

# Exploiting Mobile Technology in the African Urban Low-Income Informal Music Industry

Jussi IMPIO<sup>1</sup>, Mokeira MASITA-MWANGI<sup>2</sup>, Lucy MACHARIA<sup>3</sup>, Pauline GITHINJI<sup>4</sup>, Moses SITATI<sup>5</sup>

<sup>1</sup>*Nokia Research Africa (NoRA), Nokia International OY – Kenya, P O Box 29, Nairobi, 00502, Kenya, Tel: +254 20 3862243*

*Email: [<sup>1</sup>jussi.impio, <sup>2</sup>mokeira.masita-mwangi, <sup>3</sup>lucy.macharia, <sup>4</sup>pauline.githinji, <sup>5</sup>moses.sitati]@nokia.com*

**Abstract:** Music making and distribution is a large scale phenomenon in urban informal settlements in Africa. The talent, vision and passion of the musicians living in the African slums would be appreciated by the music lovers around the world if only the artists had a chance to practice as well as possibilities for recording and sharing. Furthermore this would contribute significantly to livelihoods of the people living in the slums and to economic development of Africa as a whole given the estimates of the contribution that the informal music industry is already making. The obstacles discussed we believe can partly be overcome by creative thinking and new technology and we hope that this report works as a source of knowledge and inspiration for researchers and developers to develop meaningful services and support mechanisms for young musicians living in the slums around the world.

## 1. Introduction

This paper is based on a recent study of the informal music industry in Africa carried out by Nokia Research Africa (NoRA). The research is a combination of extensive desk studies and more than 220 interviews and observations which took place in Huruma between June and October 2008. Huruma is a slum of 260,000 people in Nairobi, Kenya. We created an overall view to the meaning of music among the general public in the slum and the scale of music as self expression and a form of micro entrepreneurship. Later we focused on upcoming musicians and other key players in the informal music industry.

How do the study results apply to the other slums in Africa? Indeed there are big differences between the slums in size, climate, political, cultural, and religious atmosphere. However there are also numerous common factors between the slums: high population density, young age profile, lack of sanitation and clean water. There is also high unemployment, low access to information and variety of health and social problems. The means of livelihood and enjoyment are also very similar in most of the slums. Very distinctively in most parts of Africa, music is one of the most important sources of information, hope and uplifting in spiritual and more earthly form. NoRA also plans to continue studying the informal music industry in Africa through comparative studies in other urban slums in Africa, as well as testing certain existing mobile music technologies amongst upcoming musicians to establish their suitability, whether they can potentially address some of the drawbacks in the informal music industry as unearthed by the research and hence what other gaps exist that require such technologies to be tailor made or other mobile music products be developed.

## 2. Music as a way of life

Music is an integral part of the African social life and communication. Although not captured in GNP (Gross National Product) or HDI (Human Development Indicator), among other creative arts, it makes a significant contribution in enhancing quality of life. This is similar to the objectives of many other development initiatives. Music is also a revenue earner thus improving incomes and living standards. In addition it is a source of identity e.g. nationality, community, work, language, politics, religion, etc. It strengthens solidarities and plays a unification role across narrowly divisive groupings. Music acts as medium of dialogue and, as a vehicle of communication giving voice to the voiceless.

### 2.1 Source of livelihood

Apart from entertainment, education, and personal expression and status in the community, music-making is an increasingly popular means of livelihood. This is because the early stages of music making do not require a lot of professional training. A market exists for upcoming artistes since local audiences want music that they can relate to and identify with. As such, local music and local artistes are very popular in urban slums. They speak the local language and they understand the life issues and experiences. Specifically, the case studies of upcoming musicians in Huruma clearly demonstrate that it is possible for music to provide a good source of livelihood even with a relatively small audience. This is due to the low standard of housing and generally low cost of living in the urban slums in Africa, but also because of the high appreciation of musical talent and a well told story.

From the in-depth studies of upcoming musicians in Huruma, income earned from music ranges between EUR 50 to EUR 600 per month while monthly expenditure is in the range of EUR 95 to EUR 410. This is largely income earned from live performances at concerts, clubs or shows for which the musicians get paid and is significantly better as compared to the average monthly incomes of other slum dwellers (EUR 50 to 75) whose occupations vary from small scale enterprise, casual labour, artisans, some in formal employment like watchmen, domestic workers, clerks and waiters. Table 1 shows one upcoming musician's income and expenditure.

