

## CHALLENGES OF OUR TIME

### **TECHNOLOGY: NEGOTIATING TOMORROW'S ARMED CONFLICT AND TERRORISM IN WEST AFRICA**

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*Abstract. This paper, using the case of Boko Haram in Nigeria, examines the impact of technology on future armed conflicts and violent extremism in Nigeria and West Africa. As Africa enters the new digital age, characterized by increasing access to mobile telephoning, internet penetration, 3D printing and the Internet of Things; networking between and among groups with similar ideologies will improve. Results from the author's recent fieldwork in north-eastern Nigeria are used to shed light on Boko Haram's activities across border communities in that region where Nigeria's borders meet those of Niger and Cameroon. Those activities include tactical efforts like mobilizing crowds, disseminating ideologies, recruiting strategic assets, and sharing technical know-how, and have facilitated the transformation of Boko Haram from a dagger-wielding, arrow-shooting group into a deployer of mobile-phone-triggered IEDs, coordinating simultaneous attacks on multiple targets. Undoubtedly, the new digital age guarantees cultural cohesiveness and a more robust outside support that will serve in recruitment, financing, logistics and training.*

*With mobile telephony and internet access providing (dangerous) information and resources to aspiring insurgents, what future awaits Nigeria, West Africa and Africa should Boko Haram gain access to remote controlled flying drones, quadcopters, and other 'toys' fitted with homemade bombs and IEDs? What new level of domestic terror would emerge if Boko Haram develops a capacity for cyberterrorism, especially since cyberterrorism affects data and cash, guarantees no risk of personal bodily harm, involves minimal resources commitment, and affords opportunities to inflict a higher level of damage? This study examines these issues and type of responses available to government in dealing with a technology-driven armed conflict and terrorism.*

**Keywords:** Terrorism; Boko Haram; duress; drones; cyberterrorism

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#### **I. Introduction**

In the summer of 2015, James<sup>1</sup>, an engineer with Airtel, informed me of a curious development that he had noticed in Maiduguri, capital of Borno State, Nigeria between 2003 and

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<sup>1</sup> Not his real name. Except names of location, personal names, age, address and any other information that could endanger the lives of informants are deliberately suppressed. I thank the various indi-

2005. Airtel, the company that James worked with, is a subsidiary of Bharti Airtel Limited, – a leading global telecommunications company with operations in 20 countries across Asia and Africa (Bharti Airtel Limited 2017). Between 2003 and 2005, according to James, there had been a frenzied demand for Nokia 3210, Nokia 3310 and Thuraya satellite phones not just in Maiduguri and its environs, but across northern Nigeria as a whole. Like other service providers, Airtel supplied its subscribers with SIM cards and mobile phones, including Nokia 3210, 3310 and other products.

The Nokia 3210 was a dual band GSM cellular phone with a talk time of between 180 and 270 minutes. It was introduced in 1999 by the Nokia Corporation, a Finnish multinational communications and information technology company, with headquarters in Finland's capital, Helsinki: it sold 160 million units and was, in its time, the most popular and successful phone in the world. This success can be attributed to a youth-targeted marketing campaign. It was embedded with changeable covers, an internal antenna, 3 games, and customizable ringtones: its successor, the Nokia 3310 was introduced in 2000, and was equally successful, with a global sale of 126 million units. Both of these Nokia phones are widely acclaimed for their durability. The Thuraya, like Nokia 3210 and 3310, was also named after a company, Thuraya, founded in the United Arab Emirates in 1997. This company offered (and still offers) a flexible and dependable mobile satellite telephone that provides voice communications, short messaging service, and Geo-Mobile Packet Radio Service (GPRS) mobile data service. It delivers these services via a satellite that was first manufactured by Boeing in 1997, and has mobile coverage in the Middle East, Europe, Africa, Asia and Australia.

James, like many other engineers with Airtel, MTN and, later, Globacom, made fantastic sums selling these Nokia phones to many youths while only the rich, many of whom were employed in government service, could afford Thuraya phones. Infrastructural deficits, most especially inadequate electric power, made Nokia phones more useful in northern Nigeria than any other. Notwithstanding this, limited GSM coverage imposed a serious limitation. To conquer this limitation, most elites made do with Thuraya, which connected to satellite rather than the fewer GSM masts mounted in the areas.

There has been a flowering of literature on mobile phone and social change in Africa. A Pew Research report noted that mobile phone ownership and use grew exponentially from roughly one-in-ten Africans in Tanzania, Uganda, Kenya and Ghana in 2002 to the same level of mobile phone ownership and use in the United States among South Africans and Nigerians in 2015 (Pew Research Center 2015a). This study concluded that the rapid proliferation of mobile telephony in sub-Saharan Africa has allowed Africans to skip the landline stage of development, and jump right to the digital age. Mobile phone ownership is especially high in South Africa and Nigeria, where about nine in every ten people have a cell phone (Pew Research Center 2015a). Major changes have also been recorded in Ghana where, in 2002, only 8% of Ghanaians had mobile phones. By 2015, this had increased to 83%. (Compare this to the United States: in 2015, 89% of Americans had mobile phones, up from 64% in 2002). In South Africa, 34% of mobile phone users used smartphones – phones that can access the internet and apps, such as an iPhone, Blackberry or Android device – but smartphone users make up only 27% of mobile phone users in Nigeria (Pew Research Center 2015a: 5; Brinkman, de Brujin and Bilal 2009: 69). This increasingly global development in mobile telephony has radically altered social dynamics and mobility landscape in West Africa (de Brujin 2015: see also Molony 2009: 92). Old, everyday practices such as ‘travel, radio messages and

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viduals and groups that provided information during the fieldwork. I recognize the enormous danger involved and therefore owe any success recorded to the invaluable works of these individuals and groups.

letter writing' are gradually being replaced by mobile telephony as the main connecting technology. This development has not only altered how communities are connected, but has also impacted on the 'relationship between new ICTs, mobility, marginality and social hierarchies' (de Bruijn 2014: 319).

Although this development is just barely two decades old, its impact on Africa has already been tremendous. Maasai pastoralists, for example, have used mobile phone technology to enhance their cattle trading (Rutten and Mwangi 2012). Such studies have not only underscored the importance of mobile telephoning in 'gluing communities together' (Pew Research Center 2015a: 4), but have also revealed its role in 'building informal social security' (Pew Research Center 2015a: 4), and even in 'bridging gaps between generations' (Pew research Center 2015b).

These changes have gone along with continued innovation in mobile phones themselves. This made a certain development in one West African mobile phone market intriguing. In 2006, James – my informant – noted that, in northern Nigeria, demands for the two older Nokia phones remained undiminished, although newer and more sophisticated phones had entered the mobile phone market in that region. Why was this so?

An answer to this question did not come until 2011, and in a way that suggested that studies of the impact of mobile telephony have concentrated on the positive impact of mobile telephony, especially in facilitating social change in Africa, and have neglected other implications of the spread of that technology, implications that are highly negative. This started to become clear in July 2011, when members of the Nigerian intelligence service apprehended one Mr. H<sup>2</sup>, who was both a member of Boko Haram and the owner of a telecommunication company in northern Nigeria.

