

**THE NIGERIA-BIAFRA WAR AND THE EVOLUTION
OF THE RESEARCH AND ARMAMENTS
PRODUCTION (RAP) OF BIAFRA (1967-1970)**

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Abstract

It cannot be controverted that various weapons were manufactured by the Biafran scientists during the Nigeria-Biafra War. However, there are conflicting debates among early writers on the origins of the weapon project of the defunct Republic of Biafra during the Nigeria-Biafra conflict. The Nigeria-Biafra war witnessed the introduction of new weapons which helped to sustain the Biafran struggle for the period of the civil war. This paper examines the evolution of the Research and Armaments Production (RAP), which was responsible for the production of weapons, infrastructural and allied projects in Biafra during the Nigeria-Biafra war. The evolution of RAP marked the beginning of military industrial complex in Biafra during the 30 months conflict. Furthermore, the study examines the conditions that necessitated the need for local production of weapons in Biafra and the role of RAP in the Biafran struggle during the war. The Biafran RAP-made weapons contributed immensely to the victories recorded by the secessionist regime during the war. In essence, the thrust of this paper is that war creates an enabling environment for the growth and expansion of military industrial complex in a state, particularly the development of scientific and technological innovations in the fields of weaponry, infrastructure and allied projects. The paper adopts the historical approach and data was obtained from both primary and secondary sources. The paper concludes that necessity, that is, lack of weapons and the will to survive led to the evolution of RAP which was instrumental to the production of war induced homemade weapons and allied projects in Biafra during the Nigeria-Biafra conflict.



Key words: War, necessity, RAP, Weapons, and Invention.

Introduction

The Nigeria-Biafra war was famous for the invention of various types of weapons which helped in no small measure to sustain the Biafran soldiers for a long period during the conflict. Both Biafra and Nigeria started the war with imported weapons which they had in their armouries prior to the outbreak of the conflict. Although, the Armed Forces of the Federal Republic of Nigeria were better equipped than the Biafran troops, however, both belligerents did not possess sufficient weapons, equipment and trained personnel needed to prosecute the war. As the war progressed, both Nigeria and Biafra made frantic efforts in the area of importation of weapons to boost their war arsenals with more sophisticated weapons. In the ‘arms-race’ that ensued between Nigeria and Biafra throughout the duration of the war, the Federal Government of Nigeria greatly out ran their Biafran counterpart.

The imposition and impact of economic blockade by the federal government of Nigeria on the secessionist Biafran government, lack of access to the sea (after the capture of Port Harcourt and Calabar by the Nigerian army) and the landlocked geography of the Biafran territory, particularly, the core Ibo enclave east of the River Niger, meant that the Biafran government must find a way out to receive material support from friendly nations and sympathetic international organisations if she must survive.¹ Thus, the struggle to ensure the survival of Biafra and her citizens laid the foundation for the local production of weapons and allied projects within various locations in the defunct Republic of Biafra during the Nigeria-Biafra war.

Weapons and weaponry are integral instruments and aspects of warfare. The Nigerian-Biafran War began initially as a “police action”² and later metamorphosed into a full blown war. Police action is a military response or decision taken by the government of



a state to nip a local, volatile situation, such as riot, violent protest, rebellion, etc. in the bud before it escalates or gets out of control. Police action is not a formal declaration of war. The declaration of the former Eastern region as the Republic of Biafra by Lieutenant Colonel Odumegwu Ojukwu on May 30, 1967 led to the outbreak of the Nigeria-Biafra War.³ The Federal Government of Nigeria considered Ojukwu's action as an act of treason because the defunct Republic of Biafra was regarded as part of the territory of the Federal Republic of Nigeria. It should be pointed out that various types of foreign and local weapons were used by the military forces of both Nigeria and Biafra during the Nigerian-Biafra war. It is therefore necessary to examine the conditions that necessitated the need for local production and importation of weapons by Biafra during the war.

