

# A LINGUISTIC DESCRIPTION OF FISHING TERMS IN N̄KÒRÓÒ

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## Abstract

Nkòròò is an Eastern Ijo language spoken in Rivers state, Nigeria, where fishing forms part of the traditional ecological knowledge. However, there is a decline in fishing activities due to factors such as migration, education, and urbanisation which has translated into a loss of the associated vocabulary. This paper aims to identify the language used within the domain of the fishing culture and to describe the linguistic processes employed in deriving the vocabulary. The data was collected via participant observation and oral interviews with competent native speakers of Nkòròò who are also engaged in fishing. The study utilises the Righthand Head Rule within the framework of generative morphology to analyse the internal structures of the fishing terms. The findings reveal that the derived vocabulary employs three-word formation processes, namely clipping, compounding, and reduplication. Both apheresis or fore-clipping and apocope or final clipping are employed to derive disyllabic clipped words. The compounds are right headed and exhibit both simple (binary) and complex structures. The study addresses the need to preserve the vocabulary associated with the fishing culture of the Nkòròò people and contributes to the literature in Ijoid linguistics.

**Keywords:** Ijoid, N̄kòròò, word formation processes, fishing terms, traditional ecological knowledge

## 1. Introduction

Nkòròò is an Eastern Ijoid language, belonging to the Niger-Congo phylum, that is coordinate with the dialect cluster of Kalabari, Iḅani, and Kiriḅe (Jenewari, 1989; Williamson and Blench, 2000). The language is spoken in Nkòròò town alongside the Defaka language and in other smaller villages located in the Niger Delta region of Nigeria, specifically in Opobo/Nkòròò local government area of Rivers state (see Fig. 1). Although the people and their language are known as Nkòròò in official records, the people refer to their language as ‘Kirika’ (Obikudo, 2022, p. 155).

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Fig. 1 Language map specifying Ijoid languages in blue (Blench, 2010, p. 167)

The river plays an important role in the culture of the Nkọrọọ people, mainly because they live beside the river which also serves as the primary means of their livelihood. It is reported that a dispute over the sharing of the tilapia fish led to the Nkọrọọ people's forefathers' migration to their present geographical location (Obikudo, 2013). In the Nkọrọọ community, men, women, and children are all involved in fishing. Fish is a source of food and is also an item of trade. It is further used for sacrifice in traditional worship. The women and children usually fish for small sea creatures such as herring, crayfish, crab, snail, and periwinkle while the men fish for all sizes (but mostly the big-sized fishes). Some sea creatures are available all year through, some during the dry season (from November to March), and others during the rainy season (from May to August). The people are familiar with the fishing seasons of the different types of fish and the fishing activity usually happens at night because that is when one is likely to have a big catch. The people build houseboats that protect them from adverse weather conditions and enable them to live on the sea for days.

For the Nkọrọọ people, fishing is a traditional lifestyle that is replicated in their culture. Chiefs are nicknamed after different types of fishes (portraying certain qualities of the fish), masquerade masks are carved in the form of certain fishes, and fish-themed songs and dances are performed by the people. However, this culture is presently threatened by migration, education, and urbanisation. Many natives have moved out of the village in search of education, better paying jobs, and a better lifestyle, thus neglecting fishing which is the traditional vocation of their forefathers. In addition, the Rivers State Government recently constructed a road that links Nkọrọọ town (which was accessible only through water transport) to Opobo town, which is the local government headquarters. Although the road construction affords greater mobility and encourages urbanisation of the area, it is a threat to the fishing habitat, culture, and the vocabulary of the language. Chelliah (2021, p. 20), states that one reason for the loss of traditional knowledge is due to

the loss of habitat to the construction of roads and dams. This situation is applicable to the Nkɔrɔɔ speech community.

Being a riverine community, fishing forms part of the traditional ecological knowledge of the Nkɔrɔɔ people. As in most African communities, the linguistic and cultural knowledge embedded in fishing traditions are transmitted orally. With the decline in fishing activities because of migration, education, and urbanisation, the fishing tradition is threatened and so is its associated vocabulary. Reviving and maintaining the associated vocabulary can be achieved by developing the vocabulary and this involves the process of acquiring new words. The first step to vocabulary development is to identify the words associated with the threatened culture and the processes through which the words are created. The aim of this paper, therefore, is to provide a linguistic description of the terms associated with the Nkɔrɔɔ fishing culture, thus creating a corpus of fishing terminology that would help preserve an important aspect of the language and culture that is vital to the Nkɔrɔɔ identity and heritage.