The highest possible income as shown is lower than the estimated lowest possible expenditure. Because these are estimates given that the sources of income are very irregular and inconsistent, it is possible that this musician could make much more or probably even much less than has been indicated. Hence prioritization often has to take place when income is lower, meaning that not all needs will be catered for in that particular month. For this musician, his main priorities ranking number one on his list are food, rent, electricity, and support to family. Next are expenses on clothes and grooming, followed by airtime, transport and internet browsing. Finally if any money is left over he spends it on his music college fees and music materials. Based on basic needs alone, (first priority which totals to EUR 105 to 107) it is possible for this musician to earn a living from his music alone which brings in approximately EUR 93 to 116 in a month.

From a macro point of view, development of the music industry in Africa can make several contributions to economic development, social change, political cohesion and cultural progress. With sufficient scale, this can ultimately include diversification of economic activities away from primary commodities which have dominated the past several decades. Based on our studies and existing statistics of the formal side of the music industry, we estimated that the size of the informal music industry in Africa is annually between 250 – 350 million USD. This includes the payments musicians receive from live performances and directly from the CD/C-cassette sales. This however does not include markets of pirated CDs and cassettes which is the main way in which the music of informal artists is also being distributed but difficult to estimate in size due to the underground and illegal nature of the whole trade hence the size of the industry is likely much larger than this estimate. The table

below also shows the estimated size of the industry in terms of number of people working in various capacities.

*Table 1: Upcoming Musician's Monthly Income and Expenditure*

Source of income	Amount (EUR)	Expense Item	Amount (EUR)
Live performances about 4 per month @ EUR 200-250; save 10% for servicing band, 20% for band extras i.e. those hired to perform with them, then 70% split amongst 6 band members	93 to 116	Family support for siblings' education	48
Odd jobs (done mostly as a group so split between about 5 people) EUR 150 to 200 per job	60 to 80	Internet browsing at cyber cafe	6 to 12
		Transport (bus fare)	20
		Airtime for phone	30 to 40
		Hair grooming	6
		Rent	25
		Electricity	2 to 4
		College fees (music school)	24
		Clothes	20 to 30
		Food	30
		Music materials (strings for guitar, books, etc)	5
<b>TOTAL</b>	<b>153 to 196</b>		<b>216 to 244</b>

Source: NoRA Study of Informal Music Industry in Africa [2]

*Table 2: Estimated size of informal music industry – Africa*

<b>Mainstream Urban Artists:</b>	~ 2,000 (50 per country)
<b>Approx. No. of Urban Artists Recording at any given time</b>	> 150,000 (Over two-thirds recording with 'bedroom' producers)
<b>Musicians interested in Recording</b>	~ 250,000/Week
<b>Independent Musicians (Church singers, cover bands, small groups, etc)</b>	~ 50,000,000 (5 for every person interested in recording) (5% of population)
<b>Performing Musicians:</b>	Typically same as mainstream artists, recording artists and recognized independent musicians
<b>Core Employment in Urban Music Industry</b>	~ 200,000 (Artists, songwriters, producers, managers, etc )

Source: NoRA estimates based on industry interviews, October 2008 [2]

Desk studies also reveal more insights related to maturity of the music industry as shown in Table 3 as pertains to the performance industry as well as recording industry.

