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AgendaKenya

KEEPING THE PROMISE

A PUBLICATION OF THE KENYA YEARBOOK EDITORIAL BOARD

KENYA YEARBOOK EDITORIAL BOARD

NOT FOR SALE

A UNITED KENYA

To guard our independence we must overcome ignorance

In 1963, Kenya had only 151 secondary schools, with an enrolment of 30,120 students, a number that has grown to 10,487 and 3.5 million students

At almost 60 years since independence, only a handful of individuals alive today witnessed firsthand the jubilation that lit up Kenya's onset of self-determination.

It is easy to forget that the progress Kenya has made since 1963 has been aided significantly by the fact that it is a sovereign state, duly enabled to exercise the right to self-determination.

To make the most of the sovereignty and self-determination, Kenyans, and particularly the youth, have a duty to make the country work in progress, to achieve crucial national goals as outlined in key development blueprints. Promulgating the 2010 Constitution was a milestone towards that end.

The majority of Kenyans today may not be too emotionally invested in what may pass as remote or romantic notions, best left for intellectual adjudication by legal minds and scholars of history and political science.

The Founding Fathers, led by the first President of the Republic of Kenya, Mzee Jomo Kenyatta, sought to rid the country of the unholy trinity of poverty, ignorance and disease. This dream, by extension, aimed at draping the citizens of the newly independent Kenya with the dignity they had lost during the imperial rule.

Kenya's Founding Fathers seemed to echo Nelson Mandela's wisdom when he surmised that: "Overcoming poverty is not a gesture of charity. It is the protection of a fundamental human right, the right to dignity and a decent life." Though the fight against poverty is hardly over, Kenya is certainly not where she was at independence.

The philosophy that informed Kenya's education system during colonial times maintained that the African is trained primarily for clerical work. Very few Africans had access to tertiary education by design. Therefore, at the turn of independence, only a handful of Kenyans had attained levels of education commensurate with positions that would soon fall vacant as self-rule kicked in. That being the case, it was imperative that access to higher education be accelerated as a precursor to the Africanisation of Kenya's workforce. Fighting ignorance therefore became one of the top priorities for the newly independent Kenya. Kenya's Founding Fathers, guided by Plato's enduring wisdom–"Better be unborn than untaught, for ignorance is the root of misfortune"–elected to deal a body blow to ignorance.

In 1963, Kenya had 151 secondary schools, with an enrolment of 30,120 students. Today, according to the Ministry of Education records, Kenya has 10,487 secondary schools–8,933 public and 1,554 private–as at 2019. By the year 2020, Kenya had 3.5 million students in both public and private secondary schools. Granted, at independence, Kenya's population stood at 10 million, compared to today's nearly 50 million. Still, the exponential growth of the secondary school sector is evident.

Back in 1964, the University College, Nairobi offered degrees awarded by the University of London. Two years later, the college started offering degrees of the University of East Africa, headquartered at Makerere in Uganda. Today, Kenya has 30 public universities, 30 chartered private universities and a further 30 universities with Letters of Interim Authority. Clearly, no effort has been spared in providing Kenyans with opportunities to overcome ignorance.

> **Lest we forget, Kenya has been the envy of her neighbours, some steeped in perpetual internal conflicts. It is time to leverage on the relative tranquility the country has enjoyed, to build a strong economy**

Nothing stymies productivity across various economic sectors, as does poor health. Yet, at independence, healthcare for Africans was clearly wanting in Kenya. Those who went to school in the early years of Kenya's independence may remember learning about afflictions such as kwashiorkor, beriberi, marasmus and trachoma. These are sometimes regarded as diseases of the poor, which afflicted many Kenyans back in the day. Over time, child mortality and life expectancy have improved in tandem with reforms in the health sector.

Today, Kenya has an elaborate healthcare

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ALSO INSIDE

National Anthem as a rallying point for unity:

Perhaps, an indication of the place God occupies on the list of Kenya's priorities, the opening line of the national anthem seeks blessings upon the land from above. Justice, unity, peace, liberty and abundance follow as the top quests, in that order. The anthem is thus a badge of national identity, sovereignty and pride MORE ON PAGE 3

SMART CITY

KONZA TECHNOPOLIS TAKES SHAPE

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FIRST COHORT OF GRADUATE GDU OFFICERS COMMISSIONED PAGES 12-13

QUOTABLE QUOTES

> "Let one and all arise With hearts both strong and true. Service be our earnest endeavour, And our Homeland of Kenya, Heritage of splendour, Firm may we stand to defend" — Second Stanza of Kenya's National Anthem

NATIONAL COHESION AND PATRIOTISM

UNITING KENYA

Why the 'us-versus-them' narrative is a recipe for chaos

Embracing our diverse cultures is the way to overcome politics of fear

History is replete with records of ethnic, cultural, religious and racial intolerance, and negative profiling. Prof Mariana Tepfenhard of the Department of History at Monmouth University in the US, in her 2013 paper on Causes of Ethnic Conflicts, avers that: "Many states are made up of numerous ethnic groups, defined as groups that share common heritage, interests, beliefs, historical experience, and cultural traits."

In its wider sense, human diversity covers all possible differences in experience and expression, based on, race, ethnicity, gender, religion, language, age or disability. Whichever reason is assigned to any form of discord among people groups, the nobler human mission, as aptly said by Mahatma Gandhi, is to summon; "our ability to reach unity in diversity (as this) will be the beauty and the test of our civilisation".

The danger of disunity and suspicion among groups of people has left behind a trail of bloodletting across history. It happened when Hitler's forces invaded Poland in 1939, in Nigeria's Biafra War of the late 1960s till 1970, in Rwanda in 1994 and in Sudan between 1983 to 2005. Kenya had its own misadventure that almost imploded into an ugly faux pas in 2007. Such are reckless experiments to be avoided at all cost.

Yet, as if ingrained in the human DNA, there is always justification–however warped–for a community, race or group of persons to arrogate itself status superior to its cognates, or to invoke spurious logic to demean and assail others. In any manifestation of human conflict on the basis of dissimilarity, there is a group or groups of people subjecting others to subordinate status and isolating them.

In reality, every new cultural or religious expression and encounter is a study in the intricate, but enthralling nature of human diversity and indeed a cue to prompt the gleaning of authentic perspectives and divergent sensibilities that comprise the totality of humanity. Besides being a rich mosaic of traditions, heritage and viewpoints, human diversity is fodder for the enrichment of life and its endless lessons, options and opportunities.

When diverse cultures, and by extension new languages interact, the loaning of terminology that follows takes a natural course. English, for instance, is awash with many loanwords from across the world. Renowned lexicographer and former associate editor for the Merriam-Webster, Kory Stamper, estimates that English has words derived from 350 odd cultural expressions, whose total linguistic contribution to it stands at about 80 percent.

From Hungarian goulash and Kiswahili's safari, to Japanese Sodoku and Spanish siesta, the English experience is as decked as it is embellishing. Loaning of words across languages confirms just how cross-cultural influences enrich people's worldviews. The same goes for cultures and distinct ethnic identities within a given jurisdiction, Kenya included.

According to a UNESCO document of 2021–The Infinite Reservoir: Cultural Diversity for Shaping the Future we Want–"Culture, in all its diversity, is an infinite reservoir from which we gain our knowledge of the world and which we tap into to find solutions to contemporary issues. ... Our cultural diversity is our greatest strength. It is the ultimate renewable resource for humankind and societies. As such, valuing diversity and protecting and promoting cultures as assets for societies is imperative."

Kenya has upwards of 43 people groups, usually referred to as tribes, itself an unflattering term connoting atavism. Pioneering anthropologists, wh0 mapped Kenya's tribal groups for colonial domination, profiled each community and pigeonholed them into hypothetical cocoons. That profiling, which aided the divide-and-rule governance of the natives, has persisted since. Prior to the advent of colonialism, Kenya's and indeed Africa's various communities had devised formulas of cohabiting. Yes, human movement was limited due to lack of motorised transport back then, but communities that neighboured each other found ways of interacting with and even benefitting from each other.

However, to avoid an uprising of clusters of communities against colonial masters, it became necessary to drive a wedge between them through causing inter-ethnic strife. Some communities were adjudged loyal and rewarded for it, while others were declared unreliable and were equally demonised for it. Unfortunately, the colonial tags, left behind by the era, were never really erased from Kenya's national psyche, in spite of efforts by successive leaderships to preach unity. The post-election cataclysm of 2007 is the clearest indicator that unifying Kenyans remains an incomplete task of nation building that should be re-embarked on with greater focus, different tack and more zest.

