



# Africa's Many Chinas

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## EXECUTIVE SUMMARY

“Who’s Afraid of Huawei?” asked *The Economist* in early August 2012, going on to describe how the company’s “cheap but effective equipment helped make Africa’s mobile-telecoms revolution possible.” Over the past ten years, by investing in countries that North American and Western European companies considered too dangerous or not interesting enough from a business perspective, China has become a controversial, pervasive, and widely effective protagonist of the opening up of African markets to ICT, and has established itself as an important presence in oil and mineral extraction, in infrastructure building, and in trade.

This report presents an overview of the **Chinese involvement in sub-Saharan Africa**, in particular in the telecommunication sector, and describes the formation of an ecosystem that is largely outside the one that shapes ICT development and use in Western countries. Based on secondary sources and expert interviews, the paper begins with the **historical precedents** for the Chinese presence in Africa, and a short summary of current types of Chinese investment and aid in African countries, showing the extreme diversity of the Chinese presence (Africa’s Many Chinas) as opposed to the monolithic version of a centrally-driven strategy often proposed by the press (see for example the BBC’s “Chinese Colonialism?” article on 19 July 2012).

This paper then focuses on the **telecommunications sector**, analyzed from both infrastructure and device perspectives; looking on the one hand at the important market presence and evolving strategies of Chinese ICT companies, especially **Huawei**; and on the other at the innumerable **traders**, both African and Chinese, who bring cheap (but increasingly smart) Chinese mobile phones, tablets, and computers to African consumers. The paper ends with an outline of possible future fieldwork, centered around a three-country study of ICT trader networks: China, where both Chinese and African traders buy from mobile phone factories; Ghana, a stable country with a very liberalized ICT sector, a good infrastructure and a relatively long tradition of trade with China; and Ethiopia, a fast-growing economy in an autarchy with absolute, monopolistic control over the telecommunication sector, and strong ties with China.

This report has two goals: first, to dispel the aforementioned idea of a monolithic presence of China in Africa, while outlining a few of the ‘many Chinas’ that could be important in the shaping of African markets and policies. Second, by focusing on the ICT infrastructure, and on the trade networks that are emerging around it, to show the evolution of an environment where a data economy based on mobile devices is growing, but which is very different from the market ecosystem in which Western companies usually operate. In the past decade, Chinese companies and traders have made tremendous inroads in sub-Saharan ICT markets, by being nimble, fast, and reactive players, and by supplying different products in different situations. Chinese-brand and Chinese no-brand or copy phones are often the first mobile phones that African consumers buy, and therefore play a key role in shaping their experience of mobility and their expectations of technology. Understanding how this happens, where, and under which circumstances might provide useful insights for Intel’s future strategy in sub-Saharan markets.

## INTRODUCTION

People and their ICT devices produce huge quantities of data, which can be aggregated to give new insights into both individual behavior and society at large (and produce new data). There can be different approaches to big data: the most common is a “top-down” approach, where companies like FaceBook own or have access to individuals’ data and can combine them to create new data; another is a “bottom-up” approach, a view being explored by Intel, where individuals own and can combine the data they produce (“data exhaust”) on different platforms. In this ‘personal data economy,’ data are a commodity that is produced, that flows among devices and individuals, and that is exchanged.

The underlying assumption is that to have vibrant data there needs to be an environment where devices are constantly connected; and that, in both approaches, the lay of the land in terms of hardware and software is more or less known (e.g. we know that in the US x% of people use an iPhone, x% have androids, x% are on an AT&T network, x% are active in pinterest/facebook/google plus, etc). But **how does the personal data economy work in an environment where connectivity is limited and the hardware/software environments little understood if not mostly unknown?**

Sub-Saharan Africa is an ideal place to explore this question. Kathi Kitner (Intel Labs, IXR) is exploring the first part of this question, namely how vibrant data and a cloud-based environment work in a place where stable, reliable, fast internet connections are still not as widespread as in Western and many Asian countries, and are likely to stay so for many years to come, at least outside big cities. This report summarizes initial findings regarding the second part of the question, namely the emergence of an ICT ecosystem that is largely outside the one familiar to the West, and largely dominated by China. Many countries in sub-Saharan Africa, that until a few years ago were considered too dangerous and/or not lucrative enough for serious ICT investments (e.g. Kenya, Mozambique, Angola, Zambia), are now experiencing steady economic growth and rapidly growing ICT markets. A large number of Chinese-branded mobile phones are imported through more or less official channels, and sold to urban and rural residents alike. An increasing number of these phones are smart phones, and tablets are also appearing, particularly in Nigeria and Senegal (TNS Mobile Life 2012). Chinese companies are building and managing telecommunication infrastructure, from Internet backbones to last-mile solutions; their investments, together with those of Indian and Middle-Eastern telecommunication companies, have suddenly disrupted old colonial business legacies where former colonial powers invested in their own former colonies (e.g. French telecommunication companies investing in Francophone Africa, etc). This paper outlines the characteristics of this less-studied phenomenon and some of its implications.

### WHAT DOES THIS MEAN FOR INTEL?

Huawei, a Chinese telecommunication company which will be discussed in detail below, has been positioning itself in several different layers of the potentially (or already?) lucrative market of telecommunications in Africa. It builds backbone and last-mile solutions, manages mobile phone networks, and sells equipment to other companies, as well as mobile phones and tablets to consumers. There are several implications for its competitors and for all other players in the ICT sector in Africa, among which there is Intel:

— Both the data economy that is emerging in sub-Saharan countries (see for example existing research on M-Pesa, the Kenyan mobile money system) as well as the user experience there are being shaped by Chinese companies. How is this shaping the experiences and the expectations of African consumers? What does it mean for local consumers to have only ever known and used Chinese phones (in terms of usability, expectations, tie-in to services such as cloud services or music - e.g. in China MP3 can be downloaded legally from all search engines...)?



A mobile phone shop in rural China (author's photo)

— As mobile phones become more common outside urban areas, Western companies may face serious challenges in the distribution chain. As my dissertation research in rural China show, Western companies dismissed (or did not have the resources to expand into) the countryside and thus diminished the particular needs of rural users, and did not understand the different distribution networks and different environment through which rural residents acquired and used their technology. Rural residents can be quite removed from mainstream marketing messages, or simply from official distribution channels. Entrepreneurs that set up shop in rural areas usually did not have access to Western brand phones, or considered them too risky of an investment. As a result, some rural users might have bought an original Nokia early on, but the majority is now using Chinese-brand or Chinese copies of Western-brand phones. Can this be avoided in other emerging markets?

— Chinese traders could represent the link between the market strategy of Huawei and other Chinese companies and local consumers. To borrow a non-ICT example, in Senegal, a group of Chinese small traders created a Chamber of Commerce to provide support and lower their costs of doing business, in one case by unifying the handling of the supply chain. This was achieved by, among other things, switching shipping companies from Maersk to China's GMT Shipping (Dittgen 2010:12). Could something similar happen between Chinese free-lance traders of mobile phones and Huawei/ZTE?

— Are Chinese ICT adapted for African markets, and how? Is there customization in high-tech goods for different African markets going on at a factory-level in China, similar to what happens with textiles? Is Africa the place where production surpluses from Western orders end up?

Rather than providing answers to these questions, this report provides a context for understanding the questions and suggestions for possible future fieldwork in different areas. To understand how China became an apparently sudden protagonist of sub-Saharan's economic growth, let's go back to the historical relations between these two regions.



Source: [techpinger.com/2010/06/enjoy-2010-south-africa-world-cup-with-china-football-mini-cell-phone/](http://techpinger.com/2010/06/enjoy-2010-south-africa-world-cup-with-china-football-mini-cell-phone/)



## CHINA IN AFRICA

### SUMMARY

The Chinese State, Chinese companies, and Chinese traders, workers, and migrants filled the void left in Sub-Saharan Africa by fleeing Western investors in the 2000s. In the Western popular press, China is seen as a threat and a neocolonial power interested only in Africa's natural resources. In fact, China is often perceived by African countries as an alternative to the Western model of development, and as a model of a country that has quickly gone from widespread poverty to relative wealth. For its part, China seeks to replicate in Africa the lessons it has learned during its own economic opening in the 70s and 80s: a mix of state aid (rarely in the form of pure grants, more usually resource-backed concessional loans, preferential loans, and tariff-free access to its markets), political collaboration as equals (the *Forum on China-Africa Cooperation*, FOCAC) soft-power policies (scholarships for African students, Chinese medical teams), and investments by State-Owned and private enterprises in infrastructure, industry, agriculture, and trade. In addition to these investments, the Chinese presence is characterized by an increasing number of 'free-lance' migrants, who come to Africa on their own, or stay after having finished their job on Chinese company contracts, to seek their fortunes in trade or agriculture. Although they are often seen by Africans as part of a strategy of the Chinese government to 'conquer' Africa, these migrants have very little contact with the official China of embassies and government projects, and are often left to their own devices when in trouble.



China's Grand Africa Strategy. Source: [smbaye.info/en/2006/10/07/chinas-grand-africa-strategy/800](http://smbaye.info/en/2006/10/07/chinas-grand-africa-strategy/800)

### THE BIG SCARE OF THE PAST FEW YEARS

— In early 2000s, Africa was declared “**The Hopeless Continent**” by *The Economist*.

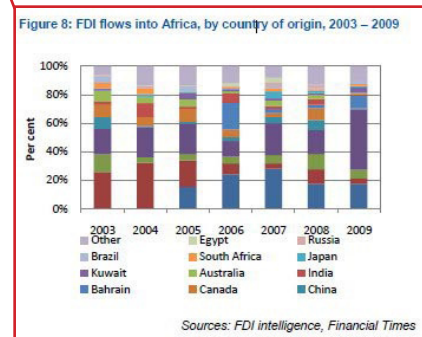
— While **Western investments left** the continent, the **Chinese were quick to fill the void**, thanks to a combination of government incentives and aid, of investments by State-Owned Enterprises (SOEs), and of up-and-coming private companies looking for new markets but not ready (or not yet allowed) to enter Western markets. While the West confined itself to trying to “fix” Africa with aid, China stepped in to now become the **biggest source of Foreign Direct Investment (FDI)**:

“China is now the biggest source of foreign direct investment on the continent and absorbs about 10% of its exports, up from less than 2% a decade ago... The continent's trade with China is about 10.4% of its total trade, increasing from about US\$ 11 billion in 2000 to US\$ 129 billion in 2010. Meanwhile, according to the Chinese government, China's foreign direct investment in Africa quadrupled between 2005 and 2009 to US\$ 9.3 billion. Other estimates put the figure much higher. China's investments in and its imports from Africa are mainly in the minerals and energy sector. Africa imports mainly machinery, transport equipment, manufactured goods and consumer items from China such as cellphones.” (WEF 2012, China and Africa)

— By the late 2000s, **China** had become, at least in the popular (Western and African) press, **a threat and a new colonial power** interested only in grabbing African natural resources and flooding its markets with cheap goods.