UchennaNwankwo argued that Biafra suffered from acute shortage of arms at the onset of the war because Ojukwu and his confidants committed several diplomatic blunders, especially with those nations that would have been vital to the success of her war efforts. For example, one of such costly mistakes according to Nwankwo, was the revocation of the contract awarded to Russia for the construction of a 600 bed-space hospital for the University of Nigeria Teaching Hospital at Nsukka and its Enugu extension.⁴ He noted further that the contract was awarded by the administration of Dr. Michael Okpara (former Premier of Eastern Region) in 1966, but after Ojukwu unilaterally revoked it, he later sent Lt. Colonel George Kurubo on a diplomatic mission to Moscow to get the Russians to supply him with military hardware.⁵

Furthermore, the manner in which General Ojukwu, the Biafran leader handled the Nigerian crisis before the outbreak of the war, was faulted by Nwankwo. He summed up "Biafra's self-inflicted predicament," in the following words, "the Eastern Region had eleven months to choose peace or war and we had under Ojukwu's



watch prepared for neither...”⁶ According to Nwankwo, Ojukwu’s short-sightedness or unyielding stance towards strategic diplomatic relations with other nations also undermined Biafra’s war effort. He noted that there were diplomatic efforts by the British Deputy High Commissioner in Enugu and the American Consul to warn Ojukwu of the dangers of secession without support from African countries.⁷

Apart from Ojukwu’s revocation of the contract awarded to Russia, the then British Prime Minister, Harold Wilson may have possibly influenced Russia’s support in the area of supply of arms to the Federal Government of Nigeria.⁸ Thus, British and Russian-made weapons, military equipment and fighter jets were imported into Nigeria in large quantities during the war. Again it should be noted that the Nigeria-Biafra war marked the first time after World War II that two world powers, Britain and Russia teamed up against a belligerent state in armed conflict.⁹

Soon after the war broke out it became apparent that Biafra did not have adequate weapons and soldiers to prosecute it. The Biafran government made frantic efforts to import arms into the country but her chief weapon negotiator and supplier, Christopher Mojekwu, could not purchase the right weapons. Madiebo noted that Mojekwu’s poor knowledge of military weapons became apparent when the few supplies he was able to purchase arrived into Biafra. He imported antiquated First World War relics like gun-mounted APCs, Mark 3 rifles with bullets that did not match and automatic rifles without firing pins.¹⁰

At a point, the inability of Biafra to purchase arms from abroad became a matter of serious concern, that Ojukwu was quoted to have remarked “that it was harder to purchase weapons even with one’s own cash, than to receive free donations of food and medicine.”¹¹ The shortage of weapons in Nigeria and Biafra at the early stages of the war turned out to be a great economic incentive to some foreign powers and black market arms dealers in Europe.¹²



European countries such as Italy, Spain, Switzerland, Holland, and Belgium became emerging arms manufacturing states with eyes on the black market. It should be noted that appeals by the Committee of Peace for Nigeria to the British government to take the initiative in securing an international arms embargo on the export of arms for use in the war failed abysmally.¹³

The Evolution of the Research and Armaments Production

The apparent lack of weapons to prosecute the war on the part of Biafra necessitated the need for local production of weapons and allied products by the Biafran scientists and technologists. There are two popular opinions about the indigenous production of arms and ammunition in Biafra during the war. These are the ‘Science Group’ which was later renamed Research & Production (RAP) and popularized by Felix Oragwu and others, and the ‘Uzumuo legend’ which was championed by Reuben Ogbudinkpa.¹⁴

At inception, the ‘Science Group’ was said to have been encouraged by Hillary Nkoju who funded the group from the security fund allocated to his office.¹⁵ The Science Group comprised various individuals with scientific and technological background (formal and informal) who volunteered their knowledge and skills towards research in the areas of weaponry, and fabrication of essential materials for the conduct of the war.¹⁶ The ‘Science Group’ had a wide range of membership drawn from Teachers from the Universities, Colleges of Technology and Secondary Schools, Research scientists from research and technical establishments, scientists, technologists, and craftsmen from various public services and organisations, such as Railways, Ports Authority, Electricity Corporation, Petroleum Refinery and Geological Surveys, Engineers and Technicians from the private sector such as Shell BP, United Africa Company (UAC) among others and Ordinary artisans, blacksmiths, craftsmen and mechanics.¹⁷