It is important and timely to re-imagine possible solutions to the unity challenge in Kenya. For starters, we can borrow a leaf from our next-door neighbour. Tanzania has over 120 ethnic groups, yet the dilemma of disunity on account of tribal identity is minimal. Perhaps, adopting Kiswahili (notwithstanding its downsides in practice) as a dignifying language and deliberately embracing a humane manner of gelling across the breadth and width of the land at the turn of Tanzania's independence, helped in building a deeper sense of homogeneity and tolerance. Chapter 10 of Kenya's 2010 Constitution features a raft of national values and principles of governance that offer a starting point of negotiating where good examples should start. If public officers inspired confidence among the rest of Kenyans, by observing the following, perhaps the journey of curing disaffection, which may cause suspicion, and by extension, strife, will begin;

Thankfully for Kenya, and in keeping with Article 1 of the 2010 Constitution:

(1) **All sovereign power belongs to the people of Kenya and shall be exercised only in accordance with this Constitution.**

(2) **The people may exercise their sovereign power, either directly, or through their democratically elected representatives.**

(3) **Sovereign power, under this Constitution, is delegated to the following State organs, which shall perform their functions in accordance with this Constitution --**
- **(a)** **Parliament and the legislative assemblies in the county governments;**
- **(b)** **the national executive and the executive structures in the county governments; and**
- **(c)** **the Judiciary and independent tribunals.**

(4) **The sovereign power of the people is exercised at --**
- **(a)** **the national level; and**
- **(b)** **the county level.**

In the long run, it might be necessary to change tack in our efforts to debunk caustic myths that cast aspects of certain community's belief systems, penchants and mores in diabolical light. The falsehoods and hyperboles on supposed weird traits of various Kenyan communities, spewed willy-nilly, feed into inter-ethnic intolerance, needless suspicions and strained relationships. A systematic and wholesome approach to mending this downside should be treated as a matter of priority. Perhaps, it is time to consider how school curricula in favour of enhanced integration of Kenya's communities can bolster cohesiveness. Perhaps, we need to rethink our legislation on matters ethnic profiling and fanning tribal-bound dissension. This is a conversation that needs to be pursued and guided until a consensus is achieved.

On the same score, it is important to address the question of disunity on account of class and status. This is critical because a 'we-versus-them' stance, pitting those who are perceived to have, against those who do not have, is a sure recipe for constant social tensions. Constantly working citizens' emotions to frenzies in order to foment such a view for political expediency is uncivil and narcissistic. The same goes for religious, disability, racial or gender intolerance. For social cohesion to bear fruit, there is a need to exercise temperance, restraint and level-headedness among leaders across cadres.

Kenyans are a resilient people. Indeed, our ability to bounce back after crises is laudable. This became evident during the 1998 terrorist bombing of the American Embassy and the adjacent buildings in Nairobi.

The same spirit was visible during the Westgate Mall terrorist attack of 2013, and several times before and after. Clearly, there is an underlying camaraderie and esprit de corps worth harnessing for building bridges and solidifying national unity.

We celebrate wildly when our world-class athletes bag medals in far-flung lands and laud our sports teams–especially rugby, volleyball and sometime back, cricket–what makes a mark at the global arena. During such moments, our ethnic identities evaporate and our common bond fuses into spontaneous jubilation until some loose-tongue reminds Kenyans about the foibles of this or the other ethnic group.

Perhaps, we need to celebrate the very traits that we often lampoon about communities other than our own. For instance, why should we not recognise and appreciate the supposed flamboyance of the lakeside folk as we laud their counterparts from Central Kenya for their propensity for entrepreneurship?

We should also consider the athletic prowess of our brothers and sisters from the Rift, as we celebrate the Maa community for claiming what we may loosely call the Kenyan identity, particularly to the outside world, because of their preferred mode of dress. If we look keenly, there are strands of beautiful cultural gems in each of our 40 plus communities that we should repackage and rebrand ourselves with.

If we deal with the various manifestations of ethnic jaundice, we suffer as a nation. If we purpose to sift through our cultural, linguistic, values and beliefs, we can build a rich blend and formidable brand of a people, defined by colour and substance. The capital for such a brand is our diversity. As aptly noted in the UNESCO's document quoted elsewhere in this chapter, "... there is the need, especially in the intangible cultural heritage, to focus on the significance of traditional knowledge in the consolidation of communities and the wellness of the general society". As we acknowledge so, we should not forget forms of diversity mentioned earlier in the chapter, other than cultural, that weaken our common bond as a people. Unity in diversity and enhanced inclusivity, away from ethnic slurs, can only make us stronger and more cohesive. ■

ONE COUNTRY, ONE FLAG

National anthem is a prayer for what Kenyans hold dear

Emblems affirm a kindred affinity among a group of people in pursuit of a common set of aspirations

Anthems and flags are symbols that hem in allegiance among communities that subscribe to a common cause, or a set of shared goals. While an anthem is a musical composition that extols the values, heritage and the driving spirit of a society, a flag is an insignia meant to express commitment to mutual interests and pursuits. Simply put, anthems and flags are emblems that affirm a kindred affinity among a group of people in pursuit of a common set of aspirations.

Anthems and flags are also instruments of unification. They are couched to breathe life and purpose to the soul of a community bound by a common cause.

Before we venture any further into the nitty-gritty of the origins and social significance of anthems and flags, let us interrogate where the two trace their origins.

The anthem is essentially a 19th century phenomenon, with historical roots in Europe. The earliest national anthem—the Wilhelmus—traces its origins to the Netherlands. Though written during the Dutch Revolution of 1568 to 1572, the song became the official national anthem in 1932.

Melodies of most anthems easily agree to marching or hymnal routines. That is how many of anthems are delights of structured ensembles, especially brass bands. Anthems are usually translated into multiple versions, depending on the language map of a given nation or jurisdiction they serve.

The Swiss Psalm, Switzerland's national anthem, for instance, is available in four languages - French, German, Italian and Romansh. The four versions cater for Switzerland's four official languages. Meanwhile, and closer home, the case of South Africa's national anthem is distinctly peculiar. In a single composition, five of South Africa's 11 national languages fuse into a national ensign designed to celebrate the country's homogeneity.

Back home, Kenya's national anthem is available officially in both Kiswahili and English. The East African Community anthem, routinely intoned soon after the national anthems of the respective member states, is rendered in Kiswahili, a common denominator across the region.

Meanwhile, the African Union's anthem has six renditions in Arabic, English, French, Portuguese, Spanish and Kiswahili. The versions are in recognition of the continent's most dominant languages.

Still on anthems, very few national canticles are works of world-renowned composers, aside from German's Das Lied de Deutschen, a composition by Joseph Haydn and Austria's Land der Berge, Land am Strome, credited to Wolfgang Amadeus Mozart.

In hindsight, most national anthems are inspired by circumstances organic to user jurisdictions. Most hardly exude exoticism, perhaps to imbue in them an enduringly universal appeal. And this, for a good reason! How else can anthems become ubiquitous capital on a regional or national scale?

Kenya's national anthem got its impetus from a Pokomo lullaby, reworked by five musically gifted individuals—Graham Hyslop, Ugandan-born George Senoga-Zake, Thomas Kalume, Peter Kibukosya and Washington Omondi—at the turn of independence. The Pokomo, a southeastern Bantu community, whose population stood at 112,075 in 2019, are part of Kenya's nearly 50 communities that collectively command a population of about 50 million to date.

The outset of independence was marked by high expectations and Kenyans were eager to savour the fruit of freedom after decades of colonial domination. This spirit informed the hope and aspirations expressed in the national anthem.

Essentially, Kenya's national anthem is a prayer, framed as a wish list. It is a statement of acknowledgement of what Kenyans hold dear as a people, what their worth as a country holds as well as a proclamation of their shared hopes. It is also a communiqué of their common purpose as Kenyans.

Though not as common as it was years back, Kenya's national anthem was part of a package served alongside a National Pledge, itself a recital, particularly popular among Boy Scouts and Girl Guides;

Perhaps, an indication of the place God occupies on the list of Kenya's priorities, the opening line of the national anthem seeks blessings upon the land from above. Justice, unity, peace, liberty and abundance follow as the top quests, in that order. The second stanza calls on every citizen to pull together in serving the nation, in order to safeguard the national honour. The last stanza underlines the place of unity of purpose in working towards a more prosperous nation, for which Kenyans stand to reap benefits that they will be thankful for in the fullness of time.

I pledge my loyalty to the President and Nation of Kenya,
My readiness and duty to defend the flag of our Republic.
My devotion to the words of our national anthem.
My life and strength in the task of our nation's building.
In the living spirit embodied in our national motto - Harambee!

Anthems appeal to patriotic sensibilities that communicate a people's identity, desires and pride. This is demonstrable in the words of the national anthem.

Kenya National Anthem (English)

O God of all creation,
Bless this our land and nation.
Justice be our shield and defender,
May we dwell in unity,
Peace and liberty.
Plenty be found within our borders.

Let one and all arise
With hearts both strong and true.
Service be our earnest endeavour,
And our Homeland of Kenya,
Heritage of splendour,
Firm may we stand to defend.

Let all with one accord
In common bond united,
Build this our nation together,
And the glory of Kenya,
The fruit of our labour
Fill every heart with thanksgiving.

Turning now to flags. Besides being predominantly oblong cloth pennants, usually held in place by staffs or halyards, flags—historically—are also symbols of shared kinship and devotion to a common cause.

Flags evolved from military standards. Their origin is traced to Egypt of 3,000 years ago. Flags were also used by the Roman Empire as logotypes of local armies. Roman armies had various standards, among them the Signum, the Aquila and the Vexillum. It is from the Vexillum that the term vexillology—the study of flags—is derived. Back then, the loss of a standard was a scandalous affair, particularly so the Aquila. That should tell something about the significance of flags and standards as badges of national identity, sovereignty and pride, then as now.

Some of the earliest vestiges of expressions of patriotism relating to the use of flags manifested in decorations on spears and cultural identity symbols, meant to tell apart one group from another. This happened mostly in war related adventures. With time, the use of flags was preferred for announcing presence or claiming sovereignty. Previously, erecting sculptures

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SOVEREIGNTY

Fight ignorance to protect our independence

CONTINUED FROM PAGE 1

structure, with relatively well-equipped facilities of different levels, right across the country. Much as tuberculosis, malaria and a number of lifestyle diseases still stalk many, impressive strides have been made since independence.