## **2. Literature Review**

African languages are rich in traditional knowledge systems which are primarily transmitted orally across generations. According to Hirsh (2013, p. 11), 'languages are increasingly being viewed in terms of the cultures they evolved in, and in terms of the cultural knowledge they carry and the belief systems they are grounded in. Languages are increasingly being viewed as vehicles for the transmission of cultural knowledge from one generation to the next.' This implies that traditional knowledge is embodied in cultural activities which is expressed and transmitted through language.

Language as a system of communication employs various strategies to build its vocabulary. According to Kari (2015, p. 92), the purpose of vocabulary development is to satisfy the linguistic needs of the speakers of a language, and this is achieved via strategies that enable the addition of new words that name new ideas, concepts, and objects. These strategies are called word formation processes, and they are studied within the domain of morphology. In linguistics, morphology is the study of the internal structure of words, how words are formed, shaped, and coined, and the relationship between words in a language (Crystal, 1997; Payne, 1997; Kari, 2015; Lieber, 2022). The morpheme is the smallest unit of morphological analysis, and the word consists of one or more morphemes that can stand alone. Words are therefore free forms while morphemes may either be free or bound. Bound morphemes include affixes and clitics. The morpheme is central to word structure. Hockett (1954) posits that morphemes have an independent existence in the mental lexicon of speakers, and they possess structural, semantic, and phonological information. Hence, every word can be decomposed into its component morphological and phonological realisations. Likewise, the morphemes that constitute a word can be arranged hierarchically into words (Lieber, 2022).

## 2.1 Word formation processes

Words are formed via inflectional and derivational processes. Inflectional word formation processes express grammatical distinctions such as tense (for instance, the addition of *-ed* to form the past tense in English, e.g., talk > talked), number (for instance, the addition of *-s* to form the English plural e.g., girl > girls), person, and case. Derivational word formation processes are concerned with how new words are formed from existing words. The existing word from which a new word is formed is the base. The base is the element to which affixes and clitics may be attached and constitutes the semantic core of the word (Katamba, 1997; Lieber, 2022). Derivational word formation processes thus result in the creation of new words, and this is the focus of the present study. Word formation processes through which new words may be derived include affixation, blending, borrowing, clipping, compounding, reduplication, and others. The next section briefly examines clipping, compounding, and reduplication which are pertinent to the derivation of fishing terms in Nkɔrɔɔ.

### 2.1.1 Clipping

According to O’Grady et. al. (2011), polysyllabic words may be clipped by deleting one or more syllables in the word. Through clipping, a new word is created by shortening an already existing word while both word forms retain the same meaning (Kari, 2015). The direction of the clipping process is important. When the initial syllable(s) is/are clipped, the process is termed apheresis or fore-clipping. It is called apocope or final clipping when the final syllable(s) is/are deleted. For instance, the clipped forms of laboratory, cabriolet, and dormitory – *lab*, *cab*, and *dorm* respectively are examples of apocope. *Roach*, *phone*, and *net* are examples of apheresis, having been clipped from cockroach, telephone, and internet, respectively. Clipping is a process that is commonly applied to the shortening of names.

### 2.1.2 Compounding

Compounding is a word formation process that involves the combination of two or more bases (Lieber, 2022). The derived word is called a compound. Compounds may be formed from the same word class as in a noun combining with another noun (e.g., schoolbag from ‘school’ and ‘bag’) or from different word classes as in a noun combining with an adjective (e.g., sky blue from ‘sky’ and ‘blue’). There are different types of compounds depending on their constituent structure which is determined by the relationships between the constituents. According to Spencer (1991, p. 310), ‘the three important relations are head-modifier, predicate-argument, and apposition.’ Based on these relations, we can identify the endocentric, exocentric, and appositional compounds respectively. In endocentric compounds, one constituent functions as the head and determines the word class to which the compound belongs while the other constituents function as modifiers. Endocentric compounds are also called semantic or attributive compounds because the head expresses the central meaning of the compound while the modifiers

function attributively. For instance, a *film society* is a type of society, a *textbook* is a type of book, while a *schoolbag* is a type of bag. These are all examples of endocentric compounds where the words ‘society’, ‘book’, and ‘bag’ carry the central meaning of the compound and function as the head.

Exocentric compounds are headless, they have a structure that can be likened to the relationship between a verb and its object (where one element is the argument of the other), and do not derive their meanings from the individual meanings of the constituents that make up the compound (Kari, 2015). Spencer (1991, p. 311) mentions *pickpocket*, *lazybones*, and *cut-throat* as examples. In these compounds, neither element functions as the head of the compound, rather we can identify ‘pick’, ‘lazy’, and ‘cut’ as the predicate-type elements and ‘pocket’, ‘bones’, and ‘throat’ as the argument-type elements.