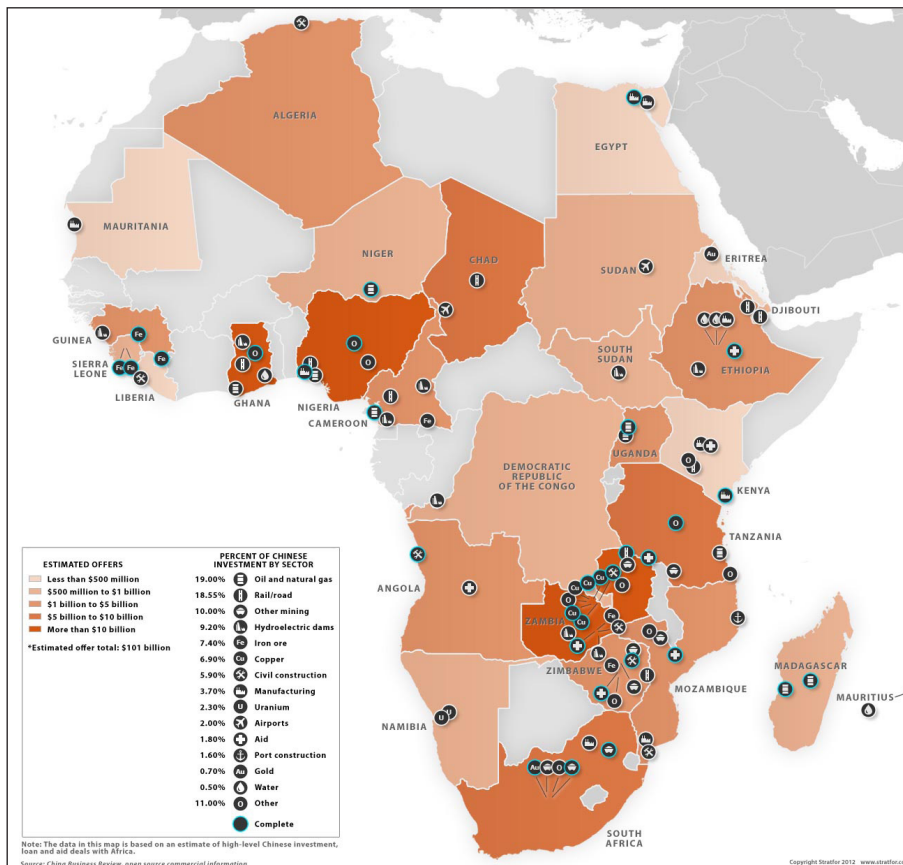
### BE AFRAID?

— China is often perceived by African countries as **an alternative to the Western model of development**, which is seen as continuing the exploitation started during colonial times through both corporations and aid (the “Beijing Consensus” of State capitalism, non-interference, incremental reform and authoritarianism versus the “Washington Consensus” of neo-liberal policies, shock therapy, and democracy.)



Foreign Direct Investment (FDI) into Africa 2003-2009

— China stepped in with aid and investments in agriculture, manufacturing and infrastructure at a time when shifting priorities in Western aid (the UN Millennium Goals in particular) had almost completely abandoned those sectors. Currently, the main sectors where China is investing are oil and mineral extraction, transport infrastructure, construction, telecommunications, agri-processing, and manufacturing.



#### Chinese Investment Offers in Africa since 2010

— China offers the narrative of a **parallel** between Western domination of its territory before 1949 and Western colonialism in Africa. Moreover, between 1949 and the 1980s **China was a developing country** similar to many countries in contemporary Africa (Manji 2007:57-61).

“Beijing emphasizes the principles of mutual economic gains and political equality between China and African countries made possible by shared histories of oppression and poverty.” (Haugen 2011:165)

— China and Singapore are invoked by African countries as possible models of economic growth, while the post Bretton-Woods institutional framework is perceived as having failed to reduce poverty in Africa:

“For many among Africa’s ruled who are physically and intellectually exhausted by two decades of economic ‘reform’ supposedly adopted by African governments but driven by Western governments, donors and the IFIs, China represents hope that another world is possible in which bread comes before the freedom to vote.” (Obiorah 2007:44)

— China is also seen as a **partner that deals with Africa as an equal**, rather than a patronizing (and bullying) power that imposes its values. Part of this stems from China’s firm policy of **non-interference in other countries’ internal affairs**, but part is also a matter of respect, of ‘face’ as the Chinese would say. This might seem secondary, but it is one of the two constant themes in the literature on China in Africa (the second being how Chinese are ‘importing’ workers from China to take away jobs from locals):



Africa, US, and China. Source [www.ethicssage.com/2011/06/us-interest-in-africa-motivated-by-chinese-and-indian-successes.html](http://www.ethicssage.com/2011/06/us-interest-in-africa-motivated-by-chinese-and-indian-successes.html)

“One of its most striking features is its friendly language and ‘soft power’ approach. It repeatedly emphasises such themes as mutual beneficial cooperation, friendly relations, fresh opportunities, sincerity, equality, mutual support, common prosperity. It projects a gentle, friendly, caring attitude, which appears to many Africans as a welcome contrast with the exploitation and heavy handed top-down relationship which has typified the West’s approach.” (Chidaushe 2007:109)

— This is not only rhetoric. In some industries (e.g. mining), Chinese workers/managers are compared favorably to local and other expat managers, and seen as continuing a tradition of ‘eating bitterness’ and **working in conditions similar to that of locals** that began during the Maoist years (Brautigam 2009:132).

“The thing I like about the Chinese is that if a Chinese is not designated as a boss, they will bring him down to work with us and they will not discriminate in his favour because he is a Chinese. He will do the same job as everyone else. I had Chinese guys working under my supervision. This is something you don’t see a Boer, a Canadian or Indian doing. To me, who has worked with them closely, I like them because they are down to earth.” (Lee 2009:658)

### ...OR MAYBE NOT?

Behind this vision of China as an alternative to the West, there is a **perception of “China” as a single unit following a single plan of conquest**, which is based partly on the reality of China’s authoritarian (and developmental) state, partly on widespread myths about the Chinese involvement in Africa (see Brautigam’s China in Africa website for examples of such myths).

— The reality of Chinese involvement in Africa is much more nuanced, and goes back much further than usually acknowledged. Rather than one big, threatening Chinese government conquering Africa, it is useful to think of **many Chinas finding their way into Africa**, through different vectors, with different strategies, different fields of interest, and with fierce competition among Chinese private and State-Owned companies, all influenced by historical legacies. A **brief history** of Chinese involvement in Africa may be useful to put the present circumstances in perspective:

— the **historical involvement phase (1850-1950)**: characterized by colonial labour demand, with Chinese workers (mostly from mainland China) and traders arriving in Africa.

— the **political aid phase (mid 1950-late 1970s)**: South-South solidarity, aid and technical advisors, some of whom stayed on. A representative project of this period is the Tanzania-Zambia railway, built between 1970 and 1975. In this period, a significant number of African students go to study in China.

— the **current phase (1985-present)**: China begins to **replicate in Africa some of the lessons she learned in the 1970s and early 1980s from being a recipient of aid/FDI, especially from Japan**.

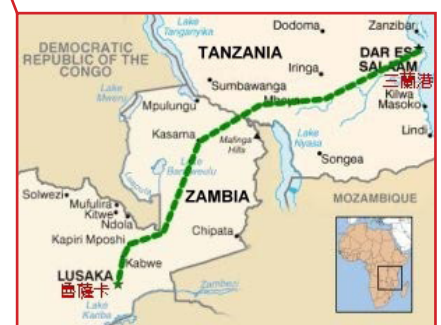
— This last phase expresses a crucial aspect of Chinese involvement in Africa. When China started to open up its economy in the 1970s, it was relatively rich in oil, but not in foreign currency. Paying back Japanese loans in oil and natural resources (resource-backed concessional loans) allowed it to get technology transfers and investments that were fundamental to the growth of the country:

“Japan offered to use low-interest yen loans to finance the export of \$10 billion of its modern plant, industrial technology, and materials, and China agreed to pay by exporting the equivalent in crude oil and coal to Japan.” (Brautigam 2009:47)

— Moreover, the early phase of the restructuring of the Chinese economy focused in building infrastructure and industry. Both these themes can be seen in the kind of invest-

#### A joke that circulates around Chinese contractors in Angola:

Three companies bid on a construction tender. An Angolan minister opens the bids. A Chinese company offers to do the work for \$3 million: \$1 million for labor, \$1 million for equipment, \$1 million profit. A European company says it can do the job for \$6 million: \$2 million for labor, \$2 million for equipment, \$2 million profit. An Angolan contractor bids \$9 million: “\$3 million for you, \$3 million for me, and \$3 million for the Chinese company to do the work.” (Brautigam 2009: 153)



Source: [www.ebaomonthly.com/ebao/readebao.php?eID=e02318](http://www.ebaomonthly.com/ebao/readebao.php?eID=e02318)



ments that China is making in Africa today, which consist of a **mix of infrastructure & productive investments, indirect financial aid** (preferential loans, tariff-free access for commodities), **resource-backed concessional loans, soft power policies** (scholarships for African students, Chinese medical teams in African hospitals) and **pure aid**.

— Other events that shape the Chinese presence in Africa are the presence of Chinese companies looking for business overseas, the creation of institutions (EXIM Bank and China-Africa Development Fund) to support both investments and aid, and China's accession to the WTO. Specifically:

— In the mid-80s, China abolishes State Trading Companies that held monopolies for import, export and foreign exchange (Haugen 2011:165), which **opens up the export market** to a whole new set of Chinese actors. A few years earlier, the government had allowed some **Chinese companies to seek business overseas**. Some companies remained in African countries after building aid projects, and started bidding on local projects, sometimes (often?) supported by Chinese aid funds.

— in **2001, China becomes part of the WTO**. In the same year, its 5-year plan formalizes the policy of '*zou chuqu*' ('walk out' or globalization) for Chinese companies, which consisted of finding new markets, establishing brand names with global recognition in specific sectors (high-tech and white goods, like Hai'er, Lenovo, Huawei — which, for example, in its early days of expansion abroad received a \$10 billion line of credit from China Development Bank to support its expansion outside China (Brautigam 2009:87), and pushing small and medium-sized companies to export but also to move lower-end production to other countries, as part of China's own domestic restructuring (Brautigam 2009).

— In 2004, China creates **EXIM Bank** (Export-Import Bank of China), followed by the **China-Africa Development Fund** in 2007 (Brautigam 2009). The policy of these years is characterized by a mix of aid and commercial expansion, both state-supported and independent, and based on the search for raw materials, as well as for markets for Chinese goods.

— In order to provide a political platform for its relationship with African countries, in 2000 China establishes **FOCAC** (Forum on China-Africa Cooperation), for "collective consultation and dialogue." The origins of FOCAC lie in Jiang Zemin's trip to Africa in 1996, where he proposed a framework for new long-term relationship between Africa and China, centered on "treating each other as equals and respecting each other's sovereignty and not interfering in each other's internal affairs" as well as seeking development and cooperation in international affairs (Taylor 2011:35). This was partly a reaction to crisis between China and Western countries post-1989 (Tiananmen).

— FOCAC meetings take place every three years, alternating between China and an African country:

**FOCAC 1, Beijing 2000**, attended by 45 African states. Discussion on trade, economic reforms (with Chinese reforms proposed as possible model), development and cooperation in education, science & technology, and health care.

**FOCAC 2, Addis Ababa 2003**. Preceded by the first China-Africa Business conference, with 500 Chinese and African entrepreneurs in attendance (Taylor 2011:51). The main decisions were centered on strengthening and increasing cooperation, but respecting the principle of non-interference in internal affairs. Agriculture and infrastructure became areas of interest, with Beijing pledging to support Chinese enterprises that were interested in developing agricultural cooperation projects in Africa.