The majority of the youth today may not conjure up images of the Kenya of 40 or 50 years ago. However, downplaying the cumulative impact of Vision 2030 and the Big Four Agenda, is delusion. Indeed, gauging from what has happened over the last more than five and a half decades of Kenya's independence, there is a lot to be proud of in terms of improved livelihoods across the country. That, however, does not mean there is no room for improvement.

Lest we forget, Kenya has been the envy of her neighbours, some steeped in perpetual internal conflicts. It is time to leverage on the relative tranquility the country has enjoyed, to build a stronger economy, driven by manufacturing, value addition of farm produce and all natural resources, modern agriculture, an efficient and thrifty bureaucracy, and a fully empowered private sector.

If we dwell in unity, with justice as our shield and defender, Kenya will reap peace and liberty and plenty will be found within our borders. In common bond united, if we build Kenya together, we shall eat the fruit of our labour and fill every heart with thanksgiving. ■

National values and principles of governance

(1) The national values and principles of governance in this Article bind all State organs, State officers, public officers and all persons whenever any of them;
- **(a) applies or interprets this Constitution;**
- **(b) enacts, applies or interprets any law; or**
- **(c) makes or implements public policy decisions.**

(2) The national values and principles of governance include;
- **(a) patriotism, national unity, sharing and devolution of power, the rule of law, democracy and participation of the people;**
- **(b) human dignity, equity, social justice, inclusiveness, equality, human rights, non-discrimination and protection of the marginalised;**
- **(c) good governance, integrity, transparency and accountability; and**
- **(d) sustainable development.**

Quick infobytes

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Making your dailies more informative

A simplified guide to buying land in Kenya

I HAVE IDENTIFIED THE LAND I'D LIKE TO BUY, THEN WHAT? Make a physical visit to the parcel. Scepticism is a virtue here, so, believe what you see, not what you hear or read online. If possible, wait for the rains to confirm the drainage and soil type. This may save you from buying a swamp.

WHY IS UNDERSTANDING ZONING CRITICAL?
This will help you check if the parcel is appropriate for the intended use. Land in Kenya is zoned into various categories, including, agricultural, residential, commercial, industrial, recreational, riparian reserves, forests, national parks and reserves, wildlife corridor, gazetted historical sites and flight paths. Find out from both the National and County governments if the particular land is available for use and suitable for the purpose for which you want to buy it.

IF NEXT TO A MAJOR PUBLIC UTILITY...?
If the land sits next to a national park or reserve, forest, a major road or highway, an airport, historical site, or a river, it is advisable to visit the relevant authorities to confirm that it is not public land.

WHY IS MEETING THE SELLER IN PERSON ADVISABLE?
While online or remote transactions are convenient and are indeed growing in popularity, they are also more susceptible to fraud. Request copies of the seller's National ID card, and PIN certificate, and those of the directors, if the seller is a company.

HOW USEFUL CAN TALKING TO THE NEIGHBOURS BE?
People neighbouring the land of interest can furnish you with information regarding its ownership, history and any disputes, such as family squabbles or boundary issues that can bring complications later. They can also reveal how the land came about; was it a settlement scheme, community land, or multiple ownership, and if it was set aside for public utilities such as cemeteries or markets.

HOW ELSE CAN LOCAL RESIDENTS BE OF HELP?
Even before going for a land search, you can find out from the neighbours the authenticity of the sellers, or the directors from their appearance on the copies of their National ID cards. For instance, the real owner might be an old lady, but the photo on the ID shows a young woman, a discrepancy that locals would be able to quickly spot.

TELL ME ABOUT LAND SEARCH...
Visit the lands registry with a copy of the title deed from the seller to conduct a search of the parcel in question. It takes about three days to get ownership results, and if there is any caution put against the land.

WHY DO I NEED TO ENGAGE A PRIVATE LAND VALUER?
It is prudent to engage a reputable registered valuer, who will provide an estimate of the market value of the land. This protects you from possible exploitation from the seller and/or brokers.

WHAT ABOUT A SURVEYOR?
A licensed land surveyor will ascertain your boundary and confirm the availability and integrity of the beacons. Request the surveyor to obtain the land's map from the Survey's office and check whether the land and its title number actually exist on the map. Survey maps are much harder to forge than title deeds or searches.

WHY SHOULD YOU CHECK FOR ANY LAND RATES DUE?
Because the payment of rates is a legal obligation of landowners and you may end up inheriting costly debt on the parcel. You should check that the seller has cleared any pending rates on the land before completing the transaction.

SOFT SKILLS TRAINING

Digital Literacy Programme arms youth for e-commerce

Second phase of programme will see 520 university interns in all sub-counties

The Government is exploring plans, including private sector partnerships, to scale up the rollout of the Digital Literacy Programme (DLP) in schools.

The programme has so far seen 22,891 public primary schools installed with 1,170,846 digital devices.

Two local device assembly plants have been established, one at the Jomo Kenyatta University of Agriculture and Technology (JKUAT), and another one at Moi University. The production capacity for the latter is 1,200 LDDs per day.

JKUAT has two assembly lines, with daily production capacity of 600. At present, 201,811 of digital devices delivered to schools under the DLP, were assembled locally.

The programme, which is being implemented in three phases, has also seen 331,000 teachers trained on ICT integration with 218,253 others trained on the Competency Based Curriculum (CBC) and other 93,009 teachers trained on ICT and device utilisation.

At least 22,927 schools have been connected to power, out of which 19,042 public primary schools have been connected to the national grid, and 3,239 others by solar. However, factors like the high cost of power, security of the devices, and lack of enough support from education managers at the county level, have sent the implementing agencies back to the drawing board.

According to latest progress report by the ICT Authority, the second phase of the programme is estimated at KSh60 billion. The implementing agencies plan to employ 520 university interns in all sub-counties to facilitate the project.

The Kenya Institute of Curriculum Development (KICD) is to acquire all digital content in the cloud infrastructure for ease of access.

Connectivity

The ICT Authority has developed the Schoolnet programme, meant to connect schools to internet services. This is in addition to the National ICT Infrastructure Masterplan, meant to guide the deployment of broadband connectivity across the country. Already, over 1,000 schools [one per ward] have been identified under Phase 1 of Schoolnet Connectivity Project being implemented by Unicef.

The total cost of Schoolnet is estimated to be KSh15 billion.

It is expected that the skills gained from the DLP will enable the beneficiaries to profit from the online work.

DigiTalent

Over 2,100 interns have benefitted from President Uhuru Kenyatta's digital talent programme, launched in 2014. The Presidential DigiTalent Programme runs in cohorts and is currently in its sixth one. It recently graduated ICT and ICT-related courses and onboards them in the 12 months internship programme.

During their internship, they must come up with an innovation that makes a difference in process operations in any sector. The best innovations are incubated for one year. The ICT Authority also looks for partners to fund the different innovations.

The programme also attaches the youths to a mentors, who are grouped into applications development, project management, networks and security. The interns undergo rigorous recruitment that reflects the face of Kenya, with talents being drawn from all the 47 counties.

While presiding over the virtual induction of 400 Cohort VI for the Financial Year 2021-2022, the ICT, Innovation & Youth Affairs Cabinet Secretary, Mr Joe Mucheru, said that the government was aware the digital economy requires highly skilled ICT talents to drive SMEs. The CS stated that the government has been making tremendous efforts to increase connectivity and internet access to enable the uptake of technology and bridge the digital divide.

Ajira Digital Programme

The approval ratings for the government's Ajira Digital Programme remains high, survey by the Kenya Private Sector Alliance (KEPSA), states.

The Programme, launched in 2016, aims to link one million Kenyan youths annually to dignified work over three years.

In a survey conducted by KEPSA last year, more males and older generation approved of the programme. The total approval stands at 79 per cent among the respondents, with males accounting 81 per cent, and females 77 per cent.

There are more males who are digital workers than females, and more youths who are digital workers, compared to those aged 35 and above.

Out of the respondents who had mentioned that they had done digital work, the majority said that they had been involved in transcription work, at 44 per cent, followed by data entry, at 18 per cent, and general content writing, at 15 per cent.

The other types of digital work done in the past months include marketing, website design, blogging, scientific content writing, social media campaigns, virtual assistant, graphic design, accounting, coding and online surveys.

According to the study, the awareness of the Ajira Digital Programme increased from 14 percent in 2019 to 29 percent in 2021, with the number of workers rising from 3 percent to 5 percent. The number of digital workers, when projected to the national adult population in Kenya, translates to 1.2 million in 2021.

The Ajira Digital Project seeks to position Kenya as a choice of labour destination for multinationals as well as encourage local companies to create digital work.

Phase One of the project provided training to 10,000 youth (8,000 inexperienced online workers with basic soft skills and introduction to online work skills, and 2,000 experienced ones, to scale up their business) and; mentorship for the new online workers.

The project targets to train youth through a one-week residential course, across five locations, namely: Nairobi, Mombasa, Kisumu, Meru and Nakuru.

DigiHubs

It also targets to train experienced online work freelancers through a two-day course, to equip them with skills to scale up their businesses into agencies and source for more work.

Upon successful completion of the training, the youth are transitioned to one month mentorship. So far, the curriculum for the training of the youth on online work and experienced workers, has been developed. A total of 7,168 (1,984 female) youths, out of the target of 8,000, have undergone training and transitioned to one month mentorship.

Some 125 experienced online freelancers have been trained on entrepreneurship.