Nevertheless, the ‘Science Group’ had two distinct independent sub-groups: the Enugu Group (which was made up of scientists from the University of Nigeria, Nsukka) and the Port Harcourt Group (which comprised Engineers and Technicians from Shell-BP and other industrial establishments around Port Harcourt).¹⁸ Momoh traced the evolution of the Port Harcourt based Science Group to the activities of an already existing Engineering Group led by Colonel J.O.G. Achuzia at the outbreak of the war. He noted that the Engineering Group comprised of artisans and technicians, however it was not formally inaugurated as the Science Group.¹⁹ With the relocation of Biafra’s headquarters to Umuahia in 1967, as a result of the fall of Enugu, the Enugu and Port Harcourt sub-groups were merged into a single unit.²⁰ The fusion of the two sub-groups of the ‘Science Group’ eventually metamorphosed into the Research and Production (RAP) and it gained popular attention from the Biafran government and civilians.²¹

The creation of RAP from the already existing ‘Science Group’ was meant to support the war effort of Biafra in areas of weaponry, sourcing of materials for research, among others. The Research and Production Unit was structured into three major ‘Divisions’ with the mandate to perform the following functions:

*Research and Technical Services; Materials for Production and Services; and Administration and Personnel Welfare.*²²

Oragwu notes that each of the divisions was headed by a Physicist, a Chemist and a Biologist respectively.²³ Prior to the formation of RAP, several Research and Production Workshops were already established and operating in Biafra. These include: Weapon and Equipment, Research and Production Group, Chemical Material Group, Airport and Road Development Group, Alcohols and Assorted Drinks Group, Metallurgy Workshop Group, Mechanical Engineering Group, Petroleum Extraction Group and Electronics and Electrical Devices Group.²⁴ All the sub groups mentioned above



were integrated into RAP of Biafra throughout the duration of the war.

Despite the significant contribution of RAP to Biafra's war effort, RAP's evolution remains controversial. Opara had noted that it was the technicians and other artisans that were assembled by Lieutenant Colonel J.O.G. Achuzia under the umbrella name of the Engineering group that pioneered the establishment of the Research And Production (RAP) Group of Biafra.²⁵ Also, he posited that the Enugu branch of the Science Group was headed by Major Emmanuel Ifeajuna and as at 2007, "Lieutenant Colonel J.O.G. Achuzia was about the only available person that can give a detailed account of the establishment and structure of RAP because he was directly involved in its concept and establishment."²⁶

However, Dr. Edward Chukukere, (Deputy Director and Founder of the Mortar Barrel Group) of RAP affirmed that RAP was not a group but an involuntary organisation that was conceived by two seasoned Eastern Region engineers; William Achukwu and Edmund Kaine.²⁷ RAP comprised several Groups of engineers, scientists, technicians, and many in the humanities and it was established between March and April 1967, some three months prior to the shooting war and two months before the Eastern Region of Nigeria declared its independence as Republic of Biafra.²⁸ William Achukwu and Edmund Kaine decided to form RAP based on privileged information they got on Nigeria's war preparation for a 'quick-kill' invasion of the Eastern Region.²⁹ Later, Achukwu and Kaine invited Edward Chukukere to join them based on his area of specialisation which is metallurgy. The three men (troika) named their baby project "Research and Armaments Production" (RAP).³⁰

After three months of operation, the founding members of RAP were joined by other members, mostly final year science students of the University of Nigeria, Nsukka that had just written their final examination in 1967.³¹ At its formative stage, Major Louis Chude



Sokei, an Onitsha kinsman of William Achukwu established a Military Wing of RAP in order to facilitate its materials procurement problems. Later, Major Sokei appointed Dr. Chukukere as the head of the Military Wing of RAP.³² RAP was an independent civilian organisation and in a bid to maintain its independence, the founding members chose Dr. Benjamin Nwosu, a physicist, to serve as its Director, Chairman Executive Committee and Welfare Officer, while Major Emmanuel Ifeajuna was chosen by Major Chude Sokei as the liason officer between him and the fledging RAP.³³ It should also be pointed out that RAP constituted Biafra’s Military Industrial Complex with about 1,400 workers spread across over 40 units. Some members of RAP were also awarded the Biafran Service Medal in recognition of their contribution to the Biafran war campaign in the field of weapon project during the Nigerian-Biafra war.³⁴