"The feelings of friendship between the peoples of China and Africa are deep" 1972  
Source: Landsberger Collection, chinese-posters.net/posters/e15-837.php



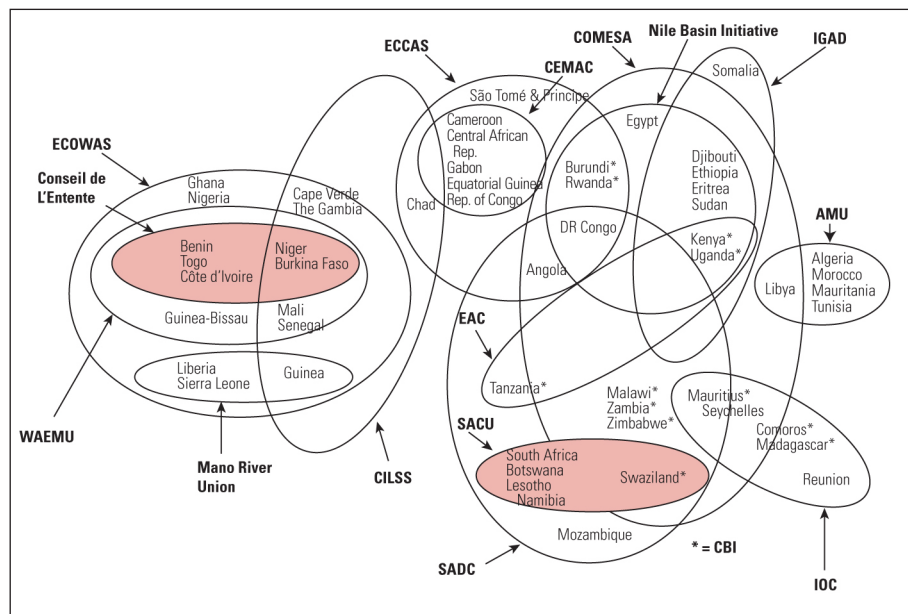
Source: [www.focac.org/eng](http://www.focac.org/eng)

**FOCAC 3, Beijing 2006.** A ‘Beijing Declaration’ (read out by Hu Jintao, Meles Zenawi and Hosni Mubarak...) that reiterated the desire of China and Africa to deepen their cooperation, and called on the North (Western countries) to increase developmental assistance to Africa. In practice, China undertook to double its aid to Africa by 2009, provide \$3 billion of preferential loans and \$2 billion of preferential buyer’s credits by the same date, and to **set up a China-Africa development fund of \$5 billion to encourage & support Chinese companies to invest in Africa. By 2009, the fund had been set up with \$5 billion, guaranteed by Beijing.** (Taylor 2011:70-73)

**FOCAC 4, Sharm el-Sheikh 2009.** More subdued meeting; climate change entered the agenda, as did science and technology. Launch of China-Africa science and technology partnership, with plans for Chinese demonstration projects in Africa.

**FOCAC 5, Beijing 2012.** No scholarly analysis of implications is available yet. Five new measures for Sino-African cooperation were approved: 1) expanding investment and financing to support sustainable development in Africa; 2) increasing assistance to Africa; 3) supporting the African integration process and helping enhance the capacity of overall development; 4) enhancing people-to-people friendship; 5) promoting peace and stability in Africa. (FOCAC documents, <http://www.focac.org/eng/ltada/dwjbzjjhys/hyqk/t954296.htm>)

— One often overlooked aspect of the China’s involvement in Africa is that having a presence (e.g. factories, or at least warehouses) in many African countries means having privileged access to European markets, thanks to the mind-boggling “spaghetti bowl of African Regional Trade Agreements”



Source: Broadman, *Africa's Silk Road*, 2007

— Another important aspect of China in Africa, in fact one that is often remarked on in African and Western newspapers, especially of late, is the significant presence of **Chinese temporary and long-term migrants**. Chinese migrants started to arrive in numbers in the mid-80s, when Chinese emigration rules were relaxed, and when Chinese companies began to carry out projects with their own staff, who then often remained in the country to pursue business opportunities. Migration was and still is usually organized along family and co-villager networks, just like internal migration in China:

“For African, Chinese, and Indian investors, there are significant imperfections and asymmetries in the quality of market information regarding potential cross-border commercial opportunities for the two regions. Ethnic networks are increasingly relied on to facilitate the flow of such information and to compensate for these imperfections and asymmetries.” (Africa’s Silk Road 2007)

— Currently, the Chinese presence represents a significant diaspora, although looking at it as one diaspora ignores fundamental class and gender differences — e.g. between SOE managerial staff, temporary staff ‘imported’ to work on contracts carried out by Chinese companies, and more or less educated “free lancers” looking for economic opportunities short— and long-term in different African countries (e.g. farmers, traders, small shopkeepers):

**Origin:** all over China, but especially Guangdong and Fujian;

**Destination:** South Africa and Mauritius (historical migration), Angola, Nigeria, Zambia the main destinations.

**How many:** estimates go from the **official 78,000** to estimates of **around 1,000,000**. “In 2012, according to Yoon Jung Park, a migration specialist at the University of Johannesburg, the figure is likely around 1m.” (*Financial Times* 8 August 2012)

**Four types of immigrants:** **SOE personnel** (better educated, temporary contracts), **small traders/free lancers** (sometimes workers who came on SOE/ construction/infrastructure projects, and ended up staying (Dittgen 2010), although unclear how many; some authors say there was an increase in the mid-90s with growing unemployment in China), **transit migrants** (often without visas, who sometimes stay, or sometimes see Africa only as a jumping point for EU, USA, Canada), and **farmers**.

Small traders are an important and interesting aspect of Chinese migration to Africa: they are often at the forefront of Chinese interaction with Africans, and its most visible part, since they tend to live among locals rather than in isolated expat compounds. They also compete directly with local traders and workers (as well as among themselves, again contrary to the common impression of a unified China in Africa) creating resentment and protests. They are also very disconnected from the ‘official’ Chinese migration, so they do not receive support nor protection from local Chinese embassies. But before we focus on traders, their business, and their impact on African markets and lifestyles, we will look at a sector that shows clearly how the mix of Chinese private and public investment in Africa works: the telecommunications industry.



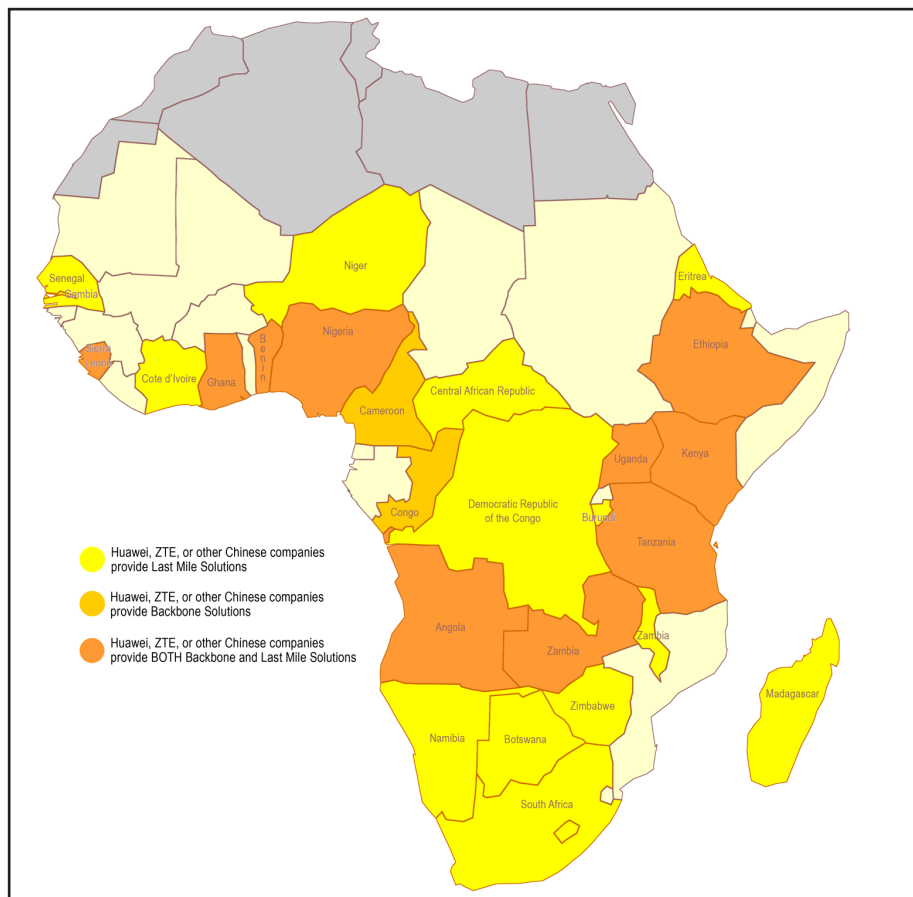
Source: Flickr.com CC Monkeyking

## TELECOMMUNICATIONS

### SUMMARY

While Western countries were disinvesting from Africa, and the World Bank was shifting its attention from infrastructure-building to other development priorities, Chinese telecommunication companies started building ICT infrastructure in several African countries, often supported by preferential loans and other help from their government. The most active companies are **ZTE**, a State-Owned Enterprise that is, nevertheless, publicly traded, and **Huawei**, a private company. This section describes how ZTE and Huawei gained a foothold in Africa, and then focuses on Huawei, its origins in China, and its current business and future goals in Africa. Huawei is an interesting competitor for Intel, considering that it produces telecommunications equipment, processors, and mobile phones, and that it has invested considerably in becoming a major player in the smart phone world. It has recently launched in several African countries a Huawei-branded smart phone, *Ideos*, priced at between US\$80 and US\$100, as well as tablets. In 2011, *Ideos* was Kenya's best-selling smart phone.

**“China’s price power in telecommunication equipment appears to be an unambiguous good for the DRC in particular and Africa as a whole. The Chinese expansion will not pose any adverse impact on domestic manufacturing, since Africa does not manufacture telecommunications equipment. This is in contrast to many other sectors, and particularly the textile industry, where the benefits to African consumers of cheap Chinese clothing are mitigated by the disastrous impacts on African textile manufacturing...”** (Draper 2010:114-115)



Map of ZTE, Huawei, and other Chinese telecommunication companies involvement in sub-Saharan Africa. Sources are summarized in Appendix 2.



“About **25 percent of the mobile phones sold in Africa come from (ZTE and Huawei)**, putting the Chinese in second place behind Nokia.” (Caixin 2012)

### **HUAWEI, ZTE, AND THE CHINESE GOVERNMENT**

— The telecommunication industry is a good example of the significant impact that Chinese government policies, Chinese SOE and private industry investments, and individual trader networks can have when the conditions are right.

“Twenty-one countries in Sub-Saharan Africa attracted a cumulative total of almost \$3 billion of Chinese public financing for telecommunications between 2001 and 2007, routed mainly through the China Eximbank.” (Williams 2011:140).

— Telecommunication equipment is typically made in China, regardless of where the telco or the company bidding for equipment/infrastructure building contracts is based (*The Economist* 4 Aug 2012), so Western and other companies managing African ICT infrastructure are typically using Chinese equipment anyway. However, ZTE (SOE) and Huawei (private) are the two high-profile Chinese companies that bid directly for network building and managing contracts, not only to provide materials. They both build and manage mobile phone networks, provide internet services, and manufacture industrial and consumer equipment; they both win contracts on the basis of very competitive prices, but increasingly also quality and service (Draper 2010:114). In many countries, **they bid against each other for contracts**, and they both get **direct and indirect support from the Chinese government** through 1) export credits worth billions of dollars from CDB (China Development Bank) and EXIM Bank (Export-Import Bank of China), and 2) preferential loans that the Chinese government gives to African countries, as shown below (Caixin 2012). Both companies operate with the goal of **expanding their markets and making a profit**, but through different modalities.