Access to ICT has been touted as a way of contributing to Kenya's economic growth.

Through mobile money payments, Kenyans are saving time previously spent queuing in banking halls. Learning in schools too has been made easier through the internet, at a click of a button.

The ICT ministry has partnered with parliament to set up innovation hubs across Kenya's 290 constituencies, to offer resource centres with free Wi-fi. Currently, there are more than 239 centres (Constituency Innovation Hubs) that are open from Monday to Saturday, for youths to access freely. Every centre has a manager, and each is used for the delivery of the Ajira digital curriculum. Over 500 Ajira trainings have been held at different centres nationally.

A recent Kenya Private Sector report points to an increase in number of Kenyans taking up online jobs. According to the study, the number of digital workers, when projected to the national adult population, translates to 1.2 million in 2021.

FACTS & FIGURES

10,000

Total number of youth trained during Phase One of project

The ability to work part time, lack of formal employment and referrals from other digital workers, are some of the drivers towards digital gig work. Speaking at the launch of one of the hubs in Kirinyaga County, Mr Mucheru said, as the world embraces ICT, concept of work changes because people will no longer depend on the traditional formal jobs at a physical place.

He said digital work is decent, credible, and prestigious, adding that it requires skills and ethical values. The CS called on parents and guardians to support their children to acknowledge digital work as authentic, is lucrative and supports millions of people around the world.

According to the CIH project plan, every constituency will start with one innovation hub and eventually increase to four, bringing the total to 1,160 countrywide. ■

INFRASTRUCTURE

Face of Kenya's first smart city taking shape at Konza

Kenya's first smart city, Konza Technopolis, which is set to become a world class technology hub and an economic driver, is already attracting investors.

Late 2020, the Konza Technopolis Development Authority (KoTDA) unveiled the second strategic plan, aimed at accelerating the implementation of the project in the next three years (2025).

The plan, launched in September 2021, is expected to push Konza to become an emerging global technopolis and innovation hub. Already, 72 percent of land for investment in the Phase 1 (One) has been taken up. This represents 106 out of 147 land parcels demarcated for uptake, which comprises 1,703 acres, including wildlife and nature parks.

The development of Phase One's horizontal infrastructure is set to be completed by the end of 2022. The completion, which entails the construction of streetscapes and drainage works, paves the way for the vertical construction to be undertaken by the private sector.

According to Mr John Tanui, the KoTDA Chief Executive Officer (CEO), the Authority is now focusing to complete the horizontal infrastructure, which entails servicing the land parcels with key amenities.

"For the horizontal infrastructure, we expect within this year to move and reach over 95 percent with the remaining scope of work being the development of verticals, among them a police command centre, fire station, welcome centre, safety shelter for screening vehicles and power distribution station, as well as Konza furnished apartments.

In 2021, we recorded over 70 percent completion and our focus is to complete this as we accelerate investor's uptake," said Mr Tanui, who was speaking during an investor's tour at the Konza Technopolis.

The Phase One project is designed as a mixed-use community, which upon completion, is expected to attract 30,000 residents, 7,500 knowledge workers and 16,700 others.

As part of its strategic priorities, under the second strategic plan (2021-2025), KoTDA is actively engaging both local and international investors. Private sector players are also taking up the Konza National Data Centre's cloud computing services.

According to the Vision 2030 blue print, Konza will be a smart city, with an integrated urban information and communication technology network that supports delivery of connected services and allows for efficient management of those services on a large scale.

A smart city uses ICT to enhance its livability, workability and sustainability. In order to be considered a smart city, there are a number of core infrastructure and services that are required as part of Phase 1.

The Konza Technopolis project took up a substantial chunk of the money allocated to the ICT ministry in the 2021/22 financial year

This is in keeping with the trend where the government has been pumping in huge amounts of money to the flagship project of the Kenya Vision 2030 economic blueprint over the last few financial years. ■

INCUBATORS

Service with click of a button thanks to innovation hubs

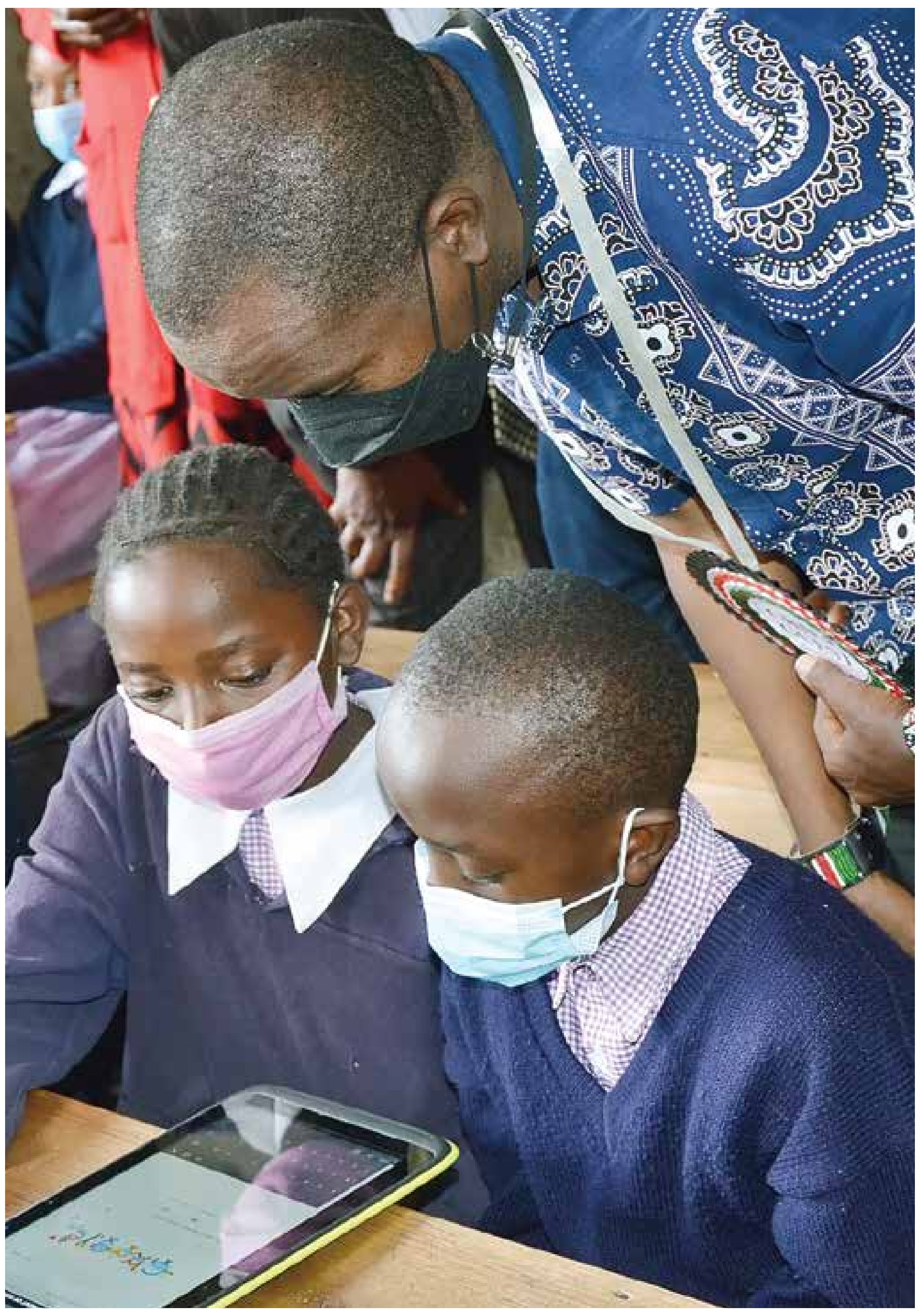
Bank queues cut as resource centres with free Wi-fi are established in Kenya's 290 constituencies

The ICT ministry has partnered with parliament to set up innovation hubs across Kenya's 290 constituencies to offer resource centres with free Wi-fi. Access to ICT has been touted as a way of contributing to Kenya's economic growth.

Through mobile money payments, Kenyans are saving time previously spent queuing in banking halls, learning in schools has been made easier through the internet, which now makes research easier for students through plenty of resources at a click of a button.

The potential of ICT has seen the government expand internet coverage over the past few years to, among others, enhance business opportunities, and create employment youth through online jobs. Currently, there are more than 239 Constituency Innovation Hubs (CIH) that are open from Monday to Saturday, for youths to access freely. The project provides safe work spaces for youths, who are provided with sitting space, laptops and internet. The objectives of the project include offering support to entrepreneurs and access to free Wi-fi countrywide, enhancing awareness and uptake of online platforms for employment and business opportunities, and supporting innovative ideas for youths. Every centre has a manager, and each is used for the delivery of the Ajira digital curriculum.

"We created the constituency innovation hubs for people to be able to even access jobs, which are outside the country," ICT Cabinet Secretary Joe Mucheru



Over 500 Ajira trainings have been held at different centres nationally, with the support of the Ministry and the members of Parliament. Recent Kenya Private Sector Report points to an increase in number of Kenyans taking up online jobs. According to the study, the number of digital workers, when projected to the national adult population, translates to 1.2 million in 2021.

The ability to work part time, lack of formal employment and referrals from other digital workers are some of the drivers towards digital gig work. The government bets on the digital hubs to provide free internet, training and work spaces to enable the public to access online jobs and information.

The hubs aim to empower the youth to earn decent wages from online work and enable enterprises enhance performance and develop tools to solve complex problems.