In appositional compounds, the constituents refer to one and the same thing. They can be likened to ‘a simple conjunction of two elements, without any further dependency holding between them’ (Spencer, 1991, p. 311). In other words, both constituents provide different descriptions for the same referent. Examples include mother–child, learner–driver, and hunter–gatherer.

### 2.1.3 Reduplication

Reduplication uses repetition to create new words. According to Urbanczyk (2017, p.1), it is a ‘word-formation process in which all or part of a word is repeated to convey some form of meaning.’ It involves doubling all or part of the base of a word. The part of the word that is reduplicated is known as the reduplicant and the shape of the reduplicant may be a foot, syllable, or segment. When the entire word is repeated, the process is known as total reduplication. On the other hand, partial reduplication involves the repetition of part of the word. For instance, in the Owé dialect of Yoruba, the words *gbó*, *mogbó*, *mó* ‘kidnapper’ and *kiákíá* ‘quickly’ are examples of total reduplication, while *títà* ‘act of selling’ and *rírà* ‘act of buying’ are examples of partial reduplication (Arokoyo, 2013).

## 3. Theoretical Framework

This study takes its theoretical leanings from William’s (1981) Righthand Head Rule (RHR), which is couched within the generative morphology framework. Generative morphology attempts to account for the native speaker’s ability to produce and understand an infinite number of new words. RHR states that all words are headed, thus implying that the constituents that make up words are not of equal status, and that the head is the rightmost morpheme of the construction which provides the necessary syntactic and semantic information. In derivational morphology, when a new word is created, the head determines the syntactic category to which that word belongs. RHR accounts for the rightmost member of a morphologically complex word as being the head of the construction. The position of the head is a major parameter that determines morphosyntactic variation in language. The RHR

rule is suitable for the analysis of the Nkọrọọ language data as righthandedness is a common feature in its morphology. However, it cannot account for left-headed constructions in languages.

#### 4. Methodology

This study employs qualitative research which involves collecting and analysing data to describe observable phenomena. The methods for data collection were participant observation and oral interviews with competent native speakers of Nkọrọọ who were also engaged in fishing. Participant observation in this instance means that the researcher participated in the activities while observing and recording the linguistic behaviours of the participants. According to Winick and Bartis (2016, p. 14), participant observation enables researchers to learn more about the folk traditions that they document.

Data elicitation was recorded with a Marantz PMD 660 solid state audio recorder and a head mounted Shure microphone. Participating in the activities enabled the researcher to also conduct informal oral interviews.

#### 5. Results and Discussion

The Nkọrọọ fishing vocabulary is rich with the names of different types of fishes (some of which have become extinct), other sea creatures, and fishing implements. The findings are discussed in four sections, namely names of fishing products, fishing gear and methods, uses of sea creatures, and the linguistic processes employed in the derivation of the terminology.

##### 5.1 Names of fishing products

The Nkọrọọ collect fish, shellfish, and molluscs. The terms for these products are presented orthographically and phonetically.

##### 5.1.1 Nkọrọọ fish names

The general term for fish is *nji*. However, there are different fish species found within the Nkọrọọ community and the terms of some of the common ones are presented below. The English gloss and scientific names (where available) are also provided.

**Table 1: Fish names**

Orthographic form	Transcription	English gloss
abafúruma, aba	/àbàfúrúmà/, /àbà/	‘hammerhead shark’ ( <i>Carchariidae</i> )
aga	/àgà/	‘fish species resembling herring’
agbaria	/àgbàrià/	‘snapper’ ( <i>Chrysophrys auratus</i> )
alẹ	/àlẹ/	‘type of mud-eating mullet’
ápáráye	/ápárájè/	‘type of scaly mullet’
ápúpáín	/ápúpáí/	‘sole’ ( <i>Solea solea</i> )
atikpọọn	/àtikpọ́ọ/	‘eel’ ( <i>Anguilla anguilla</i> )