— What happened in The Democratic Republic of Congo (DRC) is a good example of their *modus operandi*:

— in 2000, ZTE was ‘encouraged’ by the Chinese government to form a joint-venture with the newly created Congo China Telecom (CCT, 51% ZTE, 49% Congo Office of Post and Telco). Upon its creation, CCT was given a concessional loan of RMB80 million (about US\$10 million at the time) by China EXIM Bank (Draper 2010:113). CCT continued to be operated jointly by ZTE and the Congo Office of Post and Telecommunications until 2011, when both sold their stake to France Télécom-Orange. It is unclear whether CCT was a profitable investment for ZTE, since the company was reported to be keen on selling its stake because of ‘operations problems.’

— In 2004, Huawei entered the DRC market for purely commercial reasons, without any specific State support nor loan. In 2006, it won a contract from Tigo, one of the main mobile phones operators in the DRC, to manage its network. In 2011, it won a similar contract from Vodacom, and continues to do business in the country.

### **HUAWEI**

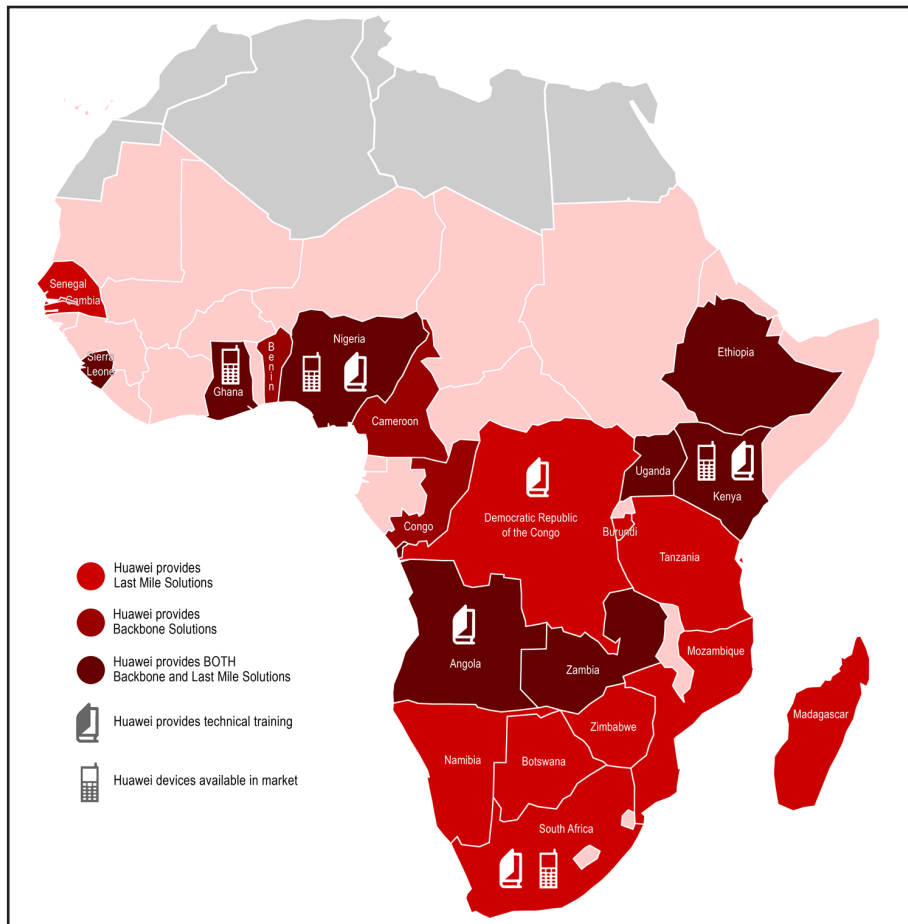
— Huawei might be an interesting **competitor for Intel**, considering that it produces telecommunications equipment, processors, and mobile phones, and that it has invested considerably in becoming a major player in the smart phone world:

“Huawei also said it expects to sell more than 100 million mobile phones, 60 percent of them smart phones this year, double last year’s level. In the next five years, Huawei is aiming to become the world’s third-biggest Android handset manufacturer, just behind Samsung and HTC, surpassing overseas giants such as Sony and Motorola. Huawei has advantages to draw on. It has a network equipment business, carrier clients



Source: The Economist, 4th August 2012

in both domestic and overseas markets such as China Unicom and Vodafone, and a strong telecommunications technology background. (...) **Huawei has a secret weapon: chip design.** It's the biggest difference between Huawei and other China-brand phone vendors such as Xiaomi, Meizu and even Lenovo. Hisilicon, Huawei's semiconductor division, has taken a leading position among domestic players for several years. After a decade's development, its technology is close to global standards. Now its quad-core chip products are used in Huawei-brand smart phones and tablet computers. With advanced technologies like quad-core chip and the coming eight-core chip, I strongly believe Huawei will gain market share in the smart phone segment more rapidly in the short term and increase profit in the long term." (Zhu 2012)



**Map of Huawei's involvement in sub-Saharan Africa.** Sources are summarized in Appendix 2.

— Huawei was founded in 1987 by Ren Zhenfei, a former People's Liberation Army officer, as a third-party reseller of telecommunication equipment. It has achieved success by following Mao's **strategy of 'surrounding the cities from the countryside,'** i.e. by expanding market control in the countryside first and then moving to urban areas (Chang 2009, *The Economist* 2012). In 1996, it won its first contract outside China, in Hong Kong, and then began its global expansion following the same pattern it followed in China, i.e. expanding in under-developed and under-invested areas in Russia and Africa:

"Excluded from China's lucrative coastal markets, which were reserved for the better-connected, Mr. Ren put to new purpose Mao's strategy of using the countryside "to encircle and finally to capture the cities." He encouraged his salesmen to undercut competitors in markets deemed minor. Huawei went on to use a similar approach overseas, initially targeting peripheral markets. It priced competitively: in Africa it undercut Ericsson and Nokia by 5% to 15%, according to a report by Wharton Business School. It also showed tenacity and daring. Its engineers soldiered on through civil wars and natural disasters; by 2006 sales in Africa were over \$2 billion." (*The Economist* 2012)

— It is characterized by a **strong military culture** (Chang 2009), and personal communication with Lu Jinghao), and is very hierarchical. It **invests heavily in research** (10% of revenues in 2008, Chang 2009). This is a trend that started in 1998, when it hired IBM to reorganize its management and product development/distribution. In 2010, it won The Economist's Corporate Use of Innovation Award:

"Huawei topped the World Intellectual Property Organisation's 2008 rankings for international patent applications, and was placed second in the 2009 rankings, indicating its commitment to research and development, and its determination to defend its intellectual property abroad... More than any other, **Huawei is the firm that is overturning the widely held preconception that Chinese companies are merely imitators rather than innovators.**" (<http://www.economistconferences.co.uk/innovation/corporate-use-of-innovationwinner2010>)

— It started its sub-Saharan Africa operations in 1998, in Kenya (Chang 2009:2). It currently has between **4,500** (<http://www.huawei.com/za/about-huawei/corporate-citizenship/people/index.htm>) and **5,800 employees** (<http://newswire.telecomramblings.com/2012/07/huawei-reaffirms-partnership-with-african-stakeholders-to-deliver-ubiquitous-broadband-access-across-the-continent/>), over half of whom are local hires. Intel, by comparison, has a total of 283 employees in Africa, only 66 of whom are in sub-Saharan Africa. Under the official 'guiding vision' to "Bridge the Digital Divide and Enrich the Lives of Africans," (Huawei 2007 <http://www.huawei.com/en/about-huawei/newsroom/press-release/hw-089390-news.htm>) Huawei's business in Africa is profitable and constantly growing:

"According to the former head of Huawei's operations in West Africa, Wilson Yang, Huawei's profit margins in Africa can be up to 10 times greater than those it realizes in China. Huawei manages to achieve tremendous margins while still pricing itself only 5%-15% lower than its major international competitors, Ericsson and Nokia. Furthermore, **Huawei is cautious not to price itself too low so that it will not be seen as yet another low-cost Chinese provider. In contrast, Huawei's main Chinese competitor in Africa, ZTE, consistently prices 30%-40% below European competitors and, consequently, its products are perceived as being of inferior quality.**" (Chang 2009:3)

— In 2010, Africa accounted for **12-13% of Huawei world-wide revenues, approximately US\$3.5 billion** ([http://www.elearning-africa.com/eLA\\_Newsportal/china%E2%80%99s-mighty-telecom-footprint-in-africa/](http://www.elearning-africa.com/eLA_Newsportal/china%E2%80%99s-mighty-telecom-footprint-in-africa/)).

— At times, the company is **directly supported by Chinese state aid**, with a system similar to the 'request-based aid' that is common between Japan and aid-recipients. For example, in Sierra Leone Huawei worked with Sierratel (state-owned) on several projects, one of which involved extending the wireless network operated by Sierratel. It was a **no-bid project proposed by Huawei to Sierratel, and financed by Chinese foreign aid.**

"Huawei negotiated and signed a preliminary contract for the project with Sierratel in July 2006, pending financing. Five months later, Sierra Leone's Ministry of Finance and China's Ministry of Commerce signed a framework agreement, which provided the general terms for taking and repaying a Chinese renminbi concessional loan of about \$16.6 million... The final loan agreement was signed in April 2007 with China Eximbank." (Brautigam 2009:140).

— Huawei's activities in sub-Saharan Africa are very diversified. On the one hand, there is **infrastructure building and management**, as shown on the map at the beginning of this section, and detailed in Appendix 2. On the other, it is increasingly involved with the consumer's market, with *Galaxy*, a specific cloud platform for Africa (which recently won an award from Informa Telecom for the "Best Cloud Platform for Africa"), and *Ideas*, its very own smart phone and tablet range that went on sale in a few African countries in 2010. The smart phone is priced between US\$80 and US\$100 (depending on the