Speaking at the launch of one of the hubs in Kirinyaga County, ICT Cabinet Secretary Joe Mucheru said, as the world embraces ICT, concept of work changes because people will no longer depend on the traditional formal jobs at a physical place. The CS said, instead, gig-work would replace the traditional work where individuals serve multiple employers globally in chargeable chunks.

He said digital work is decent, credible, and prestigious, adding that it requires skills and ethical values. The CS called on parents and guardians to support their children to acknowledge digital work as authentic, is lucrative and supports millions of people around the world. Mr Mucheru explained that, the government is empowering the youth to exploit the millions of jobs in the digital space. "We created the constituency innovation hubs for people to be able to even access jobs, which are outside the country."

The CIH project is a partnership between the ministry of ICT, the National Government Constituency Development Fund Board, the National Government Constituency Development management committees and members of Parliament, in line with plans to mainstream ICT to grassroots. According to the plan, every constituency will start with one innovation hub and eventually increase to four, bringing the total to 1,160 countrywide. ■

National anthem is a prayer for what Kenyans hold dear

CONTINUED FROM PAGE 3

and other war-bound symbols was in vogue, but not after flags took over. By using flags, explorers and colonialists signaled intended dominance over targeted territories. That is precisely why the lowering of the Union Jack and the subsequent hoisting of the Kenyan flag on December 12, 1963 at Uhuru Gardens, remains such a symbolic event in the history of Kenya.

Neil Armstrong was the first person to land on the moon in 1969. To mark that breakthrough, Armstrong erected the American flag on the moon's surface to the pride of his motherland. Similarly, when Kenya attained independence on December 12, 1962, one Kisoi Munyao erected the national flag atop Mt Kenya's Batian peak, to celebrate the newfound freedom.

There are standard symbols used on flags to communicate the same meaning across the globe. The sun, for instance, stands for unity and vigour. For using the sun in its flag, Japan is sometimes referred to as the "land of the rising sun". The moon–mostly captured as a crescent–in the company of stars, is a symbol of divinity, especially to Muslims. Other common symbols that feature on flags include stars, representing energy, the cross for faith and wholesomeness and the square to convey balance.

A cursory survey will reveal that red and white are the commonest colours on world flags. Most flags go for primary colours and particularly blue, red and green. A few, however, feature yellow or a range of secondary colours. Gold, considered the colour of kings or also the colour of the sun, features on some flags too.

Flags carry meaning through the choice of symbols or colours that appear on them. Some flags don the sun, the moon or stars, while others use symbols such as the cross. Kenya's flag has a shield and spears in the middle. They are trophies of triumph over colonial domination, just as they are accessories that signify the need for vigilance in protecting the sovereignty and territorial integrity. The colour red on Kenya's flag is a reminder of the blood that was shed during the liberation struggle. Green is the colour of the landscape, white denotes peace and honour, while black is archetypical of Kenyans' skin colour.

At the turn of independence, some of the Kenya African National Union (Kanu) officials wanted the party's flag to become the national flag. However, the late Thomas Mboya championed the quest to have a flag that would represent wider interests beyond Kanu. That is how the flag of Kenya got its distinctive colours and symbols.

In retrospect, Kenya's anthem and flag are the most visible symbols of its nationhood. They exemplify the best of the shared ancestry, beliefs and ways of life. They remind Kenyans of where they have come from as they embolden them to approach the future with optimism and courage. It would be tragic to lose the import and meaning of the anthem and flag, because that would then mean getting detached from the national soul. ■

PERSPECTIVE

There's great value in boosting domestic tourism

One of the many lessons drawn from the COVID-19 crisis is the risk of over-reliance on international tourism. The pandemic, at some point, brought global travel to almost a standstill, killing with it several tourism businesses.

Domestic travel supports and develops local and national economies, provides a rationale for infrastructure upgrading, disperses visitors across regions and to under-visited rural areas, bridges the seasonality gap and creates employment.

A strong domestic travel and tourism sector can help a country withstand shocks and demand fluctuations that may arise when crises affect external markets. To incentivise domestic travel, certain governments and local authorities have intervened in the provision of local tourism services. In the face of the COVID-19 pandemic, which decimated international tourism, the Kenya Tourism Board (KTB) developed new marketing campaigns to boost domestic tourism, launching the #TembeaKenya and #MagicalKenya hashtags to encourage Kenyans to explore their country, with a special emphasis on national parks in the Maasai Mara, Mount Kenya, Amboseli and Tsavo areas.

Another initiative from the private sector was the Okoa Holiday that allows one to go on vacation and pay later. All these efforts have increased the popularity of national parks and beach resorts, particularly for honeymoons and weddings.

Also contributing to the growth of domestic tourism is a growing middle class, with more disposable income for leisure travel. Other factors relate to the increased internet usage, given that most holiday travelers are influenced by digital platforms, mainly social media, search engines, online agents and blogs.

Currently, there are numerous tourism firms leveraging on the online space, targeting social media users through digital campaigns and building their brand.

Quality transport enhances the experience of a destination and quality of life within it, for both visitors and residents.

Dingo Kundu Bypass has made Diani more attractive to travelers and eased traffic jams in Likoni. The project that expanded and modernised the Malindi airport has enabled travel operators to book charter flights for tourists to the facility. Meanwhile, the Standard Gauge Railway (SGR) now makes it easier to connect to Diani, Ukunda, Kilifi and Malindi, from the Mombasa Island.

The government has also intensified security at the coast. Many hotels were also able to weather the COVID-19 pandemic, thanks to conferences and workshops by the national and county government officials.

The new KSh350 million Mombasa Cruise Ship Terminal is another major boost for tourism, opening up the coast, with tourists exploring Mombasa City and the nearby wildlife and marine parks, including the Tsavo National Park.

The Terminal will enhance the passenger handling capacity of the Mombasa Port and comprises duty-free shops, restaurants, conference facilities and offices for private and government support services. ■

DIGITAL RACE

Why Kenya is referred to as Africa's 'Silicon Savannah'

Kenya is at the forefront of technological innovations in the region and is often referred to as Africa's 'Silicon Savannah'. The government has invested heavily in ICT, which is a key contributor to the country's GDP.

The ICT sector remained resilient through the worst of the COVID-19 pandemic, when it easily demonstrated its importance as a key enabler of business continuity.

The disruption and challenges caused by the pandemic prompted an increase in the uptake of digital tools and services as more Kenyans adopted mobile and Internet services.

Plans to manufacture phones and other electronic gadgets locally began in 2013. However, it was not until 2015 that the Government conceived the Digital Literacy Programme (DLP). Kenya's decision was pragmatic, given the increasing uptake of mobile phones.

In many ways, Kenya's economy is "mobile first", with almost 98 percent of the population having access to a mobile phone, according to the Communications Authority.

To guide the assembling and use of phones, the ICT ministry launched the National Broadband Strategy (NBS), aimed at transforming Kenya into a knowledge-based economy, through the provision of quality broadband services to all citizens.

However, it is the availability of the internet that has driven the uptake of digital services. There are currently four undersea fibre optic cables that land off the coast of Kenya: SEACOM, TEAMS, EASSY, and LION2, which are the core drivers of fixed Internet penetration in the country, making it one of the highest, fastest and most reliable in the region.

DLP seeks to integrate the digital technologies in learning in public primary schools.

As part of this initiative, Moi University, entered into a partnership with JP.IK of Portugal to assemble digital devices and other ICT innovations for over 15,000 public primary schools in 26 counties. The university set up MU Technologies with its assembly at Rivatex, with the capacity to produce laptops, tablets, desktops, mobile phones, servers and digital meters televisions and other related components.

The first Kenyan laptops were produced by JKUAT in 2015 and were conceived and designed under the TAIFA brand by the Nairobi Industrial and Technology Park (NITP), a subsidiary of the university.

It was assembled from both custom and general parts. NITP is a Kenya Vision 2030 flagship project between JKUAT and the Ministry of Industrialisation, Trade and Enterprise Development. ■

INFOBOX

Among the challenges faced by the government in its implementation of the BPO programmes are:

- **Inadequate budgetary allocations, delayed disbursement and budget cuts.**
- **Cyber-crime and social media abuse**
- **Vandalism of ICT infrastructure**
- **Unstable global macroeconomic environment, which was occasioned by pandemics and other global economic uncertainties.**

2012

The year plans to manufacture phones and other electronic gadgets locally began

2015

The year the first Kenyan laptops were produced by JKUAT

ICT & INNOVATION

TECH HUB

Korean-modelled technology institute to open at Konza City

FACTS & FIGURES

The Kenya Advanced Institute of Science and Technology (KAIST) will be the centre of excellence as envisioned in Kenya Vision 2030 — Jerome Ochieng, ICT Principal Secretary

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The acreage under Phase One of the Konza project, including; mixed use (89 acres), university (39 acres), residential (26 acres) and life science (26 acres).

130

The acreage earmarked for transportation and public space besides parks (79 acres), office space (11 acres), retail (eight acres), and cultural community under one acre.

Students at the campus will major in science, technology, engineering and mathematics

The government of South Korea will help in the establishment of the Kenya Advanced Institute of Science and Technology (KAIST) modelled after a similar one in Korea.

The graduate school- which will be complete by 2024- will major in science, technology, engineering and mathematics.

ICT Permanent Secretary Jerome Ochieng said the institute "will exemplify the centre of excellence in science and engineering, as envisioned in the second and third medium term plans of the Kenya Vision 2030". The partnership between Kenya and South Korea has also seen the completion of the Knowledge Sharing Programme (KSP) on the Konza Technopolis Digital Media City and the media content development strategy in three years, to 2021.