As the security operatives reported, Mr. H not only confessed to using part of his resources to finance Boko Haram, but also to supplying the group with unregistered SIM cards and thousands of Nokia phones. He revealed that the attraction of Nokia phones was not just because of their extended battery life, but also because the phones (and their owners) could not be traced once the Subscriber Identification Module or Subscriber Identity Module (SIM) was removed (Inter-Governmental Task Force Against Money Laundering in West Africa 2013: 18). This, in turn, raised a further question: what has a Nokia phone got to do with Boko Haram?

## **II. Boko Haram and Social Change in Northern Nigeria**

In the summer of 2015, I travelled<sup>3</sup> to Maiduguri, in north-eastern Nigeria. This is where a Sunni Islamic fundamentalist sect, Boko Haram, has been carrying out terrorist activities since 2004. Boko Haram is one of several Salafist-jihadi groups worldwide which, like other Wahhabi movements, has been advocating for the removal of innovation from Islam. In the particular context of Nigeria, Boko Haram argues for the institution of the Sharia law as the constitution and governing laws of the Nigerian state. The precise date of Boko Haram's founding may never be known. Its original founder, a certain Lawan Abubakar, was a Computer Science graduate who handed the group over to Mohammed Yusuf when he, Lawan, was proceeding to Saudi Arabia to study for a Master's degree. Much about the group's ori-

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<sup>2</sup> Real name suppressed for security reasons.

<sup>3</sup> This research trip was funded by a summer research grant provided by the Graduate College of the Missouri State University. I thank the Graduate College and the Department of History, Missouri State University, for the 2015 Summer Grant that enabled the fieldwork for this research, and the resources that went into producing this essay.

tation under Lawan remains unknown, but Yusuf, in his open-air teachings, published pamphlets, and a book, orchestrated a view that resonated with the six core teachings of the Sunnis, while at the same time articulating a distinctive ideology that proved appealing to some members of his target audience (Oyeniyi 2014).<sup>4</sup>

My field-trip brought me in contact with victims of Boko Haram's violence, Muslim clerics, security personnel, arrested members of Boko Haram, and so on, along the north-eastern corridor where Nigeria has its borders with Niger, Cameroon, and Chad. Meeting with these and many other stakeholders in the fight against terrorism facilitated not just the collection of primary documents on Boko Haram (I had originally intended to collect CDs and DVDs produced by Mohammed Yusuf, the organization's late leader), but also interviews and discussions on the group's formation and teachings, and its activities in fund-raising and networking.

This paper summarizes an important component of my findings – that Boko Haram has a strong proclivity towards the deployment of mobile technology, including the use of mobile-phone-triggered Improvised Explosive Devices (IEDs), remote controlled flying drones, quadcopters and other 'toys' with autonomous navigational capabilities, which, when fitted with homemade bombs and IEDs, shall produce a whole new level of domestic terror. Borrowing from Boko Haram's past, especially its sudden transformation from an arrow-throwing and spear-wielding group into an IED and bomb deploying agency, this study argues that Boko Haram already possess the financial, logistical and technical know-how involved in bomb-making and IED production and, as such, has the capacity, financial muscle and network of supporters that could facilitate the emergence of a technologically 'savvy' Boko Haram, a development that, if it were to happen, would not only have a devastating impact on Nigeria, but also on Africa in general.

In the next section, I provide a brief account of the history and teaching of Boko Haram, while turning, in section four, to a discussion of the stresses inflicted by that organization on the local population. Here, I will refer to what Mirjam de Bruijn and her collaborators call 'societies under duress', where people live under 'threats, violence, constraint, or other actions used to coerce someone into doing something against their will or better judgement' (de Bruijn and Both 2018: 188). Space, as a geographical phenomenon or a more abstract cultural idea is vital here; the population afflicted by Boko Haram is not just a population living within a geographical space, and an ethno-religious population that is deeply committed to certain ethnic identities, religious beliefs and political principles, but also one that is in a deeply liminal political space (de Bruijn and Booth 2017: 780). Even if the majority of the local population reject Boko Haram and its ideology, such a space or situation could facilitate both extremism and serve as a most fertile ground for terrorist recruitment – and this area is also among the latest global entrants into the new digital age, an age characterized by the use of mobile phones, internet and social media platforms, including Facebook, Twitter, YouTube, *et cetera*, technologies which offer opportunities to terrorist recruiters.

Using insights from interviews and discussions with victims of Boko Haram, members of that organization who had been detained by the security services, local clerics and security personnel, and other stakeholders in the fight against Boko Haram, the fifth section discusses the dawning of a technologically 'savvy' Boko Haram, one that has metamorphosed into a group with the capacity to deploy various electronic weapons systems, improvised and other-

<sup>4</sup> The six core teachings of the Sunnis are: (1) reality of one God Allah, (2) existence of angels of Allah, (3) authority of the books of Allah, (4) following the prophets of Allah, (5) preparation for and belief in the Day of Judgment, and (6) supremacy of Allah's will or the belief in predestination good or bad is from Allah alone (for further discussion of this point, see Oyeniyi, 2014: 76).

wise. These include mobile-phone-triggered autonomous vehicles, remote-controlled flying drones, and IED-laden quadcopters, as well as the tools for deploying cyberterrorism, a development with potential implications for data and cash theft. As these new technological tools become widely available and gain widespread use, societies under duress will see the transformation of long-held grievances and/or the development of new ones. With the reduced cost of mobile telephony and increasing access to internet in Nigeria, and with information and resources now freely available, old practices are being revamped in just the same way as new opportunities are developing – including opportunities for the expression of dissent, the promotion of violent extremism, and engagement in armed conflicts .

In section six, which concludes the study, I examine how a nation-state like Nigeria could respond to digital-age terrorism, and I highlight a number of possible measures – some extreme, others benign – that the Nigerian state could take today in order to counter the activities of Boko Haram and other terrorists tomorrow.

### **III. From Infancy, They Teach Them to Murmur: A Brief History and Teaching of Boko Haram**

Between December 21, 2003 and January 1, 2004, a small group of dagger-wielding and spear-throwing youths attacked police stations and government buildings in Yunusari, Tar-muwa, Borsari, Geidam and Damanturu local government areas of Yobe State, Nigeria. Prior to this incident, members of this group had travelled from the urban centre of Maiduguri to an area of rural Kanama, in the Yunusari local government council area of Yobe State. There, they formed a separate community. Underlying this development was the view that the Nigerian-state had become inordinately corrupt and sinful; hence, the group sought to reform Nigeria from the base provided by this new community, one that was governed according to Islamic law, the Sharia.

At the head of this group was Abubakar Lawan, a soft-spoken Computer Science graduate and a devout Muslim. Soon after he and his adherents withdrew into Kanama, other young men and women (some as individuals, and some as groups), joined them. Notable in this group were members of the Nigerian Taliban, including a certain Mohammed Ali, who was believed to have been radicalized by jihadi literature from Saudi Arabia and to have fought alongside the *mujahideen* in Afghanistan. Also in the camp was Mohammed Yusuf, who, prior to joining Lawan's group, had been appointed as *amir* (leader of the faithful) for Borno State by the Kano-based Jama'atul Tadjidī Islam (JTI).