Table 3: Music industry maturity – Africa

	<b>Established industry</b>	<b>Emerging/ previously established industry</b>	<b>Embryonic industry</b>	<b>Craft-like scale</b>	<b>Unclear evidence of industry</b>
<b>Performance Industry</b>	Congo (Brazzaville), Congo (DRC), Kenya, Mali, Senegal, South Africa, Tanzania	Botswana, Burkina Faso, Cameroon, Gambia, Equatorial Guinea, Guinea Bissau, Ivory Coast, Madagascar, Zambia, Zimbabwe	Benin, Cape Verde, Central African Republic, Ghana, Mauritius, Mozambique, Namibia, Uganda	Angola, Niger, Seychelles, Togo, Malawi, Gabon, Swaziland	Burundi, Chad, Djibouti, Ethiopia, Eritrea, Lesotho, Libéria, Mauritânia, Rwanda, Sierra Leone, Somália, Sudan
<b>Total</b>	<b>16 %</b>	<b>24 %</b>	<b>17 %</b>	<b>16 %</b>	<b>27 %</b>
<b>Recording Industry</b>	South Africa, Zimbabwe	Cameroon, Cape Verde, Ivory Coast, Kenya, Madagascar, Mali, Mauritius, Senegal, Tanzania, Zambia	Benin, Botswana, Burkina Faso, Central African Republic, Congo (Brazzaville), Congo (DRC), Ghana, Guinea Bissau, Equatorial Guinea, Malawi, Mozambique, Namibia, Uganda	Gabon, Gambia, Niger, Seychelles, Togo	Angola, Djibouti, Burundi, Chad, Ethiopia, Eritrea, Lesotho, Liberia, Mauritania, Rwanda, Sierra Leone, Somalia, Sudan, Swaziland
<b>Total</b>	<b>3%</b>	<b>26 %</b>	<b>27 %</b>	<b>11 %</b>	<b>32 %</b>
<b>Average</b>	<b>9 %</b>	<b>26 %</b>	<b>22 %</b>	<b>14 %</b>	<b>30 %</b>

Source: UNESCO 2005, The Global Alliance for Cultural Diversity [3]

Key points of interest to note from the above table are:

- In 35% of all Sub Saharan African countries, there is an ‘established’ music industry. This means that there are people actively engaged in music creation and sharing and hence earning a living out of this.
- 66% of countries have not broken through embryonic stage which means that there are certain challenges or constraints that need to be overcome in order for the industry to flourish to an extent that people can make a decent living from music. Some of such constraints are likely to be (hypothetically) technological ones related to the limit or lack of access to suitable devices that can enable and enhance the music creation process.
- 30% of all SSA countries have no evidence of a music industry but this is mainly due to instability/economic position and not because music is not an integral part of the culture and way of life.

## 2.1 Challenges and constraints

Live performance is a key music sharing medium in urban slums. The main problem however with the earnings from live performances at least for upcoming musicians is that they are not regular nor are they consistent. Most upcoming musicians are unable to effectively market themselves to the organizers of these live performances because they have not recorded most of their music hence have no way of demonstrating their talent. They therefore believe that recording their music is crucial – they can market themselves more aggressively for invitations to live performances and also supplement this income with sales of their CDs.

Taking an example of the upcoming musician whose profile on income and expenditure has been discussed says that he and his band have created enough songs to produce two complete albums (about 10 tracks per album). None of this music has been recorded at the moment however due to financial constraints and is not of much use to them in income generating terms. Were they able to produce the 2 albums it would mean that they could sell each CD at about EUR2 within the slums and even up to EUR 10 in higher income neighbourhoods and assuming they were able to sell 50 CDs in the slums and another 50 in upper income neighbourhoods they would make EUR 600 as a band which means that this musician would have an extra EUR 100 to his name enabling him to fully meet all of his expenses as listed. Further with the recorded music they would be able to market themselves more by sending demos to various event coordinators and perhaps get invited to an extra 2 performances in a month meaning this musician would earn an extra EUR 46.5 to EUR 58 and with all the needs or expenses catered for this musician would now be in a position to save some money and plan for the future, maybe re-invest in his music.

Recording music is however a dream not in immediate reach of most musicians due to the high costs involved. Audio recording of a single in the informal music industry costs anything between EUR 50 and EUR 300 while video production for a single costs between EUR 100 and EUR 1000. This is hardly affordable for most musicians living in urban slums.

Many young, upcoming artists would like record their music if only they had the ability and/or could afford it. This is because they strongly believe that recording is the key to success in the music industry. Out of the 42% who have had an opportunity to make music, only 11% of them make use of a recording studio. A majority (82%) express their desire to have their music on record; but as shown in figure 1 below, 89% have not recorded any music at all while 11% have had an opportunity to record. 33% of these cite financial constraint as the main reason why they have not recorded their music.

Whether the Artist Has Ever Recorded His/Her Music



Figure 1: Percentage of music makers in Huruma who have recorded their music

Source: NoRA Study of Informal Music Industry in Africa [2]

Quality of production is another major challenge. In the informal music industry in Africa, most studio houses / producers give very poor quality service to musicians in the production of their music, yet quality is crucial if one wishes to get their music into the mass media. Most of the local music producers have little talent in music production and are often not musically oriented. They are mainly seeking to make quick profits and hence do not have the interests of the artists at heart. That notwithstanding, because the musicians are financially constrained and are unable to afford good recording studios, they have little or no control about the quality of the end product. FM Radio stations are forced to reject large number of CDs from upcoming artistes simply because of poor production quality not because of lack of talent.