South Korea is also involved in the construction of transport infrastructure, planning and security at Konza City, with a KSh686 million grant in the next three years.

The transport infrastructure will also include a master plan for the development of the Konza Technopolis Smart City, complete with smart mobility to include electric vehicle service.

The funds will be disbursed in three equal annual installments of KSh228.62 million, from this year to, among other things; the construction of smart parking facilities, digital signage and electric vehicle infrastructure, as ICT is part of Konza's Second Strategic Plan, which has been under implementation for fours to 2025.

The grant for the technopolis is under the Economic Innovation Partnership Programme (EIPP).

It will be implemented by the Korea Trade-Investment Promotion Agency (KOTRA) and the Konza Technopolis Development Authority, and will also include policy consultation, joint research and expertise.

"Under this EIPP, consultation based on Korea's ICT infrastructure and urban development experience is expected to significantly contribute to formulating a smart city development strategy," said Mr Ochieng.'

He added: "The "EIPP will also guide the development of preliminary feasibility studies of major projects in Konza Technopolis, which include an integrated control centre, smart mobility and energy."

South Korean ambassador to Kenya Koh Jae-Myong, said his government will continue supporting economic projects in partner countries, while Mwende Mwinzi, the Kenyan Ambassador to South Korea, said the support will spur economic prosperity, besides sharing best practices.

Konza Technopolis has also been offering investors more land due to rising interest, occasioned by the standard gauge railway (SGR), and the planned expansion of the Nairobi-Mombasa highway, and which is expected to open up the area for business.

Konza Technopolis and the counties of Kajiado, Makueni and Machakos, and the national government, signed an agreement late last year to make investments around the smart city attractive and sustainable.

"This will protect thousands of jobs, investments and wildlife by preventing encroachment and uncontrolled development in the buffer zone," said Interior Cabinet Secretary Fred Matiang'i.

As at December 2020, investors, including hospitals, real estate developers, institutions of higher learning, the National Construction Authority (NCA) and the Kenya Electricity Transmission Company (Ketraco), had acquired over 160 acres at Konza.

The investments in high demand include smart manufacturing, light industry logistics, smart agriculture, property development and ICT-enabled services. ■

PERSPECTIVE

Energy ministry implementing report by Presidential taskforce

The Ministry of Energy has began implementing the recommendations of the Report of the Presidential Taskforce on Review of Power Purchase Agreements (PPA).

The implementation follows the presentation of the report to President Uhuru Kenyatta.

Energy is a critical enabler of economic development. The report documented reasons for the high cost of electricity, which have had a negative roll-on effect on the cost of doing business, and the prices of consumer goods in the country.

In October 2021, the Interior and Coordination of National Government Cabinet Secretary, Dr Fred Matiang'i, inaugurated the Steering Committee on the Implementation of the Recommendations of the PPA.

The Steering Committee was appointed by President Kenyatta on October 8, 2021, through a Kenya Gazette Notice Vol.CXXIII No. 209.

Energy Cabinet Secretary Monica Juma revealed that several teams were to be established to spearhead the implementation in various power sub-sectors, adding that there was no room for failure.

Among the tasks is the renegotiation of PPAs, which were found to be skewed in favour of the providers at the expense of the taxpayer. The other key task is restructuring of the state-owned power distribution monopoly, the Kenya Power.

The team is also examining policy issues in the energy sector, reviewing laws and analysing previous taskforce reports.

The Steering Committee had an almost immediate impact when it managed to lower the cost of electricity sold by Kenya Power, just before the New Year.

Kenya Power has already experienced a turnaround, registering KSh8.2 billion profit, from a loss of KSh7.04 billion, a 216 per cent growth, driven by the increased revenue of KSh144 billion, alongside the restructuring of its operations.

Renegotiation of PPAs seeks to inject efficiency and effectiveness to keep power prices on a sustainable curve, given Kenya's attractive renewable energy mix that should result in cheaper electricity.

Kenya Power lowered its operating costs by 17 per cent by improving efficiency.

The commissioning of nine new sub-stations and refurbishing of another five, enhanced network capacity to 500 Megavolt amperes (MVA), and Kenya Power is also automating its network. The automation of the distribution management system has improved the response time to power outages via the control centre. ■

INFOBOX

- **Terms of Reference for the Steering Committee are:**
- **Oversee, coordinate and monitor implementation of the Recommendations of the Presidential Taskforce;**
- **Provide advisory and technical support during the implementation of the recommendations of the Presidential Taskforce;**
- **Prepare progress Reports for presentation to the President through the Cabinet Sub-Committee on Kenya Power; and**
- **Perform any other task ancillary to its terms of reference, as may be directed by the Cabinet Sub-Committee on Kenya Power.**

17

The percentage by which Kenya Power lowered its operating costs by improving efficiency

SUSTAINABLE HOUSING

Boma Yangu offers Kenyans fair chance to own their first homes

Since 2017, the Government has pursued a policy to create 500,000 new homeowners through the facilitation of affordable housing under the Big 4 Agenda. The Affordable Housing Programme (AHP) ensures that working families can afford decent homes by reducing the cost of construction and offering them affordable mortgages.

Through the website https://bomayangu.go.ke/ all Kenyans can see the AHP projects being undertaken by the State Department for Housing and Urban Development, some of them in partnership with the private sector.

They can also register, for free, through the website link http://bomayangu.go.ke/ to own an affordable home. The only requirement is that one must be a Kenyan national aged 18 years and above.

Registration can be done at the Huduma centres across the country. The cost of the units under AHP range from KSh800,000 for a bedsitter, to KSh3 million for a three-bedroomed house.

The National Government has signed Memoranda of Understanding (MoUs) with 24 counties for the development of at least 2,000 units in each county. Five counties have already identified land for comprehensive planning and project implementation.

AHP is being delivered in phases, starting with some flagship projects, before being scaled up towards the delivery of the 500,000 units across all the counties. It targets civil servants and Kenyans in the low income bracket, who were previously excluded from owning decent homes due to the prohibitive costs of construction and mortgages.

According to the State Department for Housing and Urban Development, over 74 percent of Kenyans in employment earn less than KSh50,000 per month, and thus can only pay a maximum of KSh20,000 as mortgage monthly, with the average price of houses in the private market averaging KSh9 million.

AHP includes Social Housing for those earning up to KSh19, 999 per month Low Cost Housing for those taking home between KSh20,000 to KSh49,999 per month. Mortgage Gap Housing will cater for those earning between KSh50,000 and KSh149,999 per month, while Middle to high income housing will cater for those whose monthly income is KSh150,000 and above.

Kirinyaga County will benefit from 200 affordable units to alleviate the shortage of decent houses in the area under a KSh500 million programme by NHC.

Cost-effective options in materials and construction will be deployed to keep the units affordable, but decent. They include expanded polystyrene technology, which is easy to apply. The technology is being used to construct KSh20 billion units at Mavoko, where the supplier is located.

Kisumu County launched an AHP project for 3,000 units with 1,700 already under construction in Makasembo, and 1,300 others in Anderson estates in the lakeside city.

The County has also partnered with the Local Authorities Provident Fund (LAPFUND), a retirement benefits scheme catering for employees of county governments, water companies, and other associated organisations, to construct modern and affordable houses in Lumumba and Makasembo estates.

In Nakuru County, the construction of 600 AHP houses is ongoing under a joint partnership with the National Government and the World Bank. The project is in addition to 2,400 houses being built.

The construction of the houses follows rising demand as local steel and cement manufacturers, animal feed makers and dairy firms set up shop in the Salgaa industrial zone.

The restoration of the old Metre Gauge Railways and its linkup with the Standard Gauge Railway at Mai Mahiu, the inland dry port, a business park established by the Kenya Electricity Generating Company (KenGen), and an industrial park set up by Oserian Company, are expected to spark even more demand for housing.

The AHP houses will be built on a 10 acre-land in Bondeni Estate within Nakuru Town East Sub-County, while those in Naivasha are being constructed on a 55-acre plot along the Nairobi-Nakuru highway near the GK Prisons.

An estimated over 26 per cent of Kenyans live in cities and towns, and the urban population is growing at a rate of 4.2 per cent every year.

Annual demand in Kenya for affordable housing for the middle and low income earners is 170,000 units, yet a mere 1,000 units are built every year. Kenya has only 25,000 housing mortgages, catering for a population of over 47 million people.

Of the mortgages, 17,000 are not market-based as they have been advanced to individuals by their employers. The World Bank selected Nakuru to pilot the AHP because the city has the critical infrastructure for construction.

A report by the Kenya National Bureau of Statistics (KNBS) 2020 detailed that many landlords were shifting to building smaller and affordable houses as demand increases, land space diminishes and the cost of living rises.

The National Government established the Kenya Mortgage Refinance Company (KMRC), which works with the banking sector and the cooperative movement, through SACCOs, to make available affordable mortgages. KMRC will help to extend the tenure of housing loans from the current average of seven years, to at least 20 years.

In Kiambu, the KSh11 billion Samara housing project in Migaa, has started as a public private partnership with Safaricom and Shelter Afrique, and is expected to have 1,920 units.

The units will be priced as low as KSh1 million for Kenyans earning below KSh20,000.

KNBS data shows that 92 per cent of people in Nairobi rent houses because they cannot afford to buy their own.