ḅaladowin, dowin	/ḅàlàdòwĩ/, /dòwĩ/	‘ladyfish’ ( <i>Elpos lacerta</i> )
ḅémé	/ḅémé/	‘soft scale mullet’, (thick lipped grey mullet with characteristically small head and flat body) ( <i>Chelon labrosus</i> )
dóró	/dóró/	‘barracuda’ ( <i>Sphyræna</i> )
fúru ónwu	/fúru óṅwù/	‘type of mud-eating mullet’
gbúlú	/gbúlú/	‘hard scale mullet’
igbili	/igbili/	‘big-head mullet’ ( <i>Mugil cephalus</i> )
igbudu	/igbùdù/	‘general term for adult mullet’
ísian	/ísiã/	‘mackerel’ ( <i>Scomber scombrus</i> )
jẹkẹ	/dʒɛkɛ/	‘general term for all kinds of mullet’ ( <i>Mugilidae</i> )
kẹlétóku	/kẹlétókù/	‘young catfish’ ( <i>Anarhichas lupus</i> )
kpárákpara	/kpárákpara/	‘medium-sized sardine/herring’ ( <i>Sardinella maderensis</i> )
kpóngí	/kpóngí/	‘mudskipper’ ( <i>Periophthalmus barbarus</i> )
kúgbó	/kúgbó/	‘bongafish’, ‘adult sardine/herring’
nda	/ndà/	‘threadfin species’ (locally called shine nose) ( <i>Pentanemus quinquarius</i> , <i>Galeoides decadactylus</i> )
ófúrúma	/ófúrúma/	‘shark’ ( <i>Carchariidae</i> )
okuduun	/òkùdùù/	‘mud fish/mangrove slipper’
ona	/ònà/	‘geelbeck croaker’ (smallmouth or weakfish locally called ‘brokemariage’) ( <i>Atractoscion aequidens</i> )
pùla	/pùlà/	‘goldfish’ ( <i>Carassius auratus</i> )
sẹngì	/sẹngì/	‘catfish’ ( <i>Anarhichas lupus</i> )
síká	/síká/	‘sting ray’ ( <i>Dasyatis garouaensis</i> )
sóngú	/sóngú/	‘young sardine/herring’
taḅala	/tàḅàlà/	‘tilapia’ ( <i>Oreochromis niloticus</i> )
tòmí	/tòmí/	‘large-sized snapper’
tórúnda	/tórúnda/	‘giant African threadfin’ (giant shine nose) ( <i>Polydactylus quadrifilis</i> )

As seen on Table 1, fish names may be derived through the processes of clipping, compounding, and reduplication. The word *aba* is clipped from *abafúrúma* ‘hammerhead shark’. An example of compounding is *tò rúnda* ‘giant African threadfin,’ which consists of two morphemes, *tò rú* ‘sea’ and *nda* ‘threadfin species’. Reduplication can be observed in the word *kpárákpara* ‘medium-sized sardine/herring’. It is interesting to note that the

Nkọrọọ fish name vocabulary has terms for the same fish species that reflect certain properties such as size, age, behaviour, and skin type. For instance, the terms for mullet express age (e.g., *igbudu* ‘adult mullet’), skin type (e.g., *gbúlú* ‘hard scale mullet’, *ḡẹmẹ́* ‘soft scale mullet’), size of head (e.g., *igbili* ‘big-head mullet’), and behaviour (e.g., *alẹ* ‘type of mud-eating mullet’).

### 5.1.2 Fish parts

Names are also given to some of the fish components as seen below.

**Table 2: Fish parts**

Orthographic form	Transcription	English gloss
nji nmgba	/ndzi ñmgbà/	‘fish bone’
nji apara	/ndzi àpàrà/	‘fish scale’
mamaká	/màmàkà/	‘gill’
pamba	/pàmbà/	‘fin’

The vocabulary on fish parts shows compounding as the only process utilised in its derivation as seen in the words *nji nmgba* ‘fish bone’ (from *nji* ‘fish’ and *nmgbá* ‘bone’) and *nji apara* ‘fish scale’ (from *nji* ‘fish’ and *ápára* ‘skin’). Both words are binary compounds because they consist of only two constituents.

### 5.1.3 Shellfish and molluscs

Shellfish and molluscs refer to aquatic invertebrates that possess an outer shell. The Nkọrọọ terms as well as the English gloss and scientific names are provided below.

**Table 3: Shellfish and molluscs names**

Orthographic form	Transcription	English gloss
ápóró	/ápóró/	‘lobster’ ( <i>Homarus gammarus</i> )
fúngó	/fúngó/	‘clam’ ( <i>Galatea paradoxa</i> )
íríápóli	/íríápóli/	‘crayfish’ ( <i>Palaemon hastatus</i> )
ísẹ́m	/ísẹ́m/	‘periwinkle’ ( <i>Littorina littorea</i> )
kókọli	/kókọli/	‘crab’ ( <i>Cancer pagurus</i> )
nmgbá	/ñmgbà/	‘oyster’ ( <i>Ostreidae</i> )
nmgbololo	/ñmgbòlòlò/	‘whelk’ ( <i>Baccinum inclytum</i> )
ólu	/ólù/	‘land crab’ ( <i>Cardisoma armatum</i> )



oputeb́eye	/òpùtèb́èjè/	‘prawn’, ‘shrimp’ ( <i>Macrobrachium</i> species)
osi	/òsì/	‘snail’ ( <i>Gastropoda</i> )

Table 3 reveals that compounding is the only process employed in deriving the names of shellfish and molluscs, as seen in the word *oputeb́eye* ‘prawn, shrimp’ which consists of three words, *opu* ‘big’, *tébé* ‘head’, and *yé* ‘thing’.