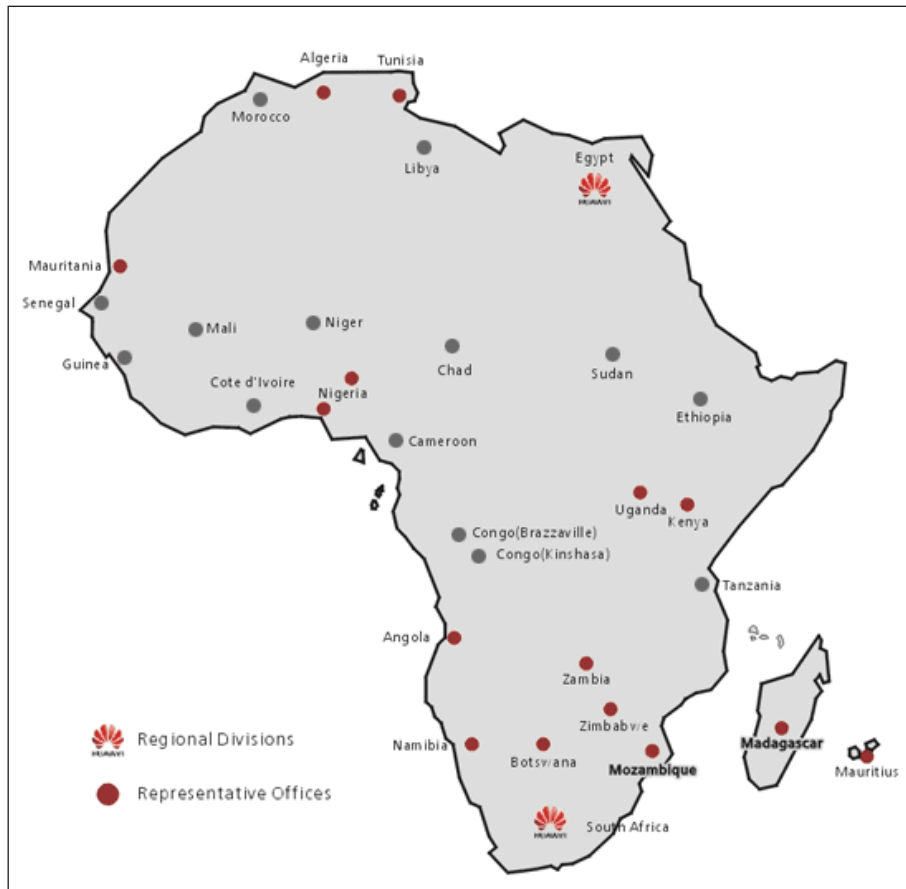


Source: *The Economist*, August 4th 2012



Source: [www.biztechafrika.com/article/safaricom-huawei-team-launch-ideos-smartphone/3352/?country=kenya](http://www.biztechafrika.com/article/safaricom-huawei-team-launch-ideos-smartphone/3352/?country=kenya)

sources), and the tablet at around US\$445 (<http://www.biztechafrika.com/article/new-huawei-tablet-arrives-tablet-bug-bites/932/>). In 2011, Ideos was the best-selling smart phone in Kenya, and it reportedly continues to dominate the market, with 350,000 phones sold to date and about 45% of the smart phone market (<http://thenextweb.com/africa/2012/06/19/the-affordable-african-smartphone-battle-begins-samsungs-galaxy-pocket-vs-huaweis-ideos-x1/>).



Source: [www.biztechafrika.com/article/new-huawei-tablet-arrives-tablet-bug-bites/932/](http://www.biztechafrika.com/article/new-huawei-tablet-arrives-tablet-bug-bites/932/)

Huawei presence in Africa, mid-2000, <http://market.huawei.com/hwgg/focac/local.html>)

Huawei and ZTE represent the 'official' face of Chinese investments in Africa's telecommunications industry, with their activities in building and managing infrastructure, their training centers for recruiting and training local employees, and their mobile phones and tablets for consumers. However, an increasing number of no-brand or unknown Chinese-brand mobile phones are arriving in sub-Saharan Africa from China, and are shaping the mobile phone experience for many first-time users. These phones are often brought to Africa by informal networks of small traders, both African and Chinese, who travel between factories in Southern China and different African countries with suitcases full of devices. They seem to be as disconnected from Huawei and ZTE's strategies as the Chinese expats going to Africa to work on Huawei and ZTE's projects are from free-lance migrants, but they represent an equally important part of how China is shaping the ICT experience in sub-Saharan Africa. They will be the subject of the next section.



## TRADE NETWORKS

### SUMMARY

Traders are an important connection between the makers of ICT in China and African consumers: they are the ones who know users, their aspirations, their disposable income, and their living conditions, and they are the ones who choose what to bring to the market, in small suitcase after small suitcase, and in half-containers. If Intel is interested in targeting this consumer market, grasping better how these 'middlemen' operate, especially in a place where the big distribution that characterizes Western markets is lacking, could improve understanding of the market from a close-to-the-ground perspective. Like small and informal shop-keepers in rural China, traders can provide the missing link between industry data on sales that capture big trends, and user studies that look at the behavior of individuals. However, to date there are neither significant nor systematic studies of ICT traders in Africa. Therefore, in this section, I will summarize existing research on:

- the **arrival of Chinese (non-ICT) goods in African markets** through African traders, followed by the arrival of Chinese traders;
- the **reactions of local markets**: general lowering of prices for the public, increased competition, local traders and/or producers often pushed out of the market thanks to the lower prices offered by Chinese traders, who have better relationships with factories in China;
- the well documented example of the effects of Chinese competition on household goods and textile markets;
- the experience of **African traders of ICT in Hong Kong and in China**: how do they organize their travels, how do they buy phones and how do they bring them back to sub-Saharan Africa.

In addition to findings from secondary sources, expert interviews revealed two significant trends:

- in addition to mobile phones, **laptops are beginning to be brought over and sold by African traders**;
- although Chinese mobile phones are popular for their low prices (and renowned for their low quality), they are also becoming fashion objects, so **buyers look for a specific look, or a specific function, within a budget**; it is not just about the cheapest possible phone for people who cannot afford anything else.



Source: [www.africa.wisc.edu/politicalcartoon-inginafrica/cartoonist\\_pages/Kenya/Gado/index.html](http://www.africa.wisc.edu/politicalcartoon-inginafrica/cartoonist_pages/Kenya/Gado/index.html)



Source: Flickr.com, CC Adam Cohn

### HOUSEHOLD GOODS & SINO-AFRICAN TRADE

"A large proportion of Sino – African trade is undertaken by small-scale enterprises, but these have received limited public attention in the West compared to the large, government-backed Chinese companies that organize the import of African raw materials to China." (Haugen 2011:158)

"Neither Chinese capital nor Africa is singular, and the dynamic of their encounters, raw in many ways (...), can be grasped only from within these Chinese enclaves." (Lee 2009:648)

— Even though reliable statistics do not exist, all sorts of China-made goods get to Africa through small trader networks, rather than through bigger-scale trading companies that ship containers and have distribution warehouses. These trader networks consist of Africans traveling to (and settling in) China, and Chinese traders settling in Africa.

— In most countries **Chinese goods arrived before Chinese traders**, by means of African traders going to China (see Dittgen 2010, Axelsson, etc), as we will see below. What is currently creating huge push-back is the presence of Chinese traders encroaching on the market for Chinese goods and the profits of local traders.

— An area that has been well studied and that could provide an interesting precedent, or at least comparison, for ICT devices is **the market for household goods and textiles**. Looking at the interaction between Chinese and African traders in this field can be useful in understanding what might be going on in the field of ICT devices:

African traders import household goods from Middle-Eastern and Asian markets (Dubai, Thailand, Hong Kong), traveling to where they have relationships, or where they can get visas (Axelsson interview 2012). Sometime in the early/mid-2000s, Chinese traders appeared in urban trading areas of several African countries, selling the very same items that African traders were bringing back from Hong Kong and China (Axelsson 2008). Concerns about take-over of the domestic market by cheap Chinese textiles first, and other goods later, was expressed in several African countries starting from the mid-2000s (Taylor 2009:63), and there were accusations of unfair competition and dumping (Harneit-Sievers et al 2010). In reality, tensions around Chinese goods express a combination of factors: the failure of African countries to develop strong local manufacturing bases, high production costs in many African countries due to poor infrastructure (esp. electricity and roads) and high labor cost; for textiles the fact that clothing and textile industries are considered crucial to high employment levels in Africa (and in many countries this kind of labor is highly protected by labor laws). Competition from China means the loss of jobs which are hard to replace in a relatively labor-intensive field. China's advantages in household goods reside in its low labor cost, efficient infrastructure and economies of scale, and pressures to find new markets, as exports to Western countries decrease.

— Chinese traders **brought competition to African markets**, and significantly lower prices for consumers (Haugen 2006). The claim that they have pushed out local traders is not substantiated, at least not at a general level. In fact they promote increased competition, diversity in goods sold, and new strategies and distribution channels.

— There are two main takeaways that translate directly to ICT:

#### 1. Cheap Chinese goods arrived in Africa before Chinese traders:

“It was not Chinese traders who invaded the market, but rather the Ghanaian traders who first went out to get cheap goods, then the Chinese arrived bringing their own goods. The market was set up by Ghanaian traders.” (Axelsson interview 2012)

#### 2. Cheap Chinese goods are popular because they are affordable, and they cannot be made equally cheaply in Africa because of higher labor and production costs (electricity, raw materials, water, labor, etc):

“(Chinese imports) give Africans access to goods and amenities that developed countries take for granted but that most people here could not have dreamed of affording just a few years ago—cellular telephones, televisions, washing machines, refrigerators, computers. And cheaper prices on more basic items, like clothing, light bulbs and shoes, mean people have more money in their pockets.” (*The New York Times*, August 21, 2007. Cited by Taylor 2009:80).



Source: [www.busac.org/mainsite/news/nws\\_0032.php](http://www.busac.org/mainsite/news/nws_0032.php)

## CHINESE MOBILE PHONES IN AFRICA

There are three separate channels for China-made mobile phones to arrive in Africa through small trader networks: through African traders going to Hong Kong; through African traders going to China (usually Guangdong Province); and through Chinese traders residing in Africa and travelling to Guangdong, or with contacts already in place there.

### FIRST DISTRIBUTION CHANNEL FOR CHINESE ICT IN AFRICA: AFRICAN TRADERS IN HONG KONG

“It is said that in the 1990s, Pakistani gangs roamed the (Hong Kong’s Chungking Mansions) building intimidating store owners, but by all accounts this is not the case today. As one Pakistani phone stall proprietor told me, “Why should anyone extort money? We can make money much more easily by selling mobile phones!” (Mathews 2011)

— Hong Kong has long been a key destination for traders from developing countries, because of a very liberal visa policy (visitors from many countries, especially of the former Commonwealth, are allowed to get in without a visa for 14, 30 or 90 days), English is the *lingua franca*, and it is close to the factories in China, thereby guaranteeing low prices.

— **Chungking Mansions** is a mall frequented by many of these traders. Gordon Mathews, a Hong-Kong based anthropologist, has studied at length the mall and its traders (2011a, 2011b, 2012). He estimates that an average of 19.4 million mobile phones are sold at Chungking Mansions per year, and that they **represent 20% of all mobile phones sold in Africa** (data from 2008-2009 - the calculation seems somewhat dubious, but the well-taken point is that many mobile phones are sold in Chungking Mansions and end up in Africa). **Traders can make between US\$400 and \$1,300 each trip**, but many don’t persist beyond the first trip.

— This is how trade trips to Chungking Mansions work:

**HOW** - Traders tend to come for a few days, and buy ‘suitcase-size’ amounts of goods which they bring back themselves to their country:

“The deal would be for 1,000 or more phones, typically weighed to the final ounce of the 32-kilogram baggage limit imposed by airlines such as Ethiopian or Emirates.” Mathews, 2011b).

**WHAT** - stalls sell mobile phones for every kind of budget and preference: **branded phones, no-brand phones, knock-offs** (‘Nokia’ or ‘Eriksun’ phones), **copies** of European, Korean, or American brands, the so-called **fourteen-day phones** (returned by customers in Western countries, allegedly, although why they would end back to China is left unexplained), **used phones**.