In Nairobi, the AHP pilot project of 1,370 units at Park Road in Ngara has been completed. The National Housing Development Fund is mobilising resources to fund projects in Mavoko and NHC Stoni Athi, which are at various stages of completion.

The construction of 25,965 affordable housing units in Starehe (3,360), Shauri Moyo (4,470), Kibera Zone B (4,435) and Mukuru (13,700) will begin soon as investors have been identified.

NHC is building 10,500 homes dubbed Stoni Athi Waterfront City in Athi River, Mavoko Sub-County, on a 150-acre land at a cost of Sh20 billion. The houses, which target low, middle, and high-income earners, will be multipurpose units, varying from residential, commercial, recreational facilities, schools and hospitals.

The Mavoko project comprises 5,000 units, costing between KSh1 million and KSh3 million per each, and 5,500 units targeting middle and upper-income households for between KSh2 million and KSh8 million a unit. The Government has built over 186,000 houses across the country in the past eight years, as part of the efforts to provide decent housing for Kenyans.

NHC will also be developing 5,000 housing units in Konza Techno City. NHC will embrace innovative options such as joint ventures to unlock the housing challenge.

In September 2021, the Government commissioned the construction of 2,235 AHP units in Pangani, Nairobi County. In December 2019, President Uhuru Kenyatta launched the Habitat Heights at Lukenya as part of AHP, which have been constructed under a Memorandum of Understanding between the State Department for Housing and Urban Development and United Nations Office for Project Services (UNOPS) for 100,000 units.

In Mombasa County, the KSh6 billion Buxton Point is being constructed. The 1,900 housing units in Buxton will be available at a mortgage rate of 9 percent or less.

A two-bedroom apartment at Buxton Point will go for KSh3 million, compared to Sh6.5 million in the neighbouring Tudor environs. One-bedroom unit is KSh1.8 million and three-bedroom is KSh4.2 million. Already, 1,253 houses have been sold.

The project will have commercial stalls, a youth venture to nurture local talents, a nursery school, a madrasa and a clinic.

Other estates targeted for rebuilding under AHP in Mombasa County are Changamwe, Likoni flats, Miritini, Tudor, Mzizima and Khadija. ■

INFOBOX

Other AHP Projects

- **Moke Gardens in Mavoko, Machakos County (built via PPP)**
- **King's Sapphire - Bondeni Project (Nakuru City)**
- **Buxton Affordable Housing Project (Mombasa City)**
- **Kitui Affordable Housing Kalawa Rd (Kitui Town)**
- **Pangani Affordable Housing Project (a PPP in Nairobi City)**
- **Starehe Affordable Housing Project (Nairobi City)**
- **NHC Stoni Athi View (Machakos County)**
- **NHC Stoni Athi View (Economy Block-Rental)**
- **Mariguini Informal Settlement (Starehe, Nairobi City)**
- **Kibera Soweto East Zone B (Nairobi City)**
- **Kibera Soweto East Zone B**
- **Mavoko Sustainable Housing Programme (Machakos County)**
- **Park Road, Ngara (Nairobi City)**

Government and Institutional Housing under AHP:

- **Machakos Civil Servants Housing**
- **Embu Civil Servants Housing**
- **Kiambu Civil Servants Housing**
- **Kisumu, Shauri Moyo (Kisumu City)**

Kenya Mortgage Refinance Company (KMRC)

KMRC will provide long term funds to primary housing mortgage providers. It will improve mortgage affordability, increase the number of qualifying borrowers, and result in the expansion of the primary mortgage market and home ownership in Kenya.

The company has so far raised KSh2 billion and the National Treasury has mobilised additional KSh35 billion from partners to support the company's operations.

CHEAPER POWER

Olkaria-Naivasha green power hub to help lower cost of electricity

Power producer KenGen has completed plans to set up an Energy park at its hub at Olkaria-Naivasha, in order to take advantage of the competitively priced geothermal steam and electricity, as key economic drivers of production.

The park will provide industrial, commercial and recreational facilities and will be developed in two phases, with completion of the first phase set for this year.

The park is strategically located along regional transport routes, with access by road and rail. It will provide quality and reliable utilities and energy supply (electricity, high pressure stream and brine at 130 degree Celsius), which will be managed through an appointed developer, for a plug and play environment.

In an official press release in January 2022, (KenGen), announced that it had completed Phase One of the 25 acres Ngong' Forest Restoration Project.

Commenced in October 2018, the project involved planting 7,000 indigenous trees around a degraded site at the Ngong Hills forest power station, where KenGen generates 25.5MW of electricity from wind.

The initiative is in line with the company's Environmental Conservation Programme and Corporate Environmental Sustainability Policy, which seeks to undertake an additional 10 hectares ecosystem restoration in Phase II, within the KenGen lease area at Ngong', during the 2021/2022 financial year.

According to Ngong forest restoration Phase I's completion report, KenGen attained a 100 percent trees survival rate, marking the project as completed and successful.

The report read: "The project's final milestone verification for milestone 3 final quarter was carried out on 21st June 2021 followed by a final Project Implementation Team (PIT) meeting at Ngong project site where 7,134 seedlings were verified as surviving against a target of 7,000 seedlings, thus a 100 percent success achieved rehabilitating an area covering 10.7 acres (est)."

The company has fully aligned itself to climate action agenda and rolled out various environmental conservation projects across the country, which will go a long way in helping to slow down the effects of climate change.

It complements other climate action efforts by KenGen, including its deployment of green energy power projects like the construction of the 83MW Olkaria I Unit 6, which is almost complete. KenGen plans to undertake an additional 10 hectares ecosystem restoration within the lease area this year that will include planting, protecting, replacing and maintaining 10,000 assorted indigenous tree seedlings.

The state-owned power generation firm has signed a Memorandum of Understanding (MoU) with partners, including the Kenya Wildlife Service, to carry out conservation and management activities in Ngong Forest and other mitigation measures, identified in the Environmental and Social Impact Assessment study for the proposed construction of 10MW Ngong' Phase IIIA wind project at Ngong Hills.

The project supports the commitment towards NETFUND 2 billion campaign, where the company has pledged to plant and grow 400,000 seedlings per year.

Over the years, KenGen has supported initiatives to mitigate the effects of climate change, while maintaining ecological balance.

The initiatives, such as the Green Initiative Challenge (GIC), launched in 2013, have been under the KenGen Foundation's environmental pillar and community sensitisation. ■

INFOBOX

Ongoing power generation projects by KenGen are:

- **Seven Forks 40MW Solar Photovoltaic (PV) Project**
- **Raising Of Masinga Hydropower Dam**
- **Ngong Wind Farm**
- **Olkaria 1 Units 1, 2 & 3 Rehabilitation Project**
- **Olkaria V, (172MW) Projects**
- **Olkaria I Additional Unit 6 (83.3MW)**

10MW

The capacity of the Phase IIIA wind project at Ngong' Hills

AFFORDABLE HOUSING

AFFORDABLE HOUSING

Aged Nairobi estates to join the race for the city's skyline

Dilapidated Jericho, Bahati, Ziwani and Bondeni to accommodate new 60,000 housing units

FACTS & FIGURES

10,000

Number of housing units to be built in Lumumba, followed by Maringo (8,000), Kariobangi North (1,500), Embakasi (4,000), Bondeni (774), California (2,500) and Woodley Estate (6,000)

Old residential estates have been singled out as the other avenue for bridging the housing gap in Nairobi, as part of President Uhuru Kenyatta's Big 4 Agenda.

These low and single storey houses were built by the colonial government, from the 1950s, and others after independence in 1963. Most, like Jericho estate, were built for bachelors, who had come from the Native Reserves (rural areas) to work for the defunct East African Railways and Harbours.

Most of the houses were not meant to accommodate large families, but all that changed with the independence, which saw wives and their children trooping to Nairobi. Shortly, corrugated iron sheet extensions also saw cousins and other relatives being accommodated in these cheap houses, which families inherited to the current second or third generations.

Maringo, Jericho, Bahati, Lumumba, Ziwani, Bondeni, Embakasi, Kariobangi North, California and Woodley estates also hold historical significance, having been inhabited by Kenya's independence heroes.

The residents included founding Vice-President Jaramogi Odinga Oginga, who lived in Jerusalem, nationalist Tom Mboya, who lived in Ziwani and second President, the late Daniel arap Moi, who shared a single room in Pumwani with fellow politicians Jean Marie-Seroney and Ronald Ngala, after coming to Nairobi from the Rift Valley to join the Legco.

One-time President of Uganda Milton Obote, also lived in Maringo, as did technocrat Barack Obama Sr, the father of America's first black president, Barack Obama.

These estates in Nairobi's Eastlands, were reserved for Africans by the colonialists, who exercised racial segregation via housing. Asians lived in Parklands, Ngara, Park Road and Highridge areas, Arabs had Eastleigh, while the Whites were nestled in the leafy Muthaiga, Upperhill, Kilimani, Milimani, Loresho and Westlands-areas on high ground, meaning flooding was a rumour and which in turn kept mosquitoes away!

But in the fullness of time, these low rise estates in the Easlands were run down, but of more interest, they still sit on large tracts of mostly idle land, on which the Nairobi Metropolitan Services (NMS) plans to repurpose and erect 60,000 highrise affordable housing units for renting and buying.

Plans to demolish the aged estates in the past hit a brick wall due to the aforementioned hand-me-down, hereditary model of tenancy and ownership.