## 5.2 Fishing gear

Fishing gear refers to the implements or equipment employed by fishermen to carry out fishing activities. According to Krisyawensya et al. (2023, p.29), the behaviour of the target fish and its habitat determine the type of fishing implement that is used. As such, different techniques are used to catch different fish and other edible sea creatures such as shellfish and molluscs. After fishing, the Nkòròò preserve the products by drying them on fire using racks and altars. Hence, the implements presented in the data below include the equipment used to catch and dry the fish for preservation.

### 5.2.1 Implements used for catching fish

One of the main implements used for catching fish is a fish net. The general term for net in Nkòròò is *nḿgbò́ò*. There are different types of fish nets. These are presented in the data below alongside other fishing gear.

Table 4: Names of implements used for catching fish

Orthographic form	Transcription	English gloss
akára	/àkára/	‘setting net’, ‘drag net’
akere	/àkèrè/	‘special type of trap’
áru	/áru/	‘canoe’, ‘boat’
atakari, ataghari	/àtākàri/, /àtāyàri/	‘type of hand net’
átí	/átí/	‘hook’, ‘angle’
átí b́èb́eye	/átí b́èb́èjè/	‘bait’
átísíri	/átísíri/	‘hook lined on a rope’
dumọ	/dùmò/	‘spear’
gbórí nḿgbòlu ati	/gbórí nḿgbòlù àti/	‘fishing line’
jónwóín	/dʒɔŋwɔĩ/	‘paddle’ (n)

kọṣṣ	/kṵṵ/	‘fish trap’
mífi	/mífi/	‘small creature used as bait’
nji abana	/ndzi àbàná/	‘fishpond’
ogbṵti	/ogbṵti/	‘type of hand net’
okoon	/okṵṵ/	‘type of hand net’
opu nji nmgbṵṵ	/òpù ndzi ñmgbṵṵ/	‘big fishing net’
ótólóó	/ótólóó/	‘fish hole’, ‘fishpond’
puuru	/pùùrù/	‘houseboat’
sóní	/sóní/	‘type of net’
vála	/vála/	‘sail’ (n)

Again, compounding is the only word formation process utilised in deriving the terms for implements used in catching fish as seen on Table 4. An example is the word *opu nji nmgbṵṵ* ‘big fishing net’ which consists of three words, *opu* ‘big’, *nji* ‘fish’, and *nm gbṵṵ* ‘net’.

### 5.2.2 Implements for drying and preserving fish

The Nkṵṵ people preserve fish by drying it over a fire on racks and altars. It is then stored in baskets. The implements used for these activities are presented in the data below.

**Table 5: Names of implements for drying and preserving fish**

Orthographic form	Transcription	English gloss
kana	/kàná/	‘basket’ (general term)
kásá	/kásá/	‘type of rack for drying fish’
kúró	/kúró/	‘type of basket’ (for storing dried fish)
ndála	/ndála/	‘type of rack for drying fish’
ngaranga	/ngàràṅgá/	‘type of fish rack’
onúghú	/ónúyú/	‘altar for drying fish’

Table 5 shows that the only process employed in the derivation of the terms for implements used in drying and preserving fish is reduplication, as seen in the word *ngaranga* ‘type of fish rack’.

### 5.3 *Fishing methods*

The techniques for catching fish among the Nkɔrɔɔ are similar to those of other fishing cultures around the world. They include netting, hand gathering, trapping, angling, and spearing. These are discussed further in the subsections below. The verbs that describe the actions employed in catching fish are also presented in this section.

#### 5.3.1 *Netting*

There are three types of nets used in fishing, namely casting net, setting net, and hand net. Casting nets are thrown by hand into the river to catch fish. Setting nets (technically called seine nets or drag nets) are large fishing nets that are arranged in a particular manner in the river, either from the shore or the boat. Hand nets are small nets with handles used to catch small fishes, shell fishes, and molluscs. Examples of hand nets are *atakari* (also called *ataghari*), *ogbɔti*, and *okoon*.