See Tables 3.1, 3.2, and 3.3 for list of RAP group leaders, Executive Committee and Awardees of the Biafran medal.³⁵

Table 3.1 RAP Group Leaders

William Achukwu	-	Several Groups
Edmund Kaine	-	Two Groups
Dr. Edward Chukukere	-	Three Groups
Dr. Sunday Nwankwo	-	Chemistry Group 1
Engr. Hillary (Iyke) Ozigbu	-	Mortar Barrel Group
Dr. Godian Ezekwe	-	Mechanical Group
Dr. Chimere Ikoku	-	Chemistry Group 2
Prof. Mark Chijioke	-	Electrical Group 1
Prof. Augustine Njoku-Obi	-	Biochemical Group
Engr. Seth Nwanagu	-	Electrical Group 2
Dr. Agu Ogan	-	Chemistry Group 3
Dr. Dennis Ekpete	-	Major Welfare Group
Engr. M. N. Chukwulozie	-	Product parts mass production Group
A few other prominent leaders		
Engr. Dr. Michael Nwachukwu	-	subsumed in above Groups include:
Engr. Dr. Clifford Ezeilo	-	Electrical (Microwaves)
Group	-	Mechanical (Thermodynamics)/Dr.Ezekwe’s



Dr. James Agbasiere Group	-	Mechanical (Vibrations)/Dr.Ezekwe’s
Prof. James Ezeilo	-	Mathematician (Dr.Ezekwe’s Group)
Dr. Harry Okolo	-	Chemistry
Eleazar Ekechukwu	-	Chemistry Group 1 (Deputy)
Dr. Charles Okafor	-	Chemistry
Stephen Emejuiwe	-	Biochemical Group (Secretary of RAP Executive Committee)
Dr. Eugene Arene-		Chemistry Group 2
Dr. Nduka Okafor	-	Microbiologist/Biochemical Group
Engr. Herbert Nwagha	-	Electrical, LC 1
Engr. Peter Amaechi	-	Electrical, LC 1
C. C. Chime	-	Senior Technologist (Dr. Ezekwe’s Group)
Isaac Nnadi	-	Senior Technologist (Dr.Ezekwe’s Group)
Dr. Martin Nwaji	-	Chemistry
Sam Onyiriuka	-	Chemistry
Mr. Ugbagu	-	Small Arms & Ammunition Group 1
B.C. I. Okoro	-	Small Arms & Ammunition Group 2
Mr. Nduwueze Abubuo	-	Small Arms & Ammunition Group 3

Table 3.2. The Executive Committee of Research and Armaments Production (RAP)

S/N	Name	Discipline/Designation	
1.	Ben. C. E. Nwosu	Physicist, Lecturer Grade One	Head/RAP. Took charge of Welfare. Chairman of RAP Executive Committee.
2.	Maj. Edward U. Chukukere	Metallurgist and Materials Engineer, Lecturer Grade One	Head/RAP Military Wing/Member of RAP Founding troika. Founder of the Mortar Barrel, Mortar shell, Small Arms and Ammunition Groups, as well as Foundrymen and steelworkers pool. Also responsible for security, logistics and discipline in RAP.
3.	William O. Ackukwu	Agricultural Engineer	Member of RAP founding troika/Sole inventor and manufacturer of the Ogbunigwe and Machine gun sound simulator/Rattler. Initiator of over 60% of all RAP weapon



			prototypes.
4.	Edmund Kaine	Mechanical Engineer	Member of RAP founding troika/Founder of the Port Harcourt Group; Leader of a P.H. mortar shell and land mines team.
5.	Mark Chijioke	Electrical Engineer/ Prof. Dean of the Faculty of Engineering	Leader/Electrical Group (LE – 1)
6.	Godian Ezekwe	Mechanical Engineer/ Assoc. Prof./Head, Mechanical Engr. Dept.	Second Leader (after Achukwu)/Rocket Group, Leader of an expansive product-mix Engineering Group.
7.	Chimere Ikoku	Chemist (later V.C/UNN)	Leader/Second Chemistry Group, LC – 2
8.	S. I. Nwankwo	Chemistry/Lecturer	Leader/First Chemistry Group, LC – 1
9.	Augustine U. Njoku-Obi	Biological Sciences/ Assoc. Professor	Leader/Biological Sciences Group
10.	Steve Emejuaiwe	Biological Sciences	Secretary/Member to the Committee.