NMS boss Maj-Gen Mohamed Badi held public views on the planned refurbishment about a year ago and the redevelopment of these old estates will form the second phase of the affordable housing programme, aimed at addressing the deficit in Nairobi.

According to NMS Housing and Urban Renewal deputy director Marion Rono, the housing project is a public-private partnership to meet the huge demand for cheap homes in Nairobi.

NMS, in conjunction with the Nairobi County, will contribute land, while successful investors, who have already been shortlisted, will build the houses.

On completion and sale of the units, NMS, the County and the investors will split the returns, with the builder expected to recover their money.

The new houses will be built on idle land, leaving old tenants in their houses before an alternative is found, once the project is complete.

In the redevelopment, Bahati will have 12,000 high-density storied buildings of between six and 16 floors, consisting of three, two and one-bedroom units, to replace bungalows sitting on the 20.4 hectares estate.

The second phase will join the ongoing first regeneration of other seven Nairobi County government estates, including Ngong Road Phases I and II, Uhuru Estate, New Ngara, Old Ngara, Suna Road, Pangani and Jeevanjee/Bachelor Quarters.

The first phase of the affordable housing programme began in June 2020, with Pangani and Jeevanjee acting as the flagship projects, and currently "all the units under the affordable housing bracket, valued at KSh1 million, are sold out as the demand for low-cost housing in the city is incredibly high," said Ms Rono. ■

EMPOWERMENT

Reforms to give farmers more say over their produce

The Government's agenda is to examine gaps along the value chain and ensure small-scale tea farmers enjoy their sweat by improving the governance and giving the farmers more authority in decision making.

For instance, an Executive Order was made to increase the amounts of value-added exported tea from the current 12.2 per cent to 25 per cent in the next five years, in line with Big Four Agenda and Agro-processing intents by the Government.

The Government has identified the dysfunctional and inefficient tea auction system, characterised by lack of transparency, accountability and competition as prone to manipulation, capture, insider trading and cartelisation by value chain players, leading to ineffective price discovery, low prices and poor earnings to farmers.

To protect the farmers, the Government has set a minimum price for processed tea at the auction.

Curbing the predatory behaviour of KTDA and its subsidiaries is also key. This includes a decision to ban the KTDA company secretary from participating in board meetings of tea factories.

KTDA, under its agent model, is contracted by as many as 66 tea factories as a management agent and this has meant that its company secretary would sit on board meetings of the factories.

With the change, factory limited companies (FLCs) must employ their own company secretaries, or outsource the service. Another change is that a director or affiliate of a management service provider like KTDA is no longer allowed to serve as a director or have a direct commercial relationship with a KTDA-contracted FLC.

KTDA has been blamed for unwarranted delays in payments to small and medium-scale tea growers, despite receiving payments from the brokers within 14 days from the date of the auction. The changes seek to lessen KTDA's grip in the tea subsector and open the market to new management and more competition.

Another key change is the outlawing of the direct sale of tea overseas in favour of the auction. Teas not sold during a particular auction shall then be re-listed for sale in the subsequent one.

Registered tea auction organisers must set up an electronic trading platform, while buyers must submit a performance bond to the Agriculture and Food Authority (AFA) in the form of a bank guarantee, equivalent to 10 per cent of the estimated value of the tea they intend to buy.

The money from the sale of tea at the auction shall be remitted directly to FLC accounts within two weeks, and FLCs shall, within 30 days, pay growers at least 50 per cent of their dues for green leaf delivered every month, with the balance paid within the financial year.

Tea contributes immensely to the development of Kenya, bring in about 23 percent of the total foreign exchange earnings.

Most tea produced in Kenya is black, with the green, yellow, and white varieties following. Consumers in key markets are increasingly expanding their preferences from the Black CTC teas, flavoured and ready-to-drink teas, necessitating diversification to the segments by producers.

The Government is already implementing the Tea Act, 2020 to strengthen the regulatory framework for the industry.

However, this has been hampered by ex-parte court orders issued by the Judiciary in several petitions filed against some provisions of the Act.

The Act establishes the Tea Board of Kenya with the mandate to regulate, develop and promote the industry.

Also in the Act, is the process of electing board members representing the small, medium and large scale growers, and the tea traders at the Tea Board of Kenya. ■

INFOBOX

The interventions to address the challenges in the tea sector are categorised into four:

i. **Executive Order**
ii. **Legal and regulatory framework: Tea Policy and Bill/ Act Fiscal Incentives**
iii. **Financing through Development Finance Institutions (DFIs)**
iv. **Market access promotion**

VALUE ADDITION

Smelling the coffee: Reforms raise small and medium scale farmers' incomes

Better times ahead for the critical subsector that has been dogged by a slump since 2020

Despite coffee being one of Kenya's largest exports since its introduction in the country over a century ago, the sector has been undergoing a slump since 2020. However, many reforms have now been initiated to reverse the trend.

In February 2022, the Government launched the National Coffee Farm Inputs Stimulus Package E-Subsidy Programme, to boost access to inputs by small and medium scale farmers.

According to the 2021 Economic Survey, the coffee sector dipped by about 18 per cent on lower crop yields, mainly due to the effects of the coronavirus pandemic. Output was 36,000 tonnes in the 2020, from 45,000 tonnes the previous year.

Production by co-operatives decreased by 16.2 per cent and estates by 22.5 per cent. Export prices of unroasted coffee rose from KSh416.70 per kilogramme in 2019, to KSh512.40 in 2020.

The stimulus package programme targets 82,650 farmers in the 32 coffee growing counties, and is being implemented by the New Kenya Planters Cooperative Union (New KPCU).

Through it, coffee farmers will access a wide range of inputs at an affordable price. To eliminate corruption, the Government has embraced technology by issuing small and medium scale farmers with smart cards through New KPCU. This has made it better, faster and reliable. Farmers use the cards to buy fertilisers or pesticides from accredited suppliers.

The programme allows farmers to get loans at reasonable interest rates.

The Youth Enterprise Development Fund (YEDF), one of the flagship projects of Kenya Vision 2030, under the social pillar, is also enabling the youths to venture into coffee farming.

An example is Sailo Youth Group in Kipkelion East, Kericho County, who used KSh200,000 loan from the YEDF to begin coffee farming and are now reaping the benefits.

Kericho County is a tea-growing zone, but parts of Kipkelion East Sub-County, on the southwest, are known for coffee farming, thanks to their black cotton soil.

Sailo Youth Group has since bought more land for their coffee plantation and members are using the income to sustain their families.

The group owns four acres of land, of which three are under coffee. In 2020, they earned over KSh800,000 from 9,800kg of coffee berries.

In Kipkelion East, three popular varieties of Ruiru 11, Batian and K7 dominate. Ruiru 11 can resist Coffee Berry Disease and Coffee Leaf Rust, and is suitable for all growing altitudes in Kenya.

The Agri-biz loan from YEDF targets youth who wish to start or expand agricultural-related businesses, and is available to individuals, registered groups, partnerships and companies. They can access up to KSh2 million to be repaid within three years.

In April 2020, the Government announced US$14 million coffee revitalisation programme, with most of these funds allocated to improving coffee processing and the rest dedicated to input and support for cooperatives.

Coffee is projected to register a 7 per cent rise in production in 2022.

Through the New KPCU, over KSh300 million has been disbursed to farmers, out of the KSh3 Billion Coffee Cherry Advance Revolving Fund. The Government prefers the revolving fund, with an affordable interest rate of 3 per cent for farmers to buy inputs and other essentials.

The Agriculture ministry is also undertaking a performance audit of 300 coffee co-operative societies, and supporting the digitisation and modernisation of factories' infrastructure.

The Government is also facilitating the adoption of digital agri-tech tools that, among other things, relay to farmers in real-time, how much their coffee fetched on the market via an SMS (short message service) platform, launched by the Ministry of Agriculture in 2018.

Precision Agriculture for Development, in collaboration with Safaricom, developed the platform, which also helps farmers access information on chemicals, fertilisers and other inputs. Technology is also helping to reduce wastage occasioned by processing and milling.

Kenya produces quality Arabica beans, which are generally upgraded with other lower brands, hence the need for value addition. The coffee sub-sector has adopted better packaging to extend the useful life of roasted coffee and plans are underway for large-scale roasting in importing countries, using vacuum packing as a preservation technique.

The share of gross value added as percentage of retail price of roasted coffee in most importing countries, is over 70 per cent. The Trade, Industrialisation and Enterprise Development Ministry is working with the Ministry of Agriculture to encourage coffee co-operatives to lease facilities put up by the private sector, and the government at the Export Processing Zones (EPZ), to add value to their produce, like the Africa Coffee Roasters (ACR) factory in Athi River EPZ. By roasting and packing locally, farmers can gain more from their exports.

The Coffee Research Institute (CRI) has created a variety known as Batian that is immune to rust leaf and coffee berry disease, and matures in two years. Value-adding operations include soil preparation, fertilisation, spraying, maintenance and harvesting.

At the farm level, CRI and private sector traders offer producers complementary services and inputs.

Kenyan coffee is among the best in the world and 99 per cent is exported, most of it to Germany, Sweden and Belgium, the USA and Saudi Arabia. ■

INFOBOX

KSh512.40

Export prices of unroasted kilogramme of coffee in 2020

KSh200,000

The loan YEDF advanced the Sailo Youth Group in Kipkelion East, Kericho County, to begin coffee farming

Opportunities to improve the lot of small and medium scale farmers lie in:

- **i. Better governance structures for cooperatives, millers and the Coffee Board of Kenya**
- **ii. Institutional reforms to increