiths manufactured hunting and war implements. Thus, they made *mma opia* (long knife used for war), *mma-apata-ukwu* (knife with double blade), *mma nwet* (dagger), *mma ugada* (long knife also used for war) and *otutu* (hammer). Other hunting implements such as *anya-igwe* (trap), *aka* (trap placed inside the ground to catch animals as well as thieves), and *ikpo-nkita* (a bell shaped object hung on the neck of hunting dogs) were manufactured.³⁰ These products encouraged and boosted trading activities of the people in Igboland and also brought wealth to the smiths.

By the middle of the 17th to the end of the 19th centuries, Nkwerre smiths had come in contact with the Europeans through the coastal towns of Bonny and Calabar. Through this trading contact, the smiths traded slaves in exchange for European goods such as bars of iron, *erefere* guns and gun-powders as well as clothes.³¹ This marked a new era in the evolution of gun smithing in Nkwerre. The smith who had always produced *ola* (finger rings), *mkputu* (nails), hoes etc began to direct their efforts towards repairing and manufacturing of guns. Among such guns was *egbe cham* or flint gun. It had an ignition barrel into which the gun-powder was applied. Closely associated with the repair and manufacture of gun was the ability to make *mkponala* (small indigenous cannons). They could also repair *kurutu* or *egbe-ndu* (cannon of more complex composition).³² This *egbe-ndu* was the latest of all the firearms and they appeared perhaps in the late 19th century. It would appear that by achieving this skill, Nkwerre reached the height of craftsmanship and from this excellence the town derived its sobriquet - Nkwerre *Opia Egbe* (Nkwerre, the gun makers).

Nkwerre smiths' products found market areas like *Okwudor*, *Agbaja* and *Uratta*. Other areas where agricultural and hunting implements were found were *Etche*, *Isiokpo* in River State and in *Ogwasbi-Ukwu*, *Agbor*, *Asa*, *Awokmi* and *Benin* areas (all in old *Bendel* State).³³ In addition, and has been reported by *Ofonagoro*,³⁴ Nkwerre and *Amaigbo* (their immediate neighbour to the southeast) blacksmiths travelled and traded extensively throughout the hinterland, manufacturing various articles, from needles (*alanga*) which were the stock-in-trade of apprentices (*umu-uzu*), to knives, iron shield (*ekpeke*), padlocks and keys (*igodo na otu-uzo*), hoes and guns. The guns the smiths made were usually sold on credit, but often the enterprising blacksmith/trader employed his gun as capital in an ingenious manner. In the *Ogoni* country of the south, one trader, *Agugua* of Nkwerre, manufactured and loaned out to local hunters 105 guns.³⁵ The hunters would bring in about 60% of their kill to the enterprising blacksmith/trader, retaining 40% for themselves. In the *Abakiliki-Idoma* country, Nkwerre traders sold various types of locally-made and imported clothes as well. To the consumers of average means, they sold bark clothe (*nkpuru*) obtained from *Obowo*, *Mbano*, *Okigwe* and *Etiti* weavers. More affluent customers bought *Akwete* clothe or George clothe.³⁶ In the North of the country, they also dealt in *Gwodo* clothe (*Egerebute*), as well as in coastal fish, crayfish, locally made towels and knives, including imported and locally made ones.

Among Nkwerre blacksmith, their trading influence gave rise to internal zoning arrangement among the smithing lineages. The five main lineages covered five different routes. Each of the lineages was identified with a specific area of operation. These lineages were *Umunubo*, *Umueze*, *Umunaga*, *Umuduroji* and *Umuakor*. *Umunubo* dominated the *Bende* zone which included *Igbere*, *Ohafia*, *Uzuakoli* and *Nkporo*, with *Bendel* as the focal point. *Umueze* and *Umunaga* operated in the *Ogoni* area and the eastern half of Niger Delta. The other half of the eastern Delta was dominated by *Umunaga* smiths of *Awka*. In the Igbo heartland, *Umuduroji* lineage was predominant along *Mbaise*, *Mbano*, *Ngwa* and parts of *Umuahia*. And lastly, however, not the least, *Umuakor*, the most travelled of Nkwerre smithing lineages operated among the northern Igbo, and probably had inched their way into the southernmost parts of the *Igala* and *Idoma* territories by the dawn of the 20th century. So, generally, the Nkwerre traders/smiths operated throughout these areas, trading to the south by way of *Amaigbo*, *Amaraku*, *Eke-Ata*, *Owere*, *Olakwo*, and *Aba*. From *Aba*, they traded in the *Ukwa* country by way of *Obehie*, *Asa-Umunteke*, *Akwete* and *Ohambebe*, or made their way to the *Ogoni* and *Ikwerre* country. The smiths' routes to Calabar traversed *Uyo* and *Winneba*, though they sometimes operated by way of *Itu* or *Oron*. In the North country, they with *Item* middlemen competed for business of the *Item-Owutu-Edda-Okpoha-Abakiliki-Ehamufu-*

Oturukpo trade routes.³⁷ The presence of a large number of Nkwerre among the victims of the *Obigu*³⁸ incident indicated the extent to which Nkwerre traders/smiths were active on the *Aba-Owerre-Nkwerre* trade routes, which covered a distance of 80 miles. They usually travelled in groups similar to that encountered by the *Ngor-Okpuala* punitive expeditions.³⁹

The significance of the zoning arrangement appears to have been designed to serve two basic purposes. One was to avoid unhealthy competition among smiths from the same community. The other was to check against possible intrusion into the guarded profession by pretenders. By the 19th century, Nkwerre blacksmithing had become *je ne sais quoi* from other smithing communities.

5. Colonialism and the Disintegration of Blacksmithing in Nkwerre.

So far, efforts have been geared towards the origin and nature of blacksmithing industry in Nkwerre. And to this effect, it is established that blacksmithing industry as indigenous technology had contributed in no immeasurable way to solving the challenges that confronted the people of Nkwerre in the pre-colonial time. It is emphasised that this technology had undergone a systematically organisational pattern that promoted an orderly African societies prior to colonialism. The sequence of the people's cosmic world contested the Eurocentric views about African societies being barbaric, savage and crude.⁴⁰ However, this infant and emerging technology was marred by the advent of colonialism. Thus, it is to this distortion of Nkwerre indigenous technology that this segment shall turn to.

Having conquered the entire Igboland through punitive expedition, colonialism was imposed on the people by force. Consequently, the colonising power decided to foist on the people coercive administrative policies intended to extract their obedience and submission in all ramifications.⁴¹ Expedient measures were taken to stunt existing indigenous industries and the skills associated with them.⁴² Walter called this situation technological arrest or stagnation.⁴³ Consequent upon this, the Protectorate and later Colonial Administration placed a ban on the production and the importation of arms and ammunitions. In 1893, the Protectorate Administration took steps to prohibit absolutely the marketing of breech-loading rifles, cannons, smooth-bore cap, and revolvers.⁴⁴ This resulted in the decline in gun production and marketing in Nkwerre as in other smithing communities since the demand for guns and other blacksmithing products were to a large extent predicated on the supply of ammunitions such as caps and gun powders. This was further enhanced when in 1901 the acting High Commission, H.L. Galloway prohibited the sale of arms and ammunitions. This was enforced when the intended planned expedition against the *Aro* was in full swing. As if the ban on the production and sale of arms was not enough, the colonial Administration required the people to surrender their weapons at *Eke Agha* some fourteen days to the arrival of Captain H.M. Douglas. A substantial arsenal which could be put to good use against any strong organised force was found. This arsenal of power and wealth that represented the pride of Nkwerre family as well as the symbol of Nkwerre indigenous technology was systematically destroyed and incinerated in nearby *Eke Agha* from October 1906 - November 1906. This no doubt impacted negatively on Nkwerre indigenous technology.

The presence of the European trading firms and the missionaries impacted negatively on the indigenous technology. In the late 19th century, the European trading firms oscillated between the coastal peripheries and the hinterlands. However, in the first half of the 20th century, they penetrated firmly into the interior. As they moved in, the European firms had hoped to eliminate the services of the local industries, thereby, ensuring that their goods and products replaced and dominated the hinterland market. This was made possible by the lending principles of the colonial banking policies. Prior to this period, the colonial administration had demonetized the local currency.⁴⁵ Hence, the banking lending policies discriminated against the African traders while favouring the Europeans merchants. Added to this, the trade relationship that existed between the European firms and the local industries was unequal. The colonial climate for trade was inclement for iron technology to improve in the local markets. The European firms encouraged by favourable colonial policies made massive importation of iron mongery, textiles, ceramic products etc possible following the opening up of the Igbo hinterland to the European traders.

Christian missionary ideology and activities, aided sometimes overtly and at other times supported by the colonial administration, added to the problems confronted by Nkwerre smithing industry. The missionaries came to Igboland with fixed preconception of the superiority of their religion over that of the local people. Indigenous Igbo religion was from the missionaries' perspective, pagan, and paganism, they assumed pervaded every aspect of the people's lives, work as well as leisure. The Christian missionaries assumed that it was their responsibility to rescue the allegedly benighted Igbo from the depth of depravity to which they imagined, they had sunk.⁴⁶ Hence, the Nkwerre and other smithing communities had this to contend with. In the interest of their souls,

Christians practising blacksmithing were urged by their mentors to renounce the indigenous religions and rituals aspects of the production processes.⁴⁷ Items produced under the traditional ritualised system were considered to be tenanted by the devil. Apprentices who were Christians were also warned not to participate in the annual celebration of the smiths and the ritual and religious ceremonies of *ima otutu* (the passing-out or graduation of an apprentice).⁴⁸ The teaching of the Christian missionaries condemned this act. Yet, it was during the *ima otutu* and smiths' annual celebrations that the smiths reaffirmed their commitment to uphold the ethics of the profession. But all these were condemned and considered paganism by the Christian missionaries. Its negative impact on blacksmithing and metal industry was unimaginable. The fact remains that to detach indigenous ironworking process from its cultural milieu was, as it were, to cut off the umbilical cord binding mother to her unborn baby.

To this effect, attacks were made on various traditional practices of the people by the Christian missionaries and their converts. One of the signs of conversion during the early days of Christianity was the burning of traditional religious objects and the renouncing of titles. Subsequently, objects of arts which served purely decorative purposes came to be associated with idol worship and were destroyed. These developments inevitably resulted in a drastic reduction of patronage to craftsmen.

In order to achieve their aims, the chief weapon of the mission for the Christianisation of Igboland was their schools. The public sector, especially the Public Works Department (PWD), the Marine, the Coal mines and the Railway needed various types of skilled and unskilled labour. The Christian missions and European firms also needed various types of labour. In all of these employment, some modicum of literacy was required, if one was to make progress. In addition, indigenous traders, transport operators and modern artisan groups such as carpenters, bicycle repairers, motor mechanics, welders, tailors, electricians and others emerged in the urban centres. Like all rural craft, blacksmithing was not favoured by those developments. To the Nkwerre youth, smithing became a dead end, instead of being a step to a brighter economic and technological future. Boys who used to spend their time in the forge as apprentices flocked to the mission schools and thereafter to the urban centres. *C.J. Okwara*,⁴⁹ stressed that the establishment of missionary schools and other urban-pull factors contributed to the desolation and abandonment of blacksmithing industries. All these impeded the growth of indigenous technology in Nkwerre and Igboland at large.

In the preceding section, the effect of the British trading firms and missionaries on blacksmithing and other craft industries are discussed. It was emphasised that smithing in Nkwerre and elsewhere, in Igboland were drastically affected. In this section, we shall examine the societal attitude and its impact towards indigenous technology in the colonial era. It is germane to remind us that one of the mechanisms that the British administration adopted and which took deep in the people's lives, customs, psychology and culture was the role of the Christian missionaries. Following their teaching, many new converts were won over to the new faith. Consequently, they were indoctrinated to renounce the religious and ritual aspects of the production processes. Items produced in the blacksmith forge under the traditional ritualised systems were considered to be associated with heathenism. Hence, many of the new converts who had received the western education began to despise the long cherished and desired profession (blacksmithing). The societal attitude degenerated into what *Njoku* tagged *Okpuru Igbo* (Igbo Make).⁵⁰ As a result, the demand for the smiths' products declined while the demand for similar foreign made product rose. And as already noted, the British trading firms had tremendously benefitted from the Industrial Revolutions, thereby, there was massive importation of similar products of the smiths and at a cheaper rate. Thus, the indigenous craft products were less patronized.

Earlier, a cursory look of the educational impacts on indigenous technology was made. In this section, we shall take a closer evaluation of European style of education on the people's psychology. The colonial educational system disorientated the people and the effect was so conspicuous that it emphasised on clericalism and neglected artisan and technical training. The educational system created no links with traditional occupation and skills; rather, it tended to divorce the recipients from traditional skills. The dysfunctional nature of the system had adverse effect on the traditional milieu of the people. The view is supported by Walter⁵¹ when he maintained that it was not an educational system that grew out of the African environment or one that was designed to promote the most rational use of material and social sources. He further averred that it was not an educational system designed to give young people confidence and pride as members of African societies, but one which sought to instil/inculcate a sense of deference towards all that was European and capitalism.⁵² Colonial schooling was education for subordination, exploitation, the creation of mental confusion and the development of underdevelopment.

Therefore, the net effect of colonialism was that it foisted negative change on Nkwerre traditional technology and other communities in Igboland. The people became dazzled and stupefied by the events such that their response became mimetic rather than analytical; thus, they despised their emerging civilisation and technology for similar foreign-made products and they took to schooling but made paper qualification and end in itself.

6. The Paths to Indigenous Technology Development

In the last segment, a look at the factors that contributed to the decline of blacksmithing was attempted. In this section, it is intended to suggest measures that can be taken to revive and develop indigenous technologies. To this end, government policies, promotion of import substitution, societal re-orientation and infrastructural development shall be considered.

The contributory role of government in the promotion of indigenous technology cannot be underestimated. *Jhingan* has rightly quoted Lewis on the significance of government in technology and economic development thus: 'No country has made progress without positive stimulus from intelligent government.'⁵³ Therefore, a weak administrative and political structure is a big hindrance to technological developments. Hence, a strong, efficient and incorruptible administration is essential for economic advancement. Therefore, a good government can help in capital formation by adopting the right monetary and fiscal policies, providing timely overhead capital facilities, consistent and implementation of formulated policies. It is also necessary that government should ensure the maintenance and development of infrastructural facilities such as electricity, efficient transportation system et cetera. Thus, a good government must ensure enabling environment if it desires to stimulate economic development through indigenous technology.

Another important measure that should also be taken to improve on the local or traditional technology is through the encouragement of import substitution. This can be achieved through the cutting down in our national economy the blind importation of products that our local or traditional industries could produce. Though, the products may not meet international standard, nevertheless, effort would be geared towards its improvement and modernisation. This was how the developed and advanced countries started. In addition, this will offer a challenge to the population, thereby, leading to the acquisition of innovative mentality and capacity through the process of *learning-by-doing*.⁵⁴ Massive importation of external resources has a negative impact on traditional technological development - because it tends to give impression that foreign manufacturers, their knowledge, goods and services are better than their indigenous counterparts. Therefore, efforts should be made towards the halt of the colonial order and neo-colonial production that is dependent on foreign capitalist for managerial skills and technical expertise. Thus, the federal government campaign on *Made in Nigeria* is a welcome development because 'development is impossible if it does not take place in the mind of the men'⁵⁵ It is therefore imperative that if the process of economic growth is to be cumulative and longer lasting, the forces of development must be firmly rooted within the domestic economy through import substitution and indigenous technology promotion.

Prior to colonial rule, blacksmithing had a prominent place in the lives of the people. This was particularly so, because of the role the blacksmiths played in the economic, military as well as socio-cultural lives of the people. The societal attitude towards the smiths was envious and as a result, parents wanted their children to learn the technology. As ably remarked by *Njoku*,⁵⁶ arising from the centrality of their profession, blacksmiths specifically enjoyed universal respect and recognition in society. However, all these positive and enviable attitudes towards blacksmithing changed with the advent of colonialism. Colonialism distorted and disoriented the people's view about blacksmithing. The European civilisation infiltrated into the people's culture and social milieu. Hence, traditional wares such as the smiths' products came to be derided as *Okpuru Igbo* (meaning Igbo make) and consequently, less patronised. At this point, every indigenous art was considered inferior to the European products. Added to this, colonial education system emphasised on clericalism and neglected artisan and technical training. The colonial education system created no links with traditional occupations and skills; rather it tended to divorce the recipients from these traditional skills. Moreover, the blacksmiths work /job and his forge had been considered a dirty work, consequently, many young ones deserted it for urban centres. All these attitudes towards indigenous technology especially blacksmithing should change in order to ensure a better economic growth.

7. Conclusion

In this paper, attempts have been made to trace the development of blacksmithing in Nkwerre. To this end, the significance of the profession to the people in the pre-colonial and colonial era is emphasised. Hence, they earned for themselves the sobriquet Nkwerre *Opia Egbe* (Nkwerre, the gun manufacturer). In sum, the paper submits that:

- ✓ Blacksmithing was an acknowledged profession among the people of Nkwerre like other blacksmithing communities e.g. *Agbaja, Udi, Amokwe* and *Umana*.
- ✓ Nkwerre blacksmithing was indigenous according to the people's tradition. The truth of this claim is yet to be ascertained. Therefore, this remains valid until further research proves this wrong. Thus, blacksmithing encouraged the economic, political and socio-cultural activities of the people in pre-colonial and colonial epoch through the length and breadth of Igboland.
- ✓ The neglect of indigenous technology has contributed to the bane of local economic and technological advancement in Nigeria. And the research is of the view that adequate attention should be accorded to traditional technology for optimum internal economic growth and development.

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