### **3. Opportunity for mobile music technologies**

Many upcoming artistes express the desire to produce their own music. Additionally, since experimentation is an intrinsic part of music making, musicians in this informal settlements desire to experiment more with their music so as to fully exploit their potential and come up with something that is of great impact with their audiences. This is however currently not possible in light of the constraints they face, as discussed: Commercially driven producers churning low quality music productions, the financial constraints of the musicians and a lack of their own equipment and instruments.

With the exception of mobile phones which most people own or have access to, majority of the artists in informal settlements have limited access to electronic devices such as computers. This limits their music making in terms of what they can do and how much they can control their music creation process.

There is therefore a gap that could potentially be filled by mobile phones with music making and recording capabilities. There is an existing and increasing appreciation for such mobile tools that can affordably support the artists work by recording and storing music (audio, video) as well as features that can enable sharing. The potential of mobile phones in music creation is also supported by the fact that many musicians are already striving to make use of the phones they currently own in their music creation process and have ideas of what more they could do for their music if they had higher end mobile phones with more features. For example even with the basic devices that musicians in Huruma own, they use the text messaging feature to key in ideas or song inspirations or lyrics that come to them wherever they are. Others whose phones have audio recording capabilities also use their phones to record their songs at the initial stages of creation and play back to themselves to inspire further development and refining. Most of the phones owned by these musicians are low entry phones with limited features hence not much that the musicians can use for their music making; they are limited by the capacity of the phones they own. In addition, the musicians have ideas as to what they would like to have in a phone in future and interestingly they link new features with their music needs. The features mentioned include: Bluetooth, Infrared for sharing / distributing music, audio recorder with long duration recording capability for recording their songs, video recorder for developing their videos, camera for still shots of interesting scenes and locations which they could one day use for shooting their videos, composer for composing tunes and beats, long battery life, large memory and memory backup for storing their music files and downloads, WAP enabled phone for downloading interesting software and music related content from the internet, etc.

Some of these features talked about already exist in higher end mobile phones and it is possible therefore that some of their needs could be met by simply upgrading to a higher end phone if only they could afford it. Some other features such as those that would enable fine-tuning and good quality song to be produced (studio-type equipment) may exist as software (mobile music technologies) that can be downloaded onto a phone and used but many musicians in Africa are not aware of such software and how they work, their phones may not support such software and the software may or may not be absolutely relevant and suitable

for their music creation process. Such technologies would therefore need to be tested and perhaps tailor-made to fit the upcoming African musician.

A multitude of mobile music technologies exist; below we highlight a few of these as uncovered by the desk research:

- Microbe, a compact and powerful music application for all the electronic genres – Microbe is an all-in one electronic music studio for PalmOS© Handhelds. Due to its 8 tracks drum machine, its 2 monophonic synthesizers and 18 effect plug-ins, it can generate a large palette of electronic sounds, rhythms and sequences. [4]
- Bhajis Loops turns your Palm into a portable sequencer and sampler – Bhajis Loops gives a musician everything they need to create compositions on the go, or to play complex arrangements during gigs: a complete sample editor, virtual instruments with wavetable synthesis, pattern editor and sequencer, effects, automation, and even a special mode for live performances. [5]
- miniMusic BeatPad 1.1 – BeatPad is a pattern based sequencer. It provides a simple yet powerful interface for creating musical patterns of various instruments or drum kits, layering these patterns, and performing them on a handheld or exporting them to a desktop/laptop. [6]
- miniMusic NotePad 1.4 – NotePad is a sketchbook for composers and song writers; it is great for music students or hobbyists learning to write and read music; it is also an ideal practice tool for singers and other musicians. [7]
- RhythmPro 1.2 (Drum Machine & Music Metronome for Palm Handhelds) – RhythmPro allows one to create and play own custom drum patterns with real digitized drum sounds on a Palm handheld. [8]
- PocketJam – PocketJam, is a tiny rack of virtual analog synthesizers, a sampler and effects for the Pocket PC. [9]
- AudioBox – Is an all in one virtual recording studio and sound creation tool for the Pocket PC. AudioBox is a complete music composition package with both track and score editing. [10]
- Syntrax (s60) – It has all the modern musician wants when away from the studio. A sequencer, sound synthesis and sample editor all wrapped up in one little package. [11]

Based on the relative size and maturity of the music industry in Africa as has been discussed in this paper, there is potentially a market and opportunity for relevant and suitable mobile music technologies to make a difference in music creation process of young musicians and help overcome their challenges and constraints and in the long run contribute significantly to livelihoods in Africa.