#### 5.3.2 *Hand gathering*

This method is also known as hand fishing, and it involves gathering sea creatures with hands from a fish hole. A fish hole is dug on the riverbank to trap fish. This type of trap is called *ótólóo* in the Nkɔrɔɔ language.

#### 5.3.3 *Trapping*

Trapping is carried out through fish traps, fishponds, and dam fishing. A fish hole may be dug to trap the fish, but some fish dig their own holes. The hand nets are put inside the holes to draw out the fish. The mud fish (called *okuduun*) is an example of the type of fish that is caught in this way. Another trapping technique is to build a trap with bamboo sticks and when the fish swim into the trap, a net may either be set or cast to pull them in. Examples of fish caught in this way are sardine and herring. Fish traps used by the Nkɔrɔɔ include *kɔɔn* and *akere*.

#### 5.3.4 *Angling*

This method employs the use of fishhooks and baits. Crayfish, sardine, and worms are used as fish baits. The fishhook is arranged on a fishing line, bait is set on the hook, and put into the river. When a fish swallows the bait, it gets hooked, and is pulled out of the river. The goldfish is an example of a fish that is caught by angling.

#### 5.3.5 *Spearing*

Spearfishing involves killing fish by piercing it with a sharp pointed object, usually a spear. This method was formerly employed by the Nkɔrɔɔ people when it was common to see big fish swimming close to riverbanks. Since the fish habitat is currently threatened, spearfishing is now extinct.

### 5.3.6 Verbs associated with fishing activities

Fishing activities refer to actions in which the Nkọrọọ people engage in the process of harvesting and storing fishing products.

**Table 6: Verbs associated with fishing activities**

Orthographic form	Transcription	English gloss
átí ẹ̀ẹ̀pẹ̀ye túā	/átí ẹ̀ẹ̀bẹ̀jẹ̀ tú <sup>†</sup> á/	‘place bait on hook’
jọki, jọku	/dʒòkì/, /dʒòkù/	‘paddle’
nji ẹ̀aa	/n̄dʒì ẹ̀aa/	‘fish’
nji iri	/n̄dʒì irì/	‘smoke fish’
n̄ngbọ̀ọ kọ̀n	/n̄ngbọ̀ọ̄ kọ̀n̄/	‘set net’ (in river)
n̄ngbọ̀ọ nama	/n̄ngbọ̀ọ̄ nàma/	‘mend net’
n̄ngbọ̀ọ wawú	/n̄ngbọ̀ọ̄ wàwú/	‘cast net’ (into river)
okoon kporọ̀	/òkòò̄ kporò/	‘drag hand net’ (to arrange it)
taan sái	/tãã sái/	‘load’ (into canoe)
taan síin	/tãã síi/	‘unload’ (from canoe)
tóru sába	/tóru sába/	‘cross river’

The data on table 6 reveal that the vocabulary on fishing activities is derived via compounding, as seen in the word *nji ẹ̀aa* ‘fish’ which consists of *nji* ‘fish’ and *ẹ̀aa* ‘kill’. The compounds are all binary, headed by a verb, and comprise either a noun and a verb or two verbs.

#### 5.4 Uses of fish and other sea creatures

Apart from being a source of food and trade, the Nkọrọọ people also use fish, shellfish, and molluscs for various purposes. These are discussed below.

##### 5.4.1 Sacrifice to certain deities

Certain fishes are used as items of sacrifice to deities. *Agbaria* ‘snapper’, is a scaly and fleshy fish that looks like goldfish but comes in different colours such as red, black, or black and white. The big-sized snapper is called *tómbí*. This species of fish is caught by men only and used as sacrifice to two deities, namely *Kalaoru* and *Ámairia*. The *Ámairia* deity, being a female deity, receives sacrifices from women only.

*Túbúru* is a species of fish that looks like the sardine. It is silver in colour, scaly, and bony. It is caught by men, women, and children. It is used as sacrifice to the *Ámairia* deity.

*Nda* ‘shine nose’, *sengi* ‘catfish’, and *kéletóku* ‘young catfish’ are used as sacrifices to *Kalaoru*. For instance, it is believed that when a witch dies, any

of these fishes may be sacrificed to appease the spirit of the witch so that it does not return to disturb the living.

*Dóró* ‘barracuda’ is also used for sacrifice and is caught by men only.

#### 5.4.2 Musical instrument

The shells of *osi* ‘snail’ are tied together and shaken as a musical instrument. It is used by traditional idol worshippers as they sing to their deities.

#### 5.4.3 Building purposes

The shells of *fúngó* ‘clam’, *nm’gba* ‘oyster’, and *isém* ‘periwinkle’ are used for soil stabilisation. This is achieved by mixing the shells with the muddy soil on the ground of a footpath, thus solidifying the soil, and strengthening the ground. Furthermore, periwinkle shells are mixed with cement and sand (to create a gravel-like substance) and made into concrete for building houses.

#### 5.5 Linguistic derivation of Nkọ̀rọ̀ fishing terms

Words are the building blocks of a language, and every language employs morphological processes through which words are formed. This section discusses the word formation processes employed in the development of the fishing vocabulary of the Nkọ̀rọ̀ language. These processes are clipping, compounding, and reduplication.

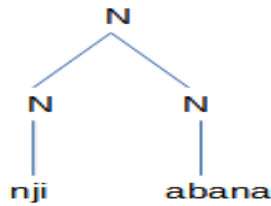
As mentioned earlier, clipping is a process that is commonly applied to the shortening of names. In the Nkọ̀rọ̀ fishing vocabulary, the process of clipping is applied to fish names. Two types of clipping can be observed from the data. The first type is apocope or final clipping where the last syllables are truncated to form a new word as indicated by the fish name *abafúríma* ‘hammerhead shark’ where the last three syllables are clipped to form *aba*. The second type of clipping is apheresis or fore-clipping where the initial syllables are truncated as in the fish name *baladowin* ‘ladyfish’ where the first and second syllables are clipped to derive *dowin*. In both examples, the clipped words are disyllabic, and their meanings remain unchanged.

Compounding is the commonest process employed in building the Nkọ̀rọ̀ fishing vocabulary. It is employed in deriving the terms for fish names, fish parts, shellfish, and molluscs, implements for catching fish, and fishing activities. This makes it the most productive word formation process. The data show compound words that belong to two syntactic categories – noun and verb. We observe three combination possibilities in noun compounds: noun + noun (N + N), adjective + noun + noun (Adj + N + N), and numeral + noun + noun (Num + N + N) compounds. The derived compounds of each combination are endocentric consisting of a head and modifier(s). The central meaning of the compound is expressed by the head while the modifier specifies the reference of the head. All the compounds are head-last, in other words righthanded. The headedness of the compound is relevant for its semantic interpretation (Booij 2007, p.76). The rightmost constituent determines the syntactic category of the compound, in this case, the noun.

Noun + noun compounds are simple compounds consisting of two

nouns with one noun modifying the other, that is, the head noun. These simple compounds thus have a ‘binary structure’ (Booij 2007, p.75). The binary structure of the simple compound is exemplified in the diagram below where the compound *nji abana* branches into two nouns, the head *abana* on the righthand side, and the modifier *nji* on the left-hand side. As mentioned earlier, the head expresses the central meaning of the compound. So in the term, *nji abana* ‘fishpond’, the type of pit or pond being specified is one that is meant for fish.

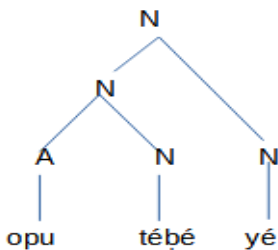
(1)



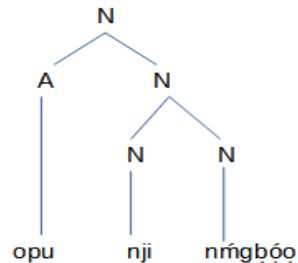
On the other hand, complex noun compounds that consist of three nouns can be found in the fishing vocabulary. An example is *átí h́éh́éye* ‘bait’, where the first two nouns *átí* ‘hook’ and *h́éh́é* ‘head’ modify the head noun, *yé* ‘thing’, referencing something that is placed at the head of a hook.

In the adjective + noun + noun compound, the head noun is modified by an adjective and another noun. For instance, in the compound *oputeb́é ye*, the adjective, *opu* ‘big’ and the noun, *tébé* ‘head’ form a semantic unit, *opu tebé* meaning ‘big head’ that specifies the reference of the head noun, *yé* ‘thing’, thus referring to the prawn or shrimp as something that has a big head as opposed to the crayfish which has a small head. The hierarchical structure of the derived compound is ((Adj + N) + (N)) as seen in (2) below. On the other hand, the compound *opu njinmgb́o* ‘big fishing net’, consists of a modifier noun, *nji* ‘fish’, that forms a semantic unit with the head noun, *nm gb́o* ‘net’, specifying the reference of the net as a fishing net. The adjective, *opu* ‘big’ specifies the reference of the fishing net. The structure of this compound is ((Adj) + (N + N)) as represented in (3) below.

(2)

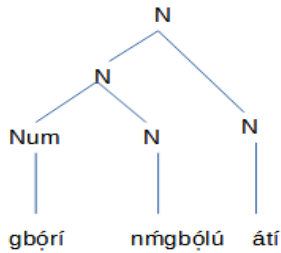


(3)



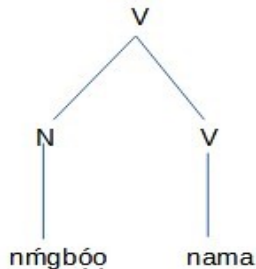
The numeral + noun + noun consists of a head noun plus numeral and noun modifiers. In the compound *gbórí nńgbólú átí* ‘fishing line’, the numeral and noun modifiers, *gbórí* ‘one’ and *nńgbólú* ‘seed’ respectively form a semantic unit that specify the reference of the head noun, *átí* ‘hook’. The hierarchical structure of the numeral + noun + noun compound is thus ((Num + N) + (N)) and is shown in the diagram below. The tone patterns of the compounds have not been discussed in this paper. For more insight into the tone patterns of nominal constructions in Nkọrọ, see Akinlabi et al. (2009).

(4)



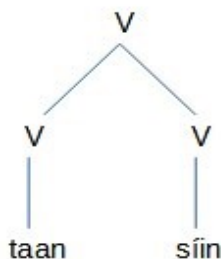
Verb compounds exhibit two combinations: noun + verb (N + V) and verb + verb (V + V) compounds. Verb compounds like the noun compounds are endocentric and righthheaded. Thus, the verb is the head of the compound and expresses its central meaning. The N + V compound consists of a noun as the modifier and a verb as the head. For instance, the verb compound *nńgbóọ nama* ‘mend net’ consists of the verb *nama* ‘mend’ (which is the rightmost constituent) and its noun modifier, *nńgbóọ* ‘net’. The hierarchical structure is binary as shown below.

(5)



The V + V compound consists of two verbs, the first verb functioning as the modifier while the second verb on the right is the head of the compound. The meaning of the compound is derived from the head verb. For instance, the compound *taan síń* meaning ‘unload’ derives its central meaning from the word *síń* meaning ‘remove’. The hierarchical structure of the derived verbal compounds is binary as shown below.

(6)



The third word formation process observable is reduplication that involves the partial or total repetition or copying of a base. In the word *kpárákpara* ‘medium-sized sardine/herring’, all the syllables of the base are copied, thus CVCV becomes CVCVCVCV. The high tones on the base are replaced by low tones. In other words, the segments are copied but the tones are not. A case of partial reduplication is *ngaranga* ‘type of fish rack’ where the first two syllables of the base, including the low tones, are copied.

## 6. Conclusion

This study provided a linguistic description of the terms associated with the fishing culture of the Nkorõ people, of the Niger Delta region of Nigeria. The linguistic derivation of the fishing vocabulary employed three morphological processes, namely clipping, compounding, and reduplication, with compounding being the most productive process because it is widespread. The data indicates that apocope or final clipping and apheresis or fore-clipping are prevalent with fish names and the clipped word is always disyllabic. The outputs of compounding are either nouns or verbs. Both noun and verb compounds are righthanded. There are three combination possibilities for noun compounds, viz N + N, Adj + N + N, and Num + N + N. The noun being the rightmost element in the construction expresses the central meaning of the compound. Thus, the resultant compounds are nouns, and these may be simple or complex. Simple compounds consist of a head and a modifier while complex compounds contain more than one modifier.

The hierarchical structure of the N + N compound is binary consisting of a head and a modifier. The Adj + N + N compound demonstrates two hierarchical structures; one in which the Adj + N modifiers form a semantic unit and another in which the modifying noun forms a semantic unit with the head noun. The numeral and noun modifiers in the Num + N + N compound constitute a semantic unit. Verb compounds exhibit a binary structure consisting of either N + V or V + V. Lastly, both total and partial reduplication were observed in the data. The process of total reduplication involved copying the consonant and vowel segments but not the tone while the partial reduplication involved copying the first two syllables and the tones of the base.



The findings further revealed that although fishing techniques include netting, hand gathering, trapping, angling, and spearing, spearfishing is now extinct. Also, apart from being used for food and trade, fish is used as an item of sacrifice to traditional deities such as *Kalaoru* and *Ámairia*, while the shells of molluscs are used as instruments of music and in building constructions. In conclusion, the data showed that there is valuable linguistic knowledge embodied in the fishing traditions of the Nkọrọọ people of Rivers state, Nigeria.

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