These individuals and groups planted crops and lived an ascetic lifestyle, dedicated to the worship of Allah in the forest of Kanama, located along the Nigeria-Niger Republic borders. While Mohammed Ali was distinguishable by his militancy, Mohammed Yusuf was an eloquent teacher. After almost two years, Lawan handed over the leadership of the group to Yusuf to allow him proceed to Saudi Arabia for his postgraduate studies. Relationships between this group and neighbouring villagers floundered, however, as neighbours accused members of the group of stealing their crops and animals. Acting on information provided by these neighbours, the police raided the camp on two occasions. Yusuf was in the camp during the first raid, but he was absent in Saudi Arabia during the second. Members alleged that during the second raid, police opened fire on defenceless group members, injuring many, and killing some, before arresting many others.

The attacks on police stations and government establishments between December 21, 2003 and January 1, 2004 were intended, on the one hand, to secure the release of arrested members of the group and, on the other hand, to serve as retaliation for the police brutality experienced during the previous raids. Between January and September 2004, the group also

attacked police stations, government buildings and prisons, aiming to free their fellow group members from police custody. They recorded a resounding victory over the Nigerian security forces in October 2004, when they took 12 policemen hostage in Kala Balge. Despite these early acts of insurgency, it was not until 2009 that Boko Haram became widely-known. The group's notoriety cannot be dissociated from its incessant clashes with the police and attacks on civilians, which have led to the death of hundreds of people and the destruction of property, including police stations and government buildings, markets and schools, churches and mosques.

Boko Haram, as a name for the organization, did not come into use until the time of Yusuf. Notwithstanding this, there is copious evidence to support the fact that Lawan's teachings differs from Yusuf only in degree, not in kind. Although there is a paucity of written and audio-visual records detailing Lawan's teachings, many observers (such as clerics, arrested members of Boko Haram and security service personnel) who were familiar with his teachings noted, among other things, that Lawan explained the socio-economic and political marginality of northern Nigeria vis-à-vis southern Nigeria as from the result of economic and political collusion between religious and political leaders from the north and their southern counterparts.<sup>5</sup> He was reported to have shared the view of Sheik Ibrahim El-Zakzakky, who was renowned for accusing religious and political leaders from northern Nigeria of using Islam to both profit and enhance their socio-economic and political prestige – a development that Lawan, in his turn, argued was endangering the faith.

He was also said to have decried a situation where, in the name of Islam, religious and political leaders from northern Nigeria appealed to individuals and groups in North Africa and the Middle East for funding under different guises, including building and repairing mosques, scholarships for indigent students, endowments, only to use the donated funds for their own benefit or that of their cronies. However, unlike El-Zakzakky, Lawan believed and preached that only a violent jihad could restore northern Nigeria to a state of pristine Islamic practices.

Following Yusuf's take-over of the group, inhabitants of Maiduguri gave the group the derogatory name, Boko Haram, which derived from the group's teachings, most especially those of Yusuf. As shown in Yusuf's teachings, many of which were distributed via CDs and DVDs, the name Boko Haram encapsulates the ideologies and teachings of the group under Yusuf. These teachings were summarized as including rebirth in Islam, the Islamization of Nigeria through the Sharia, the release of arrested members and justice for the slain Mohammed Yusuf, the group leader (Oyeniyi 2014: 75 – 77).

While Lawan's teachings focused primarily on the impact of politics and economy on Islam in northern Nigeria, Yusuf's focused, instead, on how Western education is having an allegedly corrupting influence on Islam and the participation by Muslims in any government not based on the Sharia. Among other claims, he advocated that true Muslims must not only dissociate themselves from any government not based on the Sharia, but also work with others to pull such governments down. He denounced evolution, evaporation (as the basis for rainfall), and any scientific knowledge not found in the Quran. It was on account of these fiery teachings that inhabitants of Maiduguri styled his group as Boko Haram<sup>6</sup>.

<sup>5</sup> Insights into the teachings of Abubakar Lawan have been derived from oral interviews with a number of clerics, security personnel and others in both Borno and Yobe states. Their names and other details are deliberately suppressed for security reasons. It is interesting to note that some of the views expressed by these stakeholders were also present in a number of the teachings of Mohammed Yusuf.

<sup>6</sup> It should be noted that Boko Haram is not the only group advocating these views. Others that have expressed similar views include Sheik Ibrahim El-Zakzakky's Nigeria's Islamic Movement (IMN), Ahmad Gulani's Ahmadiya Movement, Nasir Kabara's Khadirriyya Movement and Abubakar Gumi's Izala Group. Others also include Ishaiku Rabiu's Tijjaniyya Movement, Dahiru Bauchi's Tariqqa Movement (Oyeniyi 2014: 75 – 80).

Boko Haram, as a Salafist movement, shares Salafism's broad advocacy "for a return to the original ways of Islam as practiced by Prophet Mohammed and his companions" (Oyeniyi 2014: 75). A key part of Salafist teaching, to which Boko Haram adheres, lies in advocating for "a purer form of Islam, stripped of cultural and national associations" (Oyeniyi 2014: 76). Since the death of Yusuf and the coming of Abubakar Shekau as the new leader, Boko Haram has adopted a global terrorist outlook and declared its allegiance not only to al-Qaeda but also to the Islamic State in the Levant (ISIL). It can be argued that while Lawan established Boko Haram, Yusuf made the group into a fundamentalist Islamic religious group, and Shekau then transformed it into a terrorist organization. Kyari Mohammed has summed up the main concerns of Boko Haram's teachings, whether under Yusuf or Shekau, as '(1) the concept of *taghut* (idolatry); (2) Western education and Westernization; (3) working for an un-Islamic government; and (4) repudiation of the charge of Kharijism that local imams in north-eastern Nigeria levelled against the group' (Mohammed 2014: 15).

Following the 1979 Islamic Revolution in Iran, El-Zakzakky, began to see the idea of implementing Sharia in Nigeria as the only panacea for the ending of poverty, the redistribution of wealth, and the reigning-in of those religious and political leaderships whose inordinate ambition was to amass wealth while leaving the majority in northern Nigeria to wallow in abject poverty (Oyeniyi 2014). The teaching of socio-economic and political marginality that he preached resonated with many, not just in northern Nigeria, but across Nigeria.

Lawan, Yusuf and other clerics from northern Nigeria also argued that, in addition to colluding with their counterparts from the south, religious and political leaders in the north were using northern marginality to their own advantage. As the clerics argued, the region's politicians and religious leaders were persistently seeking international support from Islamic leaders and governments across North Africa, Saudi Arabia, and the Middle East. Proceeds from such international solicitations went into road constructions, the building and maintaining of mosques and Arabic schools, provision of scholarships for indigent students, the funding of community projects, and so on. Although limited, these opportunities were however distributed within closed groups. In addition, by exploiting these limited opportunities, the leaders have maintained a hold on the masses and negotiated a better socio-economic and political importance in national politics. By so doing, many became major players in politics, commerce, the military, and industries. They continue to 'shore up' their public image as true leaders, whereas their national and international clout are mere political tools used in preserving their economic and political benefits (Anonymous 2012).

Boko Haram, under the leadership of Mohammed Yusuf, produced more than 7 CDs and DVDs, two books, numerous pamphlets and many open-air preaching through which the group espoused and propagated its teachings and beliefs. From the books – *Hadhahi 'Aqeedatuna wa Manhaj Da'watina* (This is Our Creed and the Method of Our Preaching) by Mohammed Yusuf and *Jaa al-Haqq* (Truth Has Come) by Alauddeen al-Burnawi - the main teachings of the group revolve around the following three issues:

- (i) Affirming *Hakimiyyah* for Allah alone and that democracy negates the principles and teachings of Islam; hence, politicians are to be treated as unbelievers;
- (ii) Members of the group are the elect and their activities in reviving the spirit of jihad in Nigeria is sanctioned by Allah;
- (iii) That western education system conflicts with Islamic education; hence, Muslims are prohibited from Western education at all levels to avoid imbibing Christian education, gender mixing and the study of un-Islamic ideas that could lead them into sinning.

In his teachings, Yusuf used different examples to illustrate these three main ideas. In one of Yusuf's teachings, he explained *Hakimiyyah* as the responsibility of every Muslims to

guard and protect the rights of Allah that He has entrusted to Muslims to fight against His enemies. Citing different passages from the Quran<sup>7</sup>, that he interpreted as religious justification for the primacy of Sharia law, Yusuf asserted the rights of Boko Haram to legislate, judge and execute judgment in religious matters. It must be noted that Abu Qa'qa and Shekau, the leaders who took over from Yusuf, have since taken these messages to another level. For instance, in all the videos released to foreign media since Yusuf's death, most of which are available on YouTube, these three main ideas were pushed as the underlying reasons for the group's attacks both against ordinary people and state institutions in Nigeria.

The organization's ability to project force has made it one of the most deadly of its kind in the world. As the Institute for Economics and Peace reported in 2015, the total number of terrorist-related deaths across the world peaked in 2014 with 32,685 deaths and dropped to 29,376 deaths in 2015 (Institute for Economics and Peace 2015: 2).<sup>8</sup> Although the institute reported a ten percent decrease in global terrorist activities in 2016, the first such decrease since 2010, it however listed Boko Haram as one of the worst terrorist groups in the world, both in terms of deaths it caused and the number of attacks it mounted (Institute for Economics and Peace 2015: 3).

These attacks occurred in the context of a society under duress. In this case, that society was an already deeply religious ethnic population which already contained distinct radicalized elements. Such an environment is very fertile ground for terrorist recruitment, especially one that can make use of the latest communications technologies. With reduced cost of mobile telephoning and increasing access to the internet, information and resources will continue to flow to this group – a development which will no doubt affect future armed conflicts and violent extremism.

#### **IV. A Society under Duress, Boko Haram and the New Digital Age**

For de Bruijn, duress is a concept from juridical contexts, in which persons experience some form of external threat of force that drives them 'into doing something against their will or better judgement': in societies that experience chronic, long-lasting forms of duress, the experience of duress accumulate over time, producing a 'layered' effect in the culture and social life of the affected people (de Bruijn and Both 2018: 188 – 190). Inhabitants of such societies are described as essentially living in circumstances whereby they daily negotiate between oppressive structures and socio-economic and political repression. In such societies, de Bruijn argued, violence, fear and poverty make communication with the outside world difficult (de Bruijn and Both 2011).

Two common positions in the literature on the socio-economic and political marginality of northern Nigeria resonate very strongly with this position. The first is that the colonial policy of insulating northern Nigeria from Christianity inadvertently ensured that the north was also insulated from Western education. While colonial rule lasted, southern Nigeria was a hotbed of agitation, originally for inclusion in the colonial administration, but later for independence. By insulating northern Nigeria from Christianity and, invariably Western educa-

<sup>7</sup> Amongst these were (i) Surat ash-Shura, ayah 13 - "He (Allah) legislated for you the religion"; (ii) Surah ash-Shura, ayah 21 - "Or do they have partners legislating for them a religion that Allah has not given them permission for at all?" and (iii) Surat al Jaathiyah, ayah 18 - "Then we made you a Sharia from the natural order, so follow it and do not follow the desires of those that do not know!".

<sup>8</sup> Among the ten worst contributors to these deaths are Nigeria, Somalia, Egypt and Libya (Institute for Economics and Peace 2015: 12). In addition, Niger, Egypt, Nigeria, Kenya and Cameroon are among the top ten countries with most fatal terrorist attacks in 2015 - 926 deaths in total (Institute for Economics and Peace 2015: 12).

tion, colonial administration successfully bought peace for itself in one part of Nigeria. The second is the explanation that concentration of administrative and economic infrastructural projects in southern Nigeria during and after the colonial period led to today's socio-economic and educational differences between north and south. Evidence abounds in the literature to support these two positions.

Using four key indicators (the numbers of people categorised, respectively, as Food Poor, Absolute Poor, and Relative Poor, and the numbers living on a Dollar Per Day), Nigeria's National Bureau of Statistics, in its 2010 Nigeria Poverty Profile, maintained that the country's North-West zone is the poorest zone in Nigeria (National Bureau of Statistics 2010), with 51.8% of its population classed as being Food Poor, 70% as being Absolute Poor, 77.7% as being Relative Poor, and with 70.4% of its population living on less than a dollar per day. As seen in the table 1, below, North East, the home of Boko Haram, followed North-West zone as the second poorest zone in Nigeria.

**Table 1. Zonal Incidence of Poverty by different Poverty Measure**

Zone	Food Poor	Absolute Poor	Relative Poor	Dollar Per Day
North Central	38.6	59.5	67.5	59.7
North East	51.5	69.0	76.3	69.1
North West	51.8	70.0	77.7	70.4
South East	41.0	58.7	67.0	59.2
South-South	35.5	55.9	63.8	56.1
South West	25.4	49.8	59.1	50.1

Source: National Bureau of Statistics, *Nigeria Poverty Profile 2010*. See pages 15–18 for details both on the different indicators used and conclusions by regions or zones.

While a number of claims could be made based on the above table, especially on the correlation between poverty and terrorism, it is however of great importance to emphasize that societies under duress are not and should not be narrowly defined in spatial terms only: as numerous writers have noted, such societies are also characterized by feelings of belonging, relations of shared values, and identities that could be ethnic, social, political, or linguistic in nature (Anderson 1988, Urry 2000, Geschiere 2009). Defined in this way, it then makes sense that at the beginning of Boko Haram's emergence, hundreds of young men and women trekked from different parts of northern Nigeria to join up with Lawan and his adherents at Kanama. While Kanama is a geographical location, the overarching idea behind the group is however an ideological and multi-spatial or, to borrow from Benedict Anderson, 'imagined' (1988).

The table above shows that there is a concentration of poor people in northern Nigeria. The area has, nevertheless, produced far more political heads of state and government than the south. With far more population and landmass than the south, the north has a smaller number of schools, industries, government establishments and other infrastructure for socio-economic and political opportunities.

The area could therefore be described as a social fabric under duress. Long periods of oppression and the North's marginality within the Nigerian state have stimulated north-south migration for economic opportunities. As Aijmer and Abbink (2000) and Bouju and de Bruijn (2007) have noted, where experiences of conflict and marginality become everyday experi-

ences, insurgent campaigns, like that mounted by Boko Haram, reveal the different ways in which victims perceive socio-economic and political relation in their societies and the decision-making processes involved. In other words, fiery preaching and terrorism are but an ‘emic part of the experience of conflict’ and marginality, which not only ‘implies suffering and victimhood’, but also agency (Chabal 2009:150-172; Das and Kleinman 2000; Schlee 2004). Agency, as used here, describes victims’ capacity for decision making and for the navigation of complex situations. In other words, it describes victims’ ability to politicize and to fear, to mistrust and to make choices that allow for survival in a social fabric under duress (Linke and Smith 2009, de Bruijn et al. 2010).

All groups involved in conflict, no matter their ideology or motivation, have a need to connect with people and (re)create communities. If these are crucial needs, so too is the need to seek out new opportunities and access important information. Here, as Ingold (2000), and Oudshoorn and Pinch (2003), have argued, technology and society in duress are dialectically related. The literature on mobile-phone and society or what has been termed ‘phone cultures’ (Goggin 2006; Katz 2006) or the ‘anthropology of communication’ (Horst and Miller 2006) shows how mobile telephoning shapes social relations (de Bruijn et al. 2009; Hahn and Kibooru 2009). The new digital age, which began as a means of electronic information transmission, is today an omnipresent and endlessly multifaceted outlet of human energy and expression. It is characterized by a fast-paced and fast-changing eco-system of hardware and software that are intricately linked together by the Internet.

While this is not a case of technological determinism – the view that technology drives the development of social structure and cultural values in a society – it is a case that shows how mobile telephony and increasing access to the internet both play dramatic roles in driving a fleeing group to realize its most urgent needs for survival. It also shows that technology provides vital assets that could alleviate the situations of societies under duress and allows members of such societies to continue to exist.

Boko Haram, as noted earlier, was originally a rag-tag, spear and arrow-wielding group. However, between 2009 and 2010, it transformed into an organization deploying mobile-phone-triggered IEDs and bombs, capable of mounting coordinated attacks in multiple locations, and wielding highly sophisticated military materiel or ordnance such as weapons and ammunition, combat vehicles and artillery. How did the group metamorphose and metastasize within such a relatively short time? How, when and where did it procure the necessary ordnance? Who trained its members in their usage? How did they replenish their stock? What was the role of digital technology, most especially mobile telephoning and access to the internet, in this development? Given the internet’s potential to make (dangerous) information, technical know-how and other resources available at a relatively low cost, what are the implications of increasing availability of mobile telephony and internet access for groups like Boko Haram in northern Nigeria, especially given that zone’s history of marginality and oppression?

While research fully addressing these questions is not yet available, some preliminary remarks can be made. Abu-Bakr Bello<sup>9</sup>, an intelligence officer who was involved in the investigation into the deadly 2011 Christmas Day bombing of St. Theresa Catholic Church, Mandala, revealed that in coordinating the bombing, the mastermind, Mr. Kabiru Abubakar Dikko, also known as Kabiru Sokoto (Vanguard Newspaper 2012), and other members of Boko Haram had used unregistered SIM cards, possibly on those old Nokia mobile phones with no GPS. This, therefore, made tracking them extremely difficult. He went on to note that, during inves-

<sup>9</sup> Not his real name. Rank and location of interview are deliberately suppressed for security reasons.

tigation, more than twenty SIM cards and different mobile phones, including ten Nokia 3210 phones, were recovered. Could this serve as a clue as to how Boko Haram transformed itself within such a short time?

Al Qaeda in the Lands of the Islamic Maghreb (AQIM), Jamaat Ansar al-Sunnah in Iraq, Ansar Dine in Mali, Al-Mourabitoun in Mali, Algeria, south-western Libya, and Niger have all used unregistered SIM cards on untraceable mobile phones. Boko Haram might have learnt from these other groups, especially given that north-eastern Nigeria is contiguous to their areas of operations. If the examples of Somalia's al-Shabab and Jerusalem's Hizb ut-Tahrir, are anything to go by, then it could be argued on the face of available evidence that digital technology has helped Boko Haram in reforming and enhancing its tactical efforts. Like al-Shabab, Hizb ut-Tahrir (founded in Jerusalem in 1953 under the leadership of Maajid Nawaz) deployed the power of the internet not only in recruiting and raising funds, but also in mobilizing crowds, disseminating ideologies, recruiting strategic assets, and sharing technical know-how. While Boko Haram has no known website, it has effectively used YouTube videos in disseminating information and propagating its teachings. These videos have not only served in recruitment, but also in facilitating outside support and (cultural) cohesiveness within the group. As at February 2017, there are over 200 videos of Mohammed Yusuf's teachings on YouTube.<sup>10</sup> As Phillippe Migaux has established, the internet performs four critical functions for terrorists: it assists their efforts to (i) recruit and nourish radicalization, (ii) train militants in ideology, (iii) prepare their operations, and (iv) remind their adversaries about the permanence of the threat (Phillipe 2012).

Using similar methods, Hizb ut-Tahrir grew at an alarming pace and, within a short time, had presence in more than 50 countries. In the case of al-Shabab, similar methods have brought about enormous diaspora supports and donations from different parts of the world, including the United States and Great Britain. Explaining how Boko Haram has been able to coordinate its attacks, Bello (cited earlier), noted that because the group organized its members into cell groups, mobile telephony and the internet not only facilitated opportunities for virtual meetings, but also allowed for discussion sessions to be held in anonymous online fora, which ensured that participating members would be difficult to detect and track down.

As Weimann noted, the internet serves terrorist groups in seven key ways: data mining, networking, recruitment and mobilization, instructions and online manuals, planning and coordination, fundraising and attacking other terrorists (2006: 23). Evidence abounds to support the fact that Boko Haram's transformation from a crudely armed and equipped group in 2009 into the world's number one terror group in 2010 cannot be dissociated from technology-driven recruitment and mobilization and networking with other terrorists, who may have provided the group with copious instructions. However, not much is available in the literature on the group's ability to do data mining. Is lack of evidence a signal of a lack of capacity?

As the Nigerian Financial Intelligence Unit (NFIU) reported, ZT, an international NGO/Charity Organization with its headquarters in the Middle East opened an account with a bank (name withheld), in Nigeria. In the course of carrying out the mandatory due diligence on ZT, the bank discovered that two countries had already indicted ZT and one of its directors in terrorist financing. This discovery prompted the bank to notify the Nigeria Financial Intelligence Unit (NFIU). Within moments of setting up the organization's account, frequent cash deposits and withdrawals by individuals with no apparent connection to the charity and who live in areas with a high percentage of Boko Haram's activities had occurred. All these with-

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<sup>10</sup> A simple search query on YouTube using Boko+Haram+teachings+mohammed+yusuf yielded 167 results within 0.02 seconds. The result, which was accessed February 17, 2017 is available at [https://www.youtube.com/results?search\\_query=boko+haram+teachings+mohammed+yusuf](https://www.youtube.com/results?search_query=boko+haram+teachings+mohammed+yusuf)

drawals were made through Automated Teller Machines (ATMs). Further investigation revealed that ZT had opened numerous other accounts in different banks in Nigeria and that ZT was not only connected to Hamas, a Palestinian extremist organisation, and Gama'a al-Islamiyya, an Algerian terrorist group, but was also affiliated with another NGO with a purported link to Al Qaeda. On interrogation, promoters of ZT maintained that the various withdrawals were used to pay salaries of some itinerant Islamic clerics in Nigeria (Inter-Governmental Action Group Against Money Laundering in West Africa 2013: 20).

In a related development, in September 2012, police arrested Audu Tafa (not his real name) at a police check-point on the outskirts of Maiduguri. The sum of 1.5 million naira was found on him, as well as ten ATM cards with the names of ten different people. Under interrogation, he confessed to being a member of Boko Haram. He also revealed that his role in the organization was to withdraw monies using numerous ATM cards and deposit the bulk money into another accounts. In addition to this, Audu also receive goods from clandestine sources for resale. As Audu revealed, he would normally receive phone calls before any assignment. The callers would give instructions on where he would collect either the goods for resale or the ATM cards and their respective PIN codes. Sometimes he was given forwarding bank account details, while at other times he would get other calls that would inform him of where he was to deposit the money.<sup>11</sup> As the Inter-Governmental Action Group Against Money Laundering in West Africa reported, one of the numerous ways through which Boko Haram is funded is through activities of people like Audu, who live as regular people in their communities, while clandestinely acting as agents for the group. As that organization reported, many people like Audu helped Boko Haram not only by purchasing and sending items to group members in other locations, but also by renting apartments and procuring materials for making Improvised Explosive Devices (IED) (Inter-Governmental Action Group Against Money Laundering in West Africa 2013: 18).

In yet another instance, Mustapha Quadri, who was arrested in north-western Nigeria in June 2012, disclosed under interrogation that he was a courier for Boko Haram. He noted further that Boko Haram often took advantage of Muslim security personnel at roadblocks who, as Muslims, are aware of the Islamic tenets forbidding men from having any physical contact with women except their wives. So, women are deployed to deliver cash, arms, and ammunitions to their members. A police informant confirmed that most attacks on roadblocks have been carried out by women and that where Boko Haram deployed male couriers, they often disguise as commercial vehicle drivers going about their daily business. Many such arrested drivers that I spoke with claimed to be non-members, and said that they were genuine drivers who were asked to drop some consignments at designated points by a man on the phone. None of them had met the caller.<sup>12</sup>

On 3 November 2011, an officer of the Nigerian security agency arrested one Mr. Ali Sanda Umar Konduga, a former Boko Haram spokesperson, who named Mr. Ali Ndume, a senator from Nigeria's People's Democratic Party from Borno State, north-eastern Nigeria, as a Boko Haram sponsor. Konduga affirmed that Senator Ndume had crafted threatening text messages and also supplied names and phone numbers of various politicians to Boko Haram. The group then sent these threatening text messages to these politicians, who subsequently paid huge sums of money into Boko Haram's coffers. After careful examination of Senator Ndume's telephone records, police came to the conclusion that there had been sustained communication, spanning years, between Konduga and Ndume. Senator Ndume was later charged in court (British Broadcasting Corporation 2011).

<sup>11</sup> Oral interview with Audu Tafa (name changed), in Maiduguri on June 12, 2015.

<sup>12</sup> Oral interview with Mustapha Quadri (name changed), in Maiduguri on June 12, 2015.

While Boko Haram might not have recruited members through the internet, it has, as the above cases show, made assiduous and continuing use of video and audio recordings (usually in DVD or CD format) to disseminate its ideology. These media have helped the group to facilitate and nourish radicalization. As shown in the case of ZT, the international NGO/Charity Organization discussed above, the new digital age has helped, and will continue to help, Boko Haram to raise funds, procure arms and continue its fight. As the case considered below shows, Boko Haram has not limit its use of digital technology to recruiting and nourishing radicalization and funding, but also in training and in preparing for operations.

In June 2012, border police arrested Yassane, a Nigerian national, along the Nigeria-Niger border. He had a large amount of cash in different denominations, including EUR 35000 with an alphanumeric identification code, and two USB flash drives, each with 4GB capacity in his possession. The alphanumeric identification code on the EUR 35000 and his appearance aroused the suspicion of the police, and the subsequent discovery of the flash drive and the information stored on it revealed that Boko Haram had developed a relationship with al-Qaeda. Among the information stored on the flash drives were two letters from Abdelmalek Droukdel (also known as Abu Musab Abdel Wadoud), the emir (leader) of the Algerian Islamic militant group Al-Qaeda in the Islamic Maghreb (AQIM). The letters were addressed to Abubakar Shekau, the leader of Boko Haram.

The above cases suggest that Boko Haram's sudden transformation and subsequent activities cannot be dissociated from the group's access to mobile telephony, and the use of unregistered SIM cards, which then made communications on such mobile phones untraceable. In addition, the group's use of digital communication tools have served it well in recruitment and in nourishing radicalization, training militants (especially in the group's ideology), funding and networking with global terrorist networks, and in preparing for operations.

In societies under duress, as the above cases have shown, mobile telephony, (whether via untraceable Nokia or GPRS-laden Thuraya, or, for that matter, any other mobile telephone system), facilitates access to networks of power, movement and the earning of income. In addition to these is access to vital information and the negotiation of exit in situation of marginality and oppression.

## V. Terrorizing Tomorrow: Towards A Hi-Tech Boko Haram

A deeply religious ethnic population with a history of marginality and oppression is one of the most fertile grounds for terrorist recruitment. Groups such as this are among the latest entrants into the new digital age, an age that is characterized by increasing access to mobile telephoning, internet penetration, 3D printing and the Internet of Things. As the different cases examined in the previous section have shown, digital technology has helped Boko Haram to mobilize crowds, disseminate ideology, to recruit strategic assets, to access funding, and to share technical know-how. Digital technology played decisive roles in the transformation of Boko Haram from a dagger-wielding, arrow-shooting group into one that used mobile-phone-triggered IEDs, coordinating simultaneous attacks on multiple targets.

Except for YouTube videos of its teachings and post-attack 'press releases', Boko Haram has little or no online presence at the time of writing. However, the speed at which Boko Haram is transforming and displaying its capacity to use information and communication technology, suggests that the group's present lack of online presence is likely to change in the near future. Evidence obtained from its home area shows that its ability to recruit new members is dwindling. This, on the one hand, could be attributed to the intensity of government counter-terrorism efforts and, on the other hand, citizens' experience of Boko Haram's numerous attacks, which have eroded its credibility and alienated many from the group. Recently, Nigeria

introduced the bank verification number (BVN) system, which involves identifying account holders based on physiological or behavioural attributes, such as fingerprint, signature and others. Without a BVN, no account holder can transact business. While the policy aims at providing added security to banking business, the introduction of BVN is helping the intelligence unit to monitor corruption, money laundering and terror-financing. Increased surveillance along borders and in major cities, in public buildings like schools and prisons, mosques and churches has also reduced Boko Haram's visibility and attacks. Combined with the on-going onslaught by multi-national security forces against the group, the above has impaired Boko Haram's ability to recruit and to raise funds, to organize and to coordinate attacks.

Communication is important to Boko Haram's survival, making it likely that the group will gravitate more towards digital communication if it is to survive. Digital communication presents a number of clear advantages to the group. A few of these include little to no risk of personal bodily harm, minimal resource commitment, and opportunities to inflict a massive amount of damage (Schmidt and Cohen 2013: 155). With dwindling recruitment, any system that facilitates minimal resource commitment will certainly help the group to survive. Both reduced risk of personal bodily harm and opportunities to inflict a massive amount of damage will also draw Boko Haram towards digital communication.

Technology's capacity to facilitate massive and incredibly damaging attacks, coupled with the enormous difficulty associated with tracing sources of virtual attacks will make it indispensable to Boko Haram. No doubt, as the group is hemmed-in by concerted efforts of Nigeria and its multinational allies, the more it will seek to mount digital attacks and, once one such is successful, the group will become emboldened, and confidence in government's ability to protect the citizens will become eroded. Despite the current increased patrolling efforts at the borders, Africa's porous borders will continue to make cross-border smuggling of guns, drugs, money and destructive bomb-making materials easy, which would have certainly served Boko Haram's efforts to evolve into a high-tech terrorist group.

As demonstrated in the previous sections, the question is not whether Boko Haram will embark upon this course of action or not; rather, it is about when we are going to be confronted with a new Boko Haram – a high-tech Boko Haram that could, from remote locations and with the click of a mouse, launch homemade terror devices such as drones, quadcopters, remote-controlled helicopters, and other autonomous vehicle laden with IEDs, equipped with cameras and piloted through smart phones. The technology is currently available, the technical know-how is easily accessible on the internet, and anyone with a credit or debit card can purchase such drones online or in a toy store. Undoubtedly, Boko Haram has demonstrated that making mobile IEDs is the equivalent of a high school science project; hence, when quadcopters, remote-controlled helicopters and drones are rewired with autonomous navigation capability and fitted with homemade bombs and IEDs in their undercarriages, a whole new level of domestic terror will debut, which certainly is beyond the scope of the current counter-terrorism efforts in Nigeria.

At the beginning of its campaign of terror attacks, Boko Haram was robbing banks to fund itself. It later graduated into bombing ATM machines and carting away their contents. In a high-tech Boko Haram regime of the future, this crude method will give way to cyberterrorism and data theft. Cyberterrorism, that form of terrorism which involves politically or ideologically motivated attacks on information, user data or computer systems (Schmidt and Cohen 2013: 153), will certainly result in violent outcomes should Boko Haram follow this route. While Boko Haram has not yet demonstrated anything to suggest that it is moving in this direction, it is important to note that some of its allies, most especially al-Qaeda have experimented with cyberterrorism and could therefore either equip Boko Haram with the skill or conduct cyberterrorism for and on behalf of Boko Haram.

The objectives of cyberterrorism include (i) loss of integrity, such that information could be modified improperly; (ii) loss of availability, where mission critical information systems are rendered unavailable to authorized users; (iii) loss of confidentiality, where critical information is disclosed to unauthorized users; and, (iv) physical destruction, where information systems create actual physical harm through commands that cause deliberate malfunctions (Rollins and Wilson 2005: 2 – 4). In addition to these four, cyberterrorism allows criminals to steal identity information, or otherwise attack networks. While many may underestimate the impact of cyber terrorism on a country like Nigeria, especially as most of the economy is run manually; however, the fact remains that if cyberterrorists successfully compromise banking and insurance system in Nigeria, not only would data and money of all their customers be at risk, the impact could also bring down the nation's economy.

In addition to the above, FBI officials indicated that al-Qaeda carried out cyberterrorism with the sole intention of committing identity theft and credit card fraud – the proceeds of which have been used to support terrorist activities (Rollins and Wilson 2005: 5). Notable cases include al-Qaeda cells in Spain who used stolen credit card information to purchase items. In June 2005, the FBI reported that as many as 9.3 million Americans were victims of identity theft traced to terrorist groups (Rollins and Wilson 2005: 2). Is Boko Haram capable of mounting such cyberterrorism in Nigeria?

With the exception of its founder, Abubakar Lawan, not much is known about the education and technical skills of members of Boko Haram. However, literature obtained from al-Qaeda revealed that al-Qaeda members are well educated and are familiar with engineering and trained in the use of computer systems. In addition to this, FBI's study of more than 200,000 multimedia documents from 86 sample websites showed that al-Qaeda and ISIL exhibited similar web knowledge as US government agencies (Rollins and Wilson 2005: 13). The implications of the above are many. One, it will be naive to think that Boko Haram does not have the technical knowledge, as their numerous post-attack video releases are indicative of a more technically skilled group. Secondly, Boko Haram's networking with al-Qaeda (as seen in the case of Yassane and Abdelmalek Droukdel) shows that collaboration with al-Qaeda on cyberterrorism is possible. Cyber-attacks on banks and insurance companies might lead to a run on banks. Should transportation system and police data, stock market and electricity grid data be compromised in a cyber-attack, Nigeria economy would suffer significantly and would-be scammers and hackers would be attracted to Boko Haram.

While ideology, money and blackmail will continue to play a large role in future recruitment into Boko Haram, it must however be noted that new recruits into tomorrow's Boko Haram will not be driven by willingness to die for the cause, but control of technology. Hence, media skills will be among the most important attributes for future transnational terrorism, as proselytization, recruitment, training, solicitation for funding and technical know-how move into the cyberspace. Somalia's al-Shabaab and al-Qaeda – both allies of Boko Haram, have shown dexterity in media marketing business, with their websites heavy with special effects, and their Facebook accounts and Twitter handles highly patronized because of their rich contents. Mohammed Yusuf, before his death, spread his teachings via CDs and DVDs; Shekau is showing more dexterity in using YouTube videos in much the same way as Anwar al-Awlaki, a Yemeni-American imam and Islamic cleric. Awlaki, before he was killed by a drone strike in September 2011, was al-Qaeda's chief recruiter and motivator.

If Boko Haram is to survive, it will have to embrace more digital technology. As it is the case with al-Qaeda and al-Shabaab, two of Boko Haram's allies, mobile telephone and internet use by Boko Haram will soon spike, and we will witness an increasing use of applications such as Facebook, Twitter, YouTube and other platforms by the group. With reduced cost of

mobile telephoning and increasing access to internet, information and resources are now freely available to the group.

Given that Boko Haram's IEDs were mobile-phone-triggered, is it safe to argue that the current lull in the fight against the group might not necessarily be because of coordinated multinational attacks on the group, but the group's clandestine efforts at retooling? If mobile telephoning and internet access have provided dangerous information and resources to Boko Haram; what future then awaits Nigeria, West Africa and Africa should Boko Haram gain access to remote controlled flying drones, quadcopters, and other 'toys' fitted with homemade bombs and IEDs? With armed robbery, kidnapping, and cross-border trade in narcotics and illicit money becoming widespread in Nigeria's north-eastern border communities; what new level of domestic terror would emerge if Boko Haram develop a capacity for cyberterrorism, especially since cyberterrorism affects data and cash, guarantees no risk of personal bodily harm, involves minimal resources commitment, and affords opportunities to inflict a higher level of damage?

## **VI. Negotiating with Tomorrow's Terrorist Today – A New Latitude in Counterterrorism?**

While I believe that the only counterterrorism measure that could fully rid Nigeria of Boko Haram completely is to tackle the socio-political and economic marginality in northern Nigeria, this section focuses on two policy options that Nigeria could take in its preparedness for a technologically skilled Boko Haram. These are data-collection, especially on mobile telephoning and internet usage, and the institution of nation-wide surveillance programs. While these two policies would place government ahead of the pyramid in the fight against terrorism, they are potentially dangerous, as they could lead to infringements on human rights.

To illustrate the importance of data-collection, let us consider two cases from outside of Africa. To stay safe, Osama bin Laden, the leader of al-Qaeda who was taken out by the United States in 2011 after many months of intense searching, had to stay off-line. For many years, bin Laden stayed in Abbottabad, Pakistan in a house with no internet access or mobile phones. To communicate with the outside world, bin Laden had to resort to human couriers who transported information and data using flash drives, hard drives and DVDs. Although this impaired his effectiveness and coordination with others in the al-Qaeda network, it did keep him safe. It is, however, paradoxical that the existence of a well-secured mansion with no internet access in the midst of a large city was the very thing that also gave him up.

The second example is the case of the Mumbai attacks in 2008 where ten terrorists held Mumbai hostage for three days. In pulling off this attack, the terrorists used BlackBerrys, Google Earth, and Voice over Internet Protocol to communicate with a command centre in Pakistan where their leaders watched live coverage of the events on satellite television as they coordinated the attacks.

In both of these cases, terrorists' use of technology was ultimately turned against them. In the case of Bin Laden, telephone calls made to contacts served to expose his location, and information recovered from flash drives, hard drives and DVDs helped the US in neutralizing al-Qaeda more generally. In the case of the Mumbai attackers, a trove of information was recovered from the attackers devices, which helped investigators in locating the command centre in Pakistan, and in bringing to justice others involved in the attack. These two examples show that digital technology is a double edge-sword. It serves the interest of terrorists in the same way it serves the interest of counterterrorist agency. In other words, terrorists of the future may find it necessary to use technology, but may also find that its use entails a high risk of detection and capture.

Besides SIM card and phone's International Mobile Equipment Identity (IMEI) numbers, service providers have logs and records of calls and data transmitted on their networks. Even when a caller decided to hide his or her phone number, service providers have access to hidden caller numbers. In addition, they can also monitor and keep mobile phone applications' activities. Smartphones also embed metadata about GPS coordinates into all photos. In sum, activities on mobile phones, whether these are done through regular service provider applications or through public vendor applications, are not totally private. These electronic signatures offer government enough tools to track down individual phone users wherever the individual might be.

Given that the newest entrants into the mobile telephoning and internet access revolution are people and groups from societies under duress, it makes sense to start counterterrorism at this point. To track Boko Haram effectively, government of Nigeria needs access to Nigerians' biometric details and metadata. These data are already in the public domain, as banks, telecommunication companies, health care institutes, the National Population Commission, the Nigeria Immigration Service, National Youth Service Corps, and so many other institutions have collected these data in bit and pieces over the years. All that is required is the coordination and pooling of these data into scalable and accessible form. This would allow intelligence officials could track and monitor the activities of all known terrorists in real-time. Ease of locating and possibly arresting (or eliminating, if need be) of a known terrorist is not the only advantage of this large scale data collection, it would also help the nation in surveillance and planning purposes.

The second policy suggestion is the introduction of an online surveillance scheme. Nigeria needs to know what its citizens are doing both on mobile phone networks and on the internet. Two developments are underway in Nigeria that signal that, if properly handled, Nigerians could accept a 'little' surveillance for a greater security. In the first instance, Nigerians were mandated to obtain a BVN or forfeit their monies to the government. This, although discomforting, exposed money-laundering and corruption, as many whose sources of income were unclean simply abandoned their deposits to avoid detection. Secondly, telecommunication service providers were mandated to register all SIM cards, a step which attached biometric data to telephones. In both cases, after an initial tardiness that allowed government to enlighten citizens on the importance of the two steps, Nigerians accepted them and both are functional today.

As things currently stand, Nigeria would require international assistance to bring about any meaningful collection, storage and analysis of a huge data. While supporters of this kind of policy are not in short supply globally, the problem associated with government policing of citizens include intrusion of privacy, non-traditional use of personal information and possible breach. To ensure that state policing does not turn Nigeria into an Orwellian state, legislative actions will be required, and so also will the independent actions of a vigilant civil society. While the concern over terrorism is not an excuse to turn Nigeria into some sort of Orwellian state, the importance of these two policies in curbing the activities of Boko Haram cannot be disputed.

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## ТЕХНОЛОГИЯ: ОБСУЖДЕНИЕ ВООРУЖЕННОГО КОНФЛИКТА И ТЕРРОРИЗМА ЗАВТРАШНЕГО ДНЯ В ЗАПАДНОЙ АФРИКЕ

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*Аннотация. В данной статье на примере Боко Харам в Нигерии рассматривается влияние технологий на будущие вооруженные конфликты, экстремизм в Нигерии и Западной Африке в целом. По мере того, как Африка вступает в новый цифровой век, характеризующийся расширением доступа к мобильной телефонной связи, проникновением Интернета и 3D-печати, система связей между группами с похожими идеологиями улучшается. Результаты недавних полевых исследований автора на северо-востоке Нигерии проливают свет на деятельность Боко Харам<sup>13</sup> в приграничных территориях в этом регионе, где Нигерия граничит с Нигерией и Камеруном. Эта деятельность включает в себя такие тактические действия, как мобилизация масс, распространение идеологии, привлечение стратегических ресурсов и обмен техническими ноу-хау. Применение высоких технологий способствовало превращению Боко Харам из группы, вооруженной кинжалами и луками, в организацию, развертывающую запускаемые с мобильного телефона самодельные взрывные устройства, координирующую одновременные атаки на несколько целей. Несомненно, новый цифровой век гарантирует культурную сплоченность и более надежную внешнюю поддержку, которая будет способствовать рекрутированию, финансированию, логистике и обучению. Какое будущее ожидает Нигерию и Западную Африку в целом с учетом того, что мобильная телефония и доступ к Интернету предоставляют опасную информацию и ресурсы для повстанцев? Должна ли Африка позволить Боко Харам получить доступ к беспилотным летательным аппаратам с дистанционным управлением, квадрокоптерам и другим «игрушкам», оснащенным самодельными бомбами? Какой новый уровень террора возникнет, если Боко Харам создаст потенциал для кибертерроризма, особенно с учетом того, что кибертерроризм воздействует на базы данных и кэши, не гарантирует при этом риск нанесения телесных повреждений, подразумевает минимальное вложение средств и предоставляет возможности для нанесения ущерба более высокого уровня? В этом исследовании рассматриваются данные проблемы и варианты ответов, доступных правительству в ходе вооруженного конфликта и в борьбе с терроризмом, стимулированным развитием технологий.*

*Ключевые слова:* терроризм, Боко Харам, принуждение, беспилотные летательные аппараты, кибертерроризм

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<sup>13</sup> В мае 2014 года внесена Советом Безопасности ООН в список террористических организаций