#### **4. Conclusions and further work**

With a better understanding of the informal music industry, music consumption and culture in urban informal settlements in Africa; the findings of this study are expected to begin to inform development of affordable mobile music technologies for the musically oriented but economically marginalized youth in Africa.

With this background information and insights (and continuing related studies) into the informal music industry in urban settlements; it will be possible for various innovations and technologies to be developed for mobile phones so as to extend to the user (music consumer / music maker / music entrepreneur) in an African urban informal settlement either or both incremental and transformational benefits. Additionally, beyond enhancing the work and life of musicians in this part of the world, perhaps we can introduce new and innovative ways of doing things in the music industry.

The diagram in Figure 2 summarizes the Informal Music Industry in Africa. In the centre is the opportunity which can be defined simply as music creation and sharing. There are motivations and supportive factors that can enable the opportunity be realized but at the same time there also exist key challenges that need to be overcome. These are as listed in the diagram and each of these individual aspects presents an opportunity for further in-depth investigation as relates to mobile music technologies.

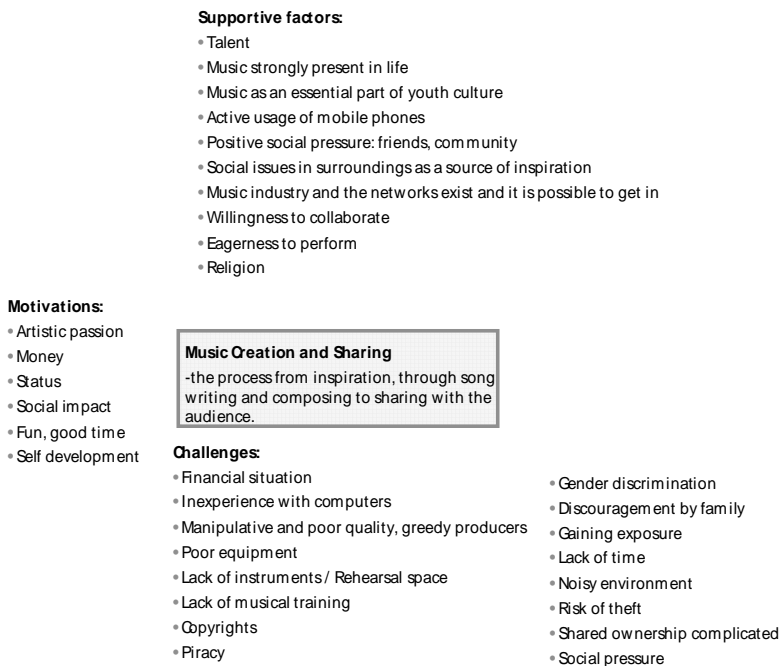


Figure 2: Framework: Informal Music Industry in Africa

Source: NoRA Summary Analysis of Study of Informal Music Industry in Africa [2]

## References

- [1] [http://portal.unesco.org/culture/en/ev.php-url\\_id=26323&url\\_do=do\\_topic&url\\_section=201.html](http://portal.unesco.org/culture/en/ev.php-url_id=26323&url_do=do_topic&url_section=201.html)
- [2] Nokia Research Africa (NoRA). A Study of the Informal Music Industry in Africa 2008.
- [3] UNESCO 2005. The Global Alliance for Cultural Diversity.
- [4] [http://www.chocopoolp.com/mi\\_index.php](http://www.chocopoolp.com/mi_index.php)



- [5] [http://www.chocopoolp.com/bj\\_index.php](http://www.chocopoolp.com/bj_index.php)
- [6] <http://www.minimusic.com/beatpad.html>
- [7] <http://www.minimusic.com/notepad.html>
- [8] <http://innovation-z.com/>
- [9] <http://www.ledset.com/pocketjam/index.htm>
- [10] [http://www.4pockets.com/product\\_info.php?p=58](http://www.4pockets.com/product_info.php?p=58)
- [11] <http://shop.my-symbian.com>