N.B. None of the hitherto published author was a member of RAP Executive Committee.

Table 3.3 RAP Awardees of Biafran Medals

S/N	Name		Medal
1.	Dr. B.C.E. Nwosu, Head /RAP	Physicist	Silver
2.	William Achukwu	Agricultural Engineer	Silver
3.	Major Edward U. Chukukere, Head/RAP Military Wing	Metallurgist & Materials Engineer	Bronze
4.	Professor Mark Chijioke	Electrical Engineer	Bronze
5.	Dr. Godian Ezekwe	Mechanical Engineer	Bronze
6.	Prof. Augustine Njoku-Obi	Microbiologist	Bronze
7.	Dr. Chimere Ikoku	Chemistry	Bronze
8.	Iyke Ozigbu	Civil Engineer	Bronze

*P.S. Yet again, none of the published authors was awarded the Biafran Medal.

Source: Tables 3.1, 3.2 and 3.3, Dr. Edward Chukwukere, Private Paper, 23 Mbanjo Street, Aladinma Housing Estate, Owerri, Imo state. October 12, 2021.pp.4-6.



It should be pointed out that the above table does not contain a comprehensive list of the leaders/members of RAP during the Nigeria-Biafra war. There are several other notable names such as Engrs. Roy Umenyi, Ezekiel Izuogu, among others that were involved in weapon projects in Biafra during the Nigeria-Biafra war. Nevertheless, from the above, it could be seen that previous writers on the evolution of RAP such as Felix Oragwu, Reuben Ogbudinkpa and Dr. Ogumika Opara among others did not give the exact meaning of RAP nor provide a fair list of its leaders. Also, the assertion by Dr. Opara that Lt. Col. Achuzia was a founding member of RAP is not historically correct. Achuzia joined the Biafran Army as a civilian at the outbreak of the war. Although it was said that he was a trained electrical engineer,³⁶ nevertheless, he participated in the war as a soldier, and not as a maker of weapons. Therefore, the claim that Achuzia was a founding member of RAP remains controversial.

However, Nwabueze Reuben Ogbudinkpa argues that the scientific and technological feats of Biafra during the Nigeria-Biafra War revolved around one mythical character called “Uzumuo,”³⁷ or “Fairy Smith.” *Uzu* is the Igbo word for a Smith (Blacksmith) while *Muo* refers to a spirit being or the spiritual realm. Ogbudinkpa argues further that the RAP of Biafra was assembled and mentored by Uzumuo who “having gathered men of his thinking and imagination, most of whom were illiterates with innovative power and determination in selected government–provided underground workshop, led his men in tinkering with every device that would help check the powerful Federal Army.”³⁸

Nevertheless, Dr. Chukukere insists that RAP did not work in any government provided underground facility.³⁹ He notes that each group had its own workshop or work place. Usually a non-engineering Group leader would choose to locate his Group in a secondary or elementary school. Engineering Groups would head to



large scale workshops such as Railway workshops in Enugu, Aba, Port Harcourt, Nigersteel Co. Ltd, Emene, Enugu, the Biafra Ports Authority (BPA) workshop, Enugu Trade Center, Technical Colleges, Electricity Corporation workshop, Multinational Oil Company workshops, Oil services companies depots and their fabrication workshops. Others are Paints industries, Breweries, etc.⁴⁰

Interestingly, Ogbudinkpa also noted that some Biafran inventions during the war were developed by relatively unknown Biafran scientists without University education such as the technique of reactivating condemned car batteries which was accidentally developed by a young teenage boy.⁴¹