**WHO** - men from relatively well-off backgrounds in sub-Saharan Africa:

“Some 80% of the traders in Chungking Mansions are from sub-Saharan Africa. The large majority are men, and most come from the upper crust of their societies - they have to be able to afford the plane fare to Hong Kong. For some young men on their initial trips, their entire family’s savings have been invested in them, to be compounded or lost. Older, more experienced traders may have made the trip back and forth between China and Africa dozens or even hundreds of times. The schemes are often ingenious. A Congolese trader explained to me how to send three used cars by container around the Cape of Good Hope to Matadi, then drive them overland to Kinshasa - then asked me to invest in this venture, saying, “I can guarantee you 300 percent profit.” The gas tanks of the cars could also be loaded with mobile phones, he added, which would never be seen by customs agents.” (Mathews, 2011b)

**WHEN** - regular trips are common, especially between May and December, according to Mathews the good selling-season in Africa. Individual trips, small shipments, rather than containers.

“My rough estimate is that some 20 percent of the mobile phones recently in use in sub-Saharan Africa have been sold in Chungking Mansions, judging from sales in 2007 and 2008. Phone stalls sold an average of 15,000 to 20,000 phones a month (...), with established phone stalls selling 20,000 to 30,000 a month and smaller stalls selling 5,000 to 10,000 per month. These are whispered figures given to me by store employees — sales figures are secret information, given the intense competition between phone stalls in Chungking Mansions — but seem reasonable. There were approximately ninety phone stores in Chungking Mansions in 2007 to 2008. If we assume 18,000 to be an average sales figure, then 1,620,000 phones were sold per month, or 19.4 million phone sales per year, in Chungking Mansions. There were 126 million mobile phone subscriptions in sub-Saharan Africa in 2007, with many individuals having multiple subscriptions. This makes the assumption of 20 percent seem broadly plausible.” (Mathews 2011a:106)



Source: [inside.org.au/globalisation-at-ground-level/](http://inside.org.au/globalisation-at-ground-level/)

## SECOND DISTRIBUTION CHANNEL FOR CHINESE ICT IN AFRICA: AFRICAN TRADERS IN GUANGDONG PROVINCE

“A phone trader from Tanzania comes to China once a month between May and December, the peak buying months in Africa, buying phones in Guangzhou and bringing them back by train to Hong Kong and then by plane to Tanzania as extra luggage. He can pack in seven phones per kilogram, he said, carrying back an average of 700 phones per trip, by paying for an extra weight allowance. He can make an average profit, after flight, luggage, and accommodation costs, of US\$500 per trip, he claimed.” (Mathews 2011)

— In the 2000s, Hong Kong started to face increasing competition from China: mainland Chinese connected directly with factories started to open stalls at Chungking Mansions, and African traders started to go directly to China, with the help of Africans who lived there and could act as translators, agents, etc.

“The emergence of enclaves of African traders in Chinese cities indicates that Africans play an increasingly important role in the exchange of goods between China and Africa. Staying in China allows them to trade directly with Chinese factories and wholesalers, rather than through middlemen. Some African traders relocate to China, while others travel back and forth and commission African migrants in China to help them locate suppliers and manage procurement and logistics.” (Haugen 2011: 166)

— **Mobile phones are a sort of ‘liquid currency’ for Africans in China:** those who go to China not sure what they will find, hoping to maybe get a factory job, can get a few phones, put them in their suitcase, sell them back home, and with luck make a profit (Haugen interview 2012). **Trading in mobile phones is the lowest entry level for African traders.** African students also send mobile phones home, as a way to make some money.

— Recently, **trade in laptops** has started as well - the joke in Guangdong is that “one sends home a couple of jeans and a laptop and he’s a trader” (Haugen, *ibid*). Mobile phone **spare parts** for repair shops follow the same trade routes.

— Researchers who have looked at the use of Chinese mobile phones in Africa emphasize how they are perceived as low-priced and (therefore) low quality, but Haugen notes that fashion is also incredibly important, with people seeking a specific look, or a specific function. Price is always considered, but **fashion is important**, as already shown for example by research among poor migrant workers in China, and changes very fast.

## THIRD DISTRIBUTION CHANNEL FOR CHINESE ICT IN AFRICA: CHINESE TRADERS

— Finally, Chinese traders are increasingly going directly to Africa, and because they are better connected to Chinese factories, can undersell African traders. In a nutshell:

“Ugandan traders have a long history of going to China to buy goods to sell in the markets in Uganda. The dynamics of the relationship seemingly changed after the Chinese built the stadium in Uganda in the late 1980s. Instead of all the Chinese workers returning home after the stadium was completed, many remained in Uganda and became involved in the long-standing Uganda-China trade relationship. They returned to China temporarily to buy cheap Chinese products to sell in Uganda. The only problem is that as Chinese they are able to purchase these goods at a much cheaper price and thus they compete with traditional Ugandan traders. Although members of KACITA and other traders are extremely angry at the privileges they receive from the government, including the ability to repatriate all their profits and the fact that the Ugandan government imposes no restrictions on the amount of goods they import into the country or the Chinese laborers they bring in, there is another side to the story. The other side is that unlike the United States and the United Kingdom, the Chinese allow Ugandan formal and informal traders basically unfettered access to travel to China to purchase goods. According to KACITA officials, “**when we go to Europe to buy products, the Europeans make us feel inferior. This is not the case with the Chinese. They don’t make us feel inferior**” (Lee 2007:35)



Source: Nina Porzucki for NPR  
<http://kunc.org/post/african-trader-and-perils-business-china>



— Chinese traders and shopkeepers started to appear in many developing countries after China's emigration rules were relaxed in the mid-1980s. They became a presence in countries that themselves experienced out-migration, but that were lacking an efficient small-shop infrastructure:

“Chinese traders found the two requirements for success in the *baihuo* (general goods) trade: a great demand for goods that are cheaper than those already on the market, although inferior in quality or style, and few barriers to market entry in the form of business regulations and requirements for capital and knowledge.” (Haugen 2006:642).

— The main characteristics of this kind of Chinese migration and business organization are:

— It is **‘chain migration’ based on family and village ties**. It is only diasporic in a general sense, being mostly individualistic migration driven by economic goals and independent of the Chinese state. E.g. in Cape Verde, Chinese shopkeepers recruit family or co-villagers in China and pay their plane ticket; in exchange, workers are in the shop without pay for one or two years (Haugen 2006).

— Chinese traders bring prices down, because of the **more efficient organization of the supply chain and higher tolerance for lower profit margins** (Haugen 2006, Dittgen 2010)

— The efficiency of the supply chain is due to the fact that they buy from wholesalers or factories in China:

“The ability of Chinese traders to utilise networks rapidly and communicate as a co-national helps explain these traders’ ability to keep costs very low and out-compete their African competitors.” (Mohan 2007).

“Many are independent informal-sector entrepreneurs, and the most visible have been the Chinese traders establishing themselves in marketplaces from Lagos to Lusaka. Using contact networks from home or among other migrants, they establish supply chains which import Chinese goods at a price and volume that existing traders struggle to match.” (Bowman 2012)

— Chinese traders are **extremely flexible** in where they settle, are willing to quickly relocate to new territories (rural areas in the same country, or different countries) when there is too much competition, and to seize opportunities to follow Chinese investments and service the growing Chinese workforce in Africa.

— When they **employ locals**, they do so **not in positions of trust** - usually just as clerks or security guards, but not in charge of money or business decisions.

— Tensions with locals are mostly due to economic matters, e.g. low cost imports that drive local manufacturers and traders out of business, perceived quality of goods, accusation of unfair competition because of alleged backing from the Chinese State, poor labor practices, etc.

**“Many of the tensions relate to economic factors, but are expressed in terms of cultural difference.** As such the level of tensions depends on the degree of impact that the Chinese have on any given African economy.” (Mohan 2007).

— There are two interpretations of the possible consequences of the presence of Chinese traders in Africa:

1. the ‘flying geese’ pattern that considers Chinese traders to be creating a network that can, in the long term, include local actors and provide them with access to credit and resources, until they become the network (Brautigam)



Source: chinadailymail.com/2012/09/18/in-africas-warm-heart-a-cold-welcome-for-chinese/

2. the perspective that sees cheap Chinese goods as killing nascent industries and damaging local businessmen (Dobler 2005)

— A phenomenon often remarked upon by researchers, but completely missing from the public perception of the Chinese in Africa, is the **lack of intra-ethnic cooperation among Chinese of different social classes and from different areas**:

“Studies of Chinese migrants in Africa do not lend consistent support to the thesis that difficult business conditions forge trust and cooperation among ethnic Chinese entrepreneurs. A few scholars have found examples of collaboration within Chinese migrant communities. In a study from Kenya, Aleksandra Gadzala (2009) argues that the high level of inter-personal trust endows Chinese business networks with significant competitive advantages. Close business relations are also common among the Chinese in Zanzibar (Hsu, 2007, p. 122). More commonly, however, micro-level studies of Chinese entrepreneurs in Africa remark on the lack of cooperative behavior: in Mali, the **social fragmentations among Chinese migrants run deep** (Bourdarias, 2009, p. 7); in Namibia, knowledge and business connections are not shared between Chinese shop owners (Dobler, 2008, p. 247); in Cape Verde, mistrust among the Chinese is an obstacle to business innovation (Carling and Haugen, 2008, p. 326). Chinese entrepreneurs in the Democratic Republic of Congo – which the World Bank (2009) ranks second to last in the world with respect to ease of doing business – formed an association in 2002 to collectively manage their relationships with government authorities in Kinshasa. However, **common ethnic origins were not enough to sustain their unity**; differences in interests and intra-ethnic conflicts resulted in the formation of a competing Chinese association in 2006 (Vircoulon, 2009).” (Haugen 2011: 172)”



Source: [www.prospectmagazine.co.uk/magazine/the-web-in-the-palm-of-your-hand/](http://www.prospectmagazine.co.uk/magazine/the-web-in-the-palm-of-your-hand/)

**To conclude**, despite the tension and competition, the relationship between African and Chinese traders dealing in the same goods is to a certain extent complementary. Chinese traders do have a set of advantages (sometimes they benefit from favorable exchange rates and tax refunds given by the Chinese government to promote exports; it is easier for them to locate suppliers in China and conduct business, because of language and familiarity; it is easier for them to travel to many sub-Saharan countries, visa-wise, than it is for Africans to go to China), but so do African traders (they know the local market better so they are less likely to get stuck with surplus or sell at a loss; they can get feedback on samples from locals; they can gain from the poor reputation of Chinese goods, by passing Chinese goods off as European or local). This leads to competition, but also to market segmentation, e.g. in Lome Chinese traders sell cheap goods, whereas African ones concentrate on higher-value goods for middle class, also sourced from China.

## APPENDIX 1: POSSIBLE FIELDWORK

### SUMMARY

The volume of mobile phones brought to Africa by small traders is significant, even though there are no firm numbers. Moreover, “About 25 percent of the mobile phones sold in Africa come from these companies (Huawei and ZTE), the survey said, putting the Chinese in second place behind Nokia.” (MobileThink Analytics, cited by Caixin 2012). Very little research has been done on the distribution chain - formal and informal - that brings all these phones, and increasingly tablets and computers, from China to Africa. Daouda Cissé studies the macro level of Chinese infrastructural investments in Africa, Gordon Mathews the micro-level of African traders in Hong Kong. Several scholars focus on Chinese traders in Africa (see bibliography), but nobody, to my knowledge, specifically on mobile phone traders. **Qualitative fieldwork among Chinese traders in Africa and African traders in China to find out how the details of their trade networks and of the markets they serve** would improve understanding of how a significant part of the African market is organized, what the relationships are between African and Chinese traders, and what the attitude of the traders and their clients is towards brand and towards ICT in general. Moreover, a comparison between two African countries such as Ghana and Ethiopia, with very different ICT sectors and policies, could shed some light on the role that local government and infrastructure play in the diffusion of ICT and the ecosystem that grows around them. Questions would cover issues such as:

- **Trade network logistics:** how traders find suppliers, how they find markets, how they ship devices, when the trade was started, how it has changed, what the biggest challenges are, how many people are involved in their particular network, and what kind of competition they face and from whom.
- **Devices and local markets:** what they sell, where they sell, how they know what customers want, whether they customize devices, whether they offer warranties or any kind of customer services, how user preferences and constraints have changed, and what the situation is regarding tablets and computers.

### COMPARATIVE FIELDWORK IN THREE COUNTRIES

— Fieldwork in this area could be organized around three countries: **China, Ghana and Ethiopia**. Ghana and Ethiopia provide a good contrast for their different colonial history, different languages, and extremely different ICT environments:

1. **China**, to trace the **origins of the goods** (factories in Shenzhen and Guangzhou) and understand how African and Chinese traders differ in their dealings with Chinese factories as well as what kind of **customization** (if any) is done at factory level specifically for Africa. Potential collaborator: Heidi Haugen, who has done her dissertation fieldwork in Guangzhou among African traders.
2. **Ghana**, to look at **how Chinese phones are distributed and positioned** in a market with significant ICT competition, good infrastructure, and a lot of competition among mobile phone brands (including Huawei, that presumably has a distribution chain not based on small traders). Potential collaborators: Jenna Burrell and Lu Jinghao, who as a graduate student did research among Chinese in Ghana and has good contacts already in place.
3. **Ethiopia**, to look at the **impact of Chinese phones from China as well as locally produced ones** (there are apparently some phone factories in Addis Ababa) in a country with **complete government control of the ICT infrastructure**, a monopolistic phone operator, and a national language, Amharic, that requires its own alphabet. Potential collaborator: Woldmariam F. Mesfin? I don't know him personally, but he wrote a good paper for the Institute for Money, Technology, and Financial Inclusion on money and social relations in Ethiopia, based on what seemed like good qualitative fieldwork.

### THE CASE FOR GHANA

(238,535 Km<sup>2</sup> area, 24,965,816 population):

Ghana is one of the most stable economies in Africa, with a steady GDP growth (projected at 8.3% in 2012 and 7.7% in 2013 by the African Development Bank), and a healthy ICT sector.

— emerging as a technology hub in West African (see Acquaye 2012), politically more stable and safe than Nigeria, with serious investments in ICT from the government:

- e-Ghana project funded by the World Bank, for government ICT and to support local ICT and IT-enabled services
- ICT4AD (ICT for Accelerated Development) State Policy, to make Ghana a ‘middle-income, information-rich, and knowledge-based economy’ (Frempong 2010: 1)

— Ghana ranks in the **top ten list of African countries with the fastest Internet speed**, with the average download speed being 4.78 Mbps. Ghana Telecom scored the highest with 5.57 Mbps, while Zain Communications Ltd scored the lowest with 1.69 Mbps ([www.itnewsafrica.com/2012/04/africas-top-ten-countries-with-fastest-internet-speeds/](http://www.itnewsafrica.com/2012/04/africas-top-ten-countries-with-fastest-internet-speeds/)). However, still very low penetration at household level. Most recently, the addition of Glo One and Main One to SAT-3 as undersea cables that have been granted landing rights to Ghana, should improve competition and lower prices.

— Six mobile phone operators (MTN Ghana, Tigo Ghana Limited, Vodafone Ghana, Kasapa Telecom, Zain10, Glo Mobile, this last licensed in 2010 but not operating yet at the time), operating fixed wireless as well as mobile wireless telephone systems; two national fixed-network operators (Frempong 2010: 7). In 2009, there were 15 million mobile phone subscriptions (the population is around 25 million).

— Good telecommunication regulatory environment, especially in terms of interconnection and market entry (Frempong 2010: 6)

— key country in West Africa for Huawei:

— market for Huawei smart phones, tablet PCs, and modems and routers

— as a telecoms solutions provider Huawei has signed a five-year deal to manage the networks of Vodafone Ghana.

### **THE CASE FOR ETHIOPIA**

(1,104, 300 Km<sup>2</sup> area, 84,734,262 population)

Ethiopia is a country of extremes. On the one hand, it is one of the **fastest-growing economies not only in Africa** but in the developing world as a whole and it has made important progress in key human development indicators. On the other, it is an **autocracy where the State controls vast sectors of the economy, in particular in the ICT sector**. It is also a very good friend of China, has hosted the 2nd Forum on China-Africa Cooperation in 2003, and has received Chinese loans and investments in infrastructure and other sectors.

— Economic growth: according to the World Bank, Ethiopia's real GDP has grown an average 11% in the past six years, and it is now the biggest economy in East Africa (bigger than Kenya). Unlike other emerging countries that have experienced such fast growth, Ethiopia is not an oil nor a mineral exporting country. The growth has been accompanied by significant progress in human development indicators, such as primary school enrollment, decrease in child mortality, and poverty reduction, which went from 44% to 30% of households in the past ten years.

— **ICT sector - infrastructure:** complete state control and monopoly in telecommunication services (fixed, mobile, internet), with a mobile network penetration that covers only 11% of the population (Williams 2011). However, the number of subscribers is expected to reach 40 million by 2015 (CapitalEthiopia.com). The mobile phone network is owned by the state, while its operation has been contracted to France Telecom. "Ethiopia's ICT sector remains far behind the rest of the world. It sits at the bottom of the Information Development Index (IDI) of the International Telecommunications Union, scoring 0.97 and placing 154th out of 159 countries in 2010... Ethiopia and Eritrea are the last countries in the world where government owns the entire communications sector." (ResearchICTAfrica.net – Ethiopia: 2010).

— **ICT sector - Chinese investments:** the substantial growth in telecommunications infrastructure that has started in 2005 is due to "a massive investment through a vendor financing loan agreement with China's Zhongxing Telecom Corporation (ZTE) worth US\$1.9 billion." (ResearchICTAfrica.net — Ethiopia: 2010).

— **ICT sector - mobile phone factories.** There are estimates that put the percentage of smuggled mobile phones at 80%, partly because of high import taxes on electronics. The market was ripe for factories to assemble mobile phones, with components usually imported from China. So far there are three such factories:

**Tecno Telecom**, a Hong-Kong based company, has two factories in Ethiopia, with Chinese managers and Ethiopian workers. They have a capacity of 200,000 units per month, and produce 13 models, including a smart phone. ([http://www.capitalethiopia.com/index.php?option=com\\_content&view=article&id=1423:tecno-inaugurates-its-second-factory&catid=54:news&Itemid=27](http://www.capitalethiopia.com/index.php?option=com_content&view=article&id=1423:tecno-inaugurates-its-second-factory&catid=54:news&Itemid=27)). "The smart phone (cost) will range between \$339 and \$400... called the Tecno T3, (it) will run on Google's Android 2.3 operating system and will feature the Amharic language, as well as a GPS." (<http://www.itnewsafrica.com/2012/06/ethiopia-to-assemble-their-first-smartphone/>)

**Sami Mobile**, which assembles phones for Samsung.

**Tana Communications** was set up by Ethiopians who had experience in Silicon Valley, initially to produce software that would support Amharic. It then started a factory to assemble mobile phones with parts produced by ZTE in China. Woldeloul Kassa,



one of the founders, says “We approached other companies such as Nokia and Ericsson, but they were not interested. ZTE was already established in Africa, but they didn’t want to take the risk of manufacturing locally, so it worked for both of us.” (<http://www.ezega.com/Communities/Forums/ShowThread.aspx?ID=903&ForumID=19>)

— **ICT sector - entrepreneurship:** in addition to the mobile phone factories, a few initiatives in recent years seem to point at a growth in entrepreneurship in the ICT sector. In March 2012, Mobile Monday Addis Ababa was launched, supported by ICE Addis, an organization dedicated to innovation, collaboration, and entrepreneurship. The Ethiopian branch of dot (Digital Opportunity Trust) was established in 2005 and it provides, among other programs, ICT training to youth. In 2009, Ethiopia also started building an ICT Park called Technopolis, similar to the one being built in Kenya. The first phase of construction is expected to finish this year (<http://www.theafricareport.com/2012022451709456/technology/ethiopia-launches-ict-park-after-kenya.html>). In 2011, an ICT association for professionals in information technology, communication technology, and broadcasting technology was formed, with financing from Google (<http://www.ezega.com/news/NewsDetails.aspx?Page=news&NewsID=2743>)

— **Second-hand ethnography:** some local reactions to Chinese mobile phones, and the Chinese presence in the telecommunication sector, from [http://mediaethiopia.com/photoessay/Chinese\\_and\\_Indian\\_Presence\\_in\\_Ethiopia\\_2010\\_3.htm](http://mediaethiopia.com/photoessay/Chinese_and_Indian_Presence_in_Ethiopia_2010_3.htm) (original spelling retained):

**“Q. What do you think about the CDMA wireless network the Chinese built in Ethiopia?”**

1. About the Chinese mobile technology, what I can say is for many people cell phone means a lot. People stand in que for a day or two at the gates of ETC to subscribe. Honestly, very little is known on why every time there is a mobile network failure. For sure, its the Chinese technology, but the last time we had network failure, it was because of Nokia Ethiopia, not the Chinese. *Consultant, Yrs 52.*
2. In general ordinary people even the Weyalas complain about the Chinese when the mobile network fails. And yet again, everybody seems to appreciate what they have done to improve the connection in places like Awassa, Gondor, Bahir Dar and all regional towns. They still have problems but it is improving. *Pharmacist, Yrs 35.*
3. No one would dare to compare the results the Chinese people showed on the construction of roads in relation to mobile network. Lots of people are dissatisfied with the mobile network problems. Every new subscriber would have a big difficulty of getting connected for few months after use. *Businessman, Yrs 40.*

**Q. What do you think about the Chinese and Indian presence in Ethiopia?**

1. Chinese have introduced good work ethics and hard work. However, they are still solely focusing on their own interest. Furthermore, the Indians are believed to be interested in nothing and no one but themselves. *Economist, Yrs 30.*
2. Chinese are greatly appreciated for the experience and knowledge transfer especially on the real estate domain. Their presence has ignited and transformed construction of all sorts in Ethiopia. As for the Indian, on top of their poor quality of services and goods, they don’t even spend they money in Ethiopia. *Consultant, Yrs 52.*
3. I think the Chinese and Indians are just another loaded ferengies (foreigners); *Listro (Shoe Shiner), Yrs 15.*
8. Chinese — Fake / poor quality of goods. Indian — dominator and competitive *Civil Servant, 45 yrs*