Besides, Ugwuja writes that the role of Uzumuo in the evolution of RAP has been denied by Roy Ezeama-Okeke, a former member of RAP. He stressed that the remarkable scientific and technological feat of the Research and Production of Biafra was a historical reality that could not be attributed to a single individual, let alone a certain Uzumuo.⁴² Although both Felix Oragwu and Reuben Ogbudinkpa were not members of RAP,⁴³ nevertheless, as early writers on the Biafran inventions during the Nigerian-Biafran war, their works remain useful to researchers interested in investigating the origin and impact of Biafran made weapons during the war.

Nevertheless, one is at a loss to imagine that Reuben Ogbudinkpa, as an educated person could ascribe the visible efforts of men to a mythical being in a war whose history is as recent as about fifty years ago and with many survivors still around. Furthermore, the Uzumuo account of the origin of indigenous scientific and technological innovations in Biafra during the civil war, which was peddled by Ogbudinkpa would not stand the test of empirical research.⁴⁴



Conclusion

This paper provides an interesting narrative into the evolution of the Research and Armaments Production of the defunct Republic of Biafra during the Nigeria-Biafra war. Previous writers on RAP have not been able to document its origins, sub groups/units and Executive Council members in historical perspectives, thus leaving a lacuna on how it originated and functioned during the civil war. This paper attempts to broaden the knowledge of historians and the general public on the evolution of RAP and its organisational structure. In addition, it contains a fairly extensive list of the top echelon of RAP and the sub groups they headed or belonged to during the war. Indeed, RAP was a child of necessity and it constituted Biafra's military industrial complex during the Nigeria-Biafra conflict. Therefore, the paper is arguably insightful and helpful in understanding the origin and role of RAP in Biafra's unsuccessful attempt to break away from the Federal Republic of Nigeria from 1967-1970.

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- Oragwu, Scientific and Technological ... p.222.
- Opara, *The Nigerian Civil War ...* p.213
- Opara, *The Nigerian Civil War ...* p.213. See also Jorre, *The Nigeria Civil ...* p.97. Jorre notes that Achuzia was a trained electrical engineer and ex Biafran Army officer.
- Oral interview with Dr. Chukukere Edward, Deputy Director/Founder of the Mortar Barrel, Mortal Shell, Small Arms and Ammunition Groups of the Research and Armaments Production (RAP) of Biafra, Owerri, 90 years, July 30, 2021. Edward Chukukere holds a Doctorate Degree in Metallurgical Engineering from the University of Toronto, Canada, 1966. He was also a Major and Head of the Military Wing of RAP during the war. He was responsible for the training of the soldiers that operated some of the Biafran made weapons such as mortar, rocket, shore battery and ogbunigwe. He was also in charge of all the guns that were produced by RAP during the war. Each group or unit of RAP sprang when like-minded professionals, on the initiative of one of them, got together and decided on what weapons (in case of engineer)



they would produce. Dr. Chukukere affirmed that General Chukwuemeka Ojukwu imported weapons for the Biafran Army with his personal money at the beginning of the Nigeria-Biafra war.

Chukukere, same interview.

Chukukere, same interview. RAP produced over 60% (sixty per cent) of the normal battlefield conventional weapons that was used by the Biafran military forces during the civil war.

Chukukere, same interview. RAP comprised well over 200 (two hundred) scientists, some of whom were Group Heads and a couple of individuals who tried to go it alone.

Chukukere, same interview.

Chukukere, same interview. Dr. Chukukere noted: “In September, 1967, Dr. Ben Nwosu, Head/RAP, brought Felix Oragwu into RAP as his Technical Secretary. Felix Oragwu was never involved in the production of weapons being a physicist and physicists never manufacture anything physical, let alone metallic items or parts. His book on RAP is obviously a product of his research on RAP’s armaments shop floor production activities and his access to recorded information as Technical Secretary to Dr. Ben Nwosu, Head, RAP as well as interaction with colleagues. In regard to Ogbudinkpa, I assure you he was not a bona-fide member of RAP as Oragwu was.”

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