## APPENDIX 2: CHINESE TELECOM INVESTMENTS IN AFRICA

COUNTRY	BACKBONE Solutions Huawei	BACKBONE Solutions ZTE & Others	LAST MILE Solutions Huawei	LAST MILE Solutions ZTE & Others
<b>Angola</b>	2011: setting up the national backbone for Angola's operators in wireless technology and fourth generation network with funding from China's EXIM Bank ( <i>Evaluating China FOCAC commitments in Africa</i> )	2008: optic fiber backbone, ZTE ( <a href="http://grupoemergentes.files.wordpress.com/2011/08/6.jpg">http://grupoemergentes.files.wordpress.com/2011/08/6.jpg</a> )	nd: cooperation framework agreements with Angola Telecom and MStelcom (HW). 2012: Movitel has signed a contract with Huawei for the supply of a LTE network ( <a href="http://www.cellular-news.com/story/53247.php">http://www.cellular-news.com/story/53247.php</a> )	2002: Angola Telecom Network Expansion, Alcatel Shanghai Bell ( <i>Williams 2011</i> ). 2005: new fixed line network, ZTE ( <i>Williams 2011</i> )
<b>Benin</b>	nd: MTN Fibre Optic Backbone project ( <a href="http://www.jaimaigroup.com/projects-executed/">http://www.jaimaigroup.com/projects-executed/</a> )			2004: GSM national network, ZTE ( <i>Williams 2011</i> )
<b>Botswana</b>			nd: contracts with BTC and Orange (HW)	
<b>Burkina Faso</b>				
<b>Burundi</b>			2004: Burundi GSM mobile telecommunication ( <i>Williams 2011</i> )	
<b>Cameroon</b>	2010: national fibre backbone (with preferential loan from PRC) ( <a href="http://www.telecompaper.com/news/huawei-helps-cameroon-roll-out-fibre-backbone">http://www.telecompaper.com/news/huawei-helps-cameroon-roll-out-fibre-backbone</a> )			
<b>Central African Republic</b>				2005: mobile and fixed networks, ZTE ( <i>Williams 2011</i> )
<b>Chad</b>				
<b>Comoros</b>				
<b>Djibuti</b>				
<b>DR Congo</b>			2006: Tigo's equipment supplier; trying to win Vodacom contract, but unclear if succeeded ( <i>Draper 2010:112</i> )	2001: China-Congo Telecom Network, ZTE ( <i>Williams 2011</i> )
<b>Equatorial Guinea</b>				
<b>Eritrea</b>				2005: fixed telecom network rehabilitation, ZTE ( <i>Williams 2011</i> )
<b>Ethiopia</b>	2006: Fiber optic cable, financed by Chinese government (loan?), implemented by Huawei, ZTE, and Alcatel Shanghai Bell (Cisse, 2012)	2007: fiber transmission backbone, ZTE ( <i>Williams 2011</i> )	2006: upgrade of GSM network ( <a href="http://www.newsecuritylearning.com/index.php/feature/75-chinas-mighty-telecom-footprint-in-africa">http://www.newsecuritylearning.com/index.php/feature/75-chinas-mighty-telecom-footprint-in-africa</a> )	2003, 2007: expansion mobile network capacity, ZTE ( <i>Williams 2011</i> )
<b>Gabon</b>				
<b>Gambia</b>			2005: CDMA network for Gamtel ( <i>Williams 2011</i> )	
<b>Ghana</b>	2006: National Fiber Backbone Project ( <i>Williams 2011</i> )		2011: 5-yr contract for Operations and Maintenance of the Vodafone Mobile, Microwave, SDH, and Fixed Switching network ( <a href="http://wirelessfederation.com/news/33277-vodafone-ghana-huawei-ink-five-year-managed-service-deal/">http://wirelessfederation.com/news/33277-vodafone-ghana-huawei-ink-five-year-managed-service-deal/</a> )	2005: CDMA network for Kasapa Telecom, ZTE ( <i>Williams 2011</i> ). 2007: communication system for security agencies, ZTE ( <i>Williams 2011</i> )
<b>Guinea</b>				
<b>Guinea Bissau</b>				
<b>Ivory Coast</b>				2006: agreement for network construction, ZTE - unclear if it ever went through ( <i>Williams 2011</i> )
<b>Kenya</b>	2007: fiber-optic cable to be connected to undersea cable in conjunction with ZTE and Sagem ( <a href="http://www.columbia.edu/itc/sipa/nelson/newmediadev/china.html#chinaafrica">http://www.columbia.edu/itc/sipa/nelson/newmediadev/china.html#chinaafrica</a> )	2007: fiber-optic cable to be connected to undersea cable in conjunction with ZTE and Sagem ( <a href="http://www.columbia.edu/itc/sipa/nelson/newmediadev/china.html#chinaafrica">http://www.columbia.edu/itc/sipa/nelson/newmediadev/china.html#chinaafrica</a> )	2004: Huawei won a US\$34 million bid from Kenya's biggest mobile operator SAFARICOM to reconstruct and update SAFARICOM's Intelligent Network. (HW)	
<b>Lesotho</b>				2007: rehabilitation of telecom agricultural network - agreement, unconfirmed, ZTE ( <i>Williams 2011</i> )
<b>Liberia</b>				
<b>Madagascar</b>			2005?: 100% share of the mobile communications equipment market in Madagascar with Huawei's GSM, CDMA, intelligent network, and DSLAM products (HW)	
<b>Malawi</b>				2005: rehabilitation CDMA network - agreement, unconfirmed, ZTE ( <i>Williams 2011</i> )

COUNTRY	BACKBONE Solutions Huawei	BACKBONE Solutions ZTE & Others	LAST MILE Solutions Huawei	LAST MILE Solutions ZTE & Others
<b>Mali</b>				
<b>Mauritius</b>			2004?: collaboration with all telco providers: Mauritius Telecom (communications equipment including 3G, voice, IP and video products); MTML, 2004 contract worth USD17 million. Huawei also provides CellC with a high-end IP network and value added services. (HW)	
<b>Mozambique</b>			2011: 4-year agreement with Vodacom to deploy about 400 new 2G base transceiver stations and 200 3G cell towers ( <a href="http://www.globaltelecomsbusiness.com/Article/2939243/Regions/25185/Vodacom-Mozambique-to-upgrade-network.html">http://www.globaltelecomsbusiness.com/Article/2939243/Regions/25185/Vodacom-Mozambique-to-upgrade-network.html</a> ). Previously, with TDM, Equipment including CDMA, IN, optical transmission and datacom products; partnered with the local fixed network operator, TDM. (HW)	
<b>Namibia</b>			2005: CDMA products (?); 2012: LTE 4G deployed for MTC. (HW, <a href="http://telecom.org.in/namibia-lte-mtc/182/">http://telecom.org.in/namibia-lte-mtc/182/</a> )	
<b>Niger</b>				2001: 51% ownership of SONITEL, state telco, ZTE (Williams 2011)
<b>Nigeria</b>	2005: supply of suburban's national optic backbone networking solutions, equipment and services (HW)		2002: National Rural Telephony Project, with ZTE and ASB (Williams 2011); 2006: US\$100 million contract for CDMA network for Nigeria Multilinks and with Starcomms Nigeria Limited for mobile broadband ( <a href="http://www.columbia.edu/itc/sipa/nelson/newmediadev/china.html#chinafrica">http://www.columbia.edu/itc/sipa/nelson/newmediadev/china.html#chinafrica</a> ). 2010: NFN Mobile softswitch for Zain (Cisse 2012) 2012: deploy a new mobile network for Nigeria's Vodafone with a new TDD (time-division duplexing) variant of LTE.	2002: construction, national rural telephone project, ZTE, Huawei and ASB (Williams 2011)
<b>Republic of the Congo</b>	2011-2012: Fiber optic cable, with Alcatel Shangha Bell ( <a href="http://www.chinadaily.com.cn/cndy/2012-06/29/content_15533978.htm">http://www.chinadaily.com.cn/cndy/2012-06/29/content_15533978.htm</a> )			
<b>Rwanda</b>				
<b>Sao Tome</b>				
<b>Senegal</b>			2007: built e-government network (Williams 2011)	
<b>Seychelles</b>			nd: Huawei has partnered with the local fixed network operator, TDM, for three years (HW)	
<b>Sierra Leone</b>	2012: installation of fiber-optic cable for internet connection (financed with a \$15 million loan from China (Taylor. Also <a href="http://www.focac.org/eng/zxxx/1962384.htm">http://www.focac.org/eng/zxxx/1962384.htm</a> )		2005: CDMA fixed wireless network for SierraTel; 2006: upgrade rural telecom network (Williams 2011). 2011: Contract with Bharti AirTel Africa to expand 2G and 3G network infrastructure ( <a href="http://news.sl/drwebsite/publish/article_200517956.shtml">http://news.sl/drwebsite/publish/article_200517956.shtml</a> )	
<b>Somalia</b>				
<b>South Africa</b>			2008: W-CDMA expansion (Cisse, 2012). 2012: Deploy ultra-broadband network access for Telkom South Africa	2010: GSM/3G expansion, ZTE ( <a href="http://grupoemergentes.files.wordpress.com/2011/08/6.jpg">http://grupoemergentes.files.wordpress.com/2011/08/6.jpg</a> )
<b>South Sudan</b>				
<b>Sudan</b>				
<b>Swaziland</b>				

COUNTRY	BACKBONE Solutions Huawei	BACKBONE Solutions ZTE & Others	LAST MILE Solutions Huawei	LAST MILE Solutions ZTE & Others
<b>Tanzania</b>		2012: National ICT Broadband Backbone Project (NICTBB) (US\$170 million as concessionary loan from China and US\$30 million from the Tanzanian Government. Built by International Telecommunication Construction Corporation (CITCC) of China ( <a href="http://www.telegeography.com/products/commsupdate/articles/2012/07/02/movitel-in-talks-to-secure-tanzanian-nictbb-bandwidth/">http://www.telegeography.com/products/commsupdate/articles/2012/07/02/movitel-in-talks-to-secure-tanzanian-nictbb-bandwidth/</a> )	2010: mobile phone network infrastructure technologies to Hits (local telco) ( <a href="http://www.balancingact-africa.com/news/en/issue-no-541/telecoms/tanzania-huawei-sues/en">http://www.balancingact-africa.com/news/en/issue-no-541/telecoms/tanzania-huawei-sues/en</a> )	
<b>Togo</b>				2005: expansion and upgrade of GSM network for Togo Cellulaire, ASB (Williams 2011)
<b>Uganda</b>	2008: national fibre optic transmission backbone financed by EXIM Bank loan, World Bank and other donors (Evaluating FOAC commitments to Africa report)		2006?: strategic partner of MTN and UTL and one of the largest telecom equipment providers in Uganda (HW)	
<b>Zambia</b>	2008: national fibre optic for Zamtel ( <a href="http://www.balancingact-africa.com/news/en/issue-no-428/internet/huawei-adds-zambia-s/en">http://www.balancingact-africa.com/news/en/issue-no-428/internet/huawei-adds-zambia-s/en</a> )	2006: fiber-optic lines ZTE (Williams 2011)	nd: equipment for Zambian telecom operators, cooperation (?) with Zambian operators such as Telecel, MTN, Celtel and Zamtel (HW)	
<b>Zimbabwe</b>			2004: Telecom equipment supplier (Williams 2011). Partner of Tel*One (HW), NetOne, Telecel and Africom ( <a href="http://www.newsecuritylearning.com/index.php/feature/75-chinas-mighty-telecom-footprint-in-africa">http://www.newsecuritylearning.com/index.php/feature/75-chinas-mighty-telecom-footprint-in-africa</a> )	

n.d.= no date. HW = Huawei website ([www.huawei.com](http://www.huawei.com)). The data in this table was collected from different sources, with different levels of reliability (for example, it is sometimes difficult to ascertain if an announced project really took place, even when discussed in the press as if it had. See Deborah Brautigam's website *China in Africa: The Real Story* ([www.chinaafricarealstory.com](http://www.chinaafricarealstory.com)) for examples of press stories about China in Africa that are not quite what they seem. Finally, note that the data in the table is cumulative, so for example, a contract started in 2006 might have run out by 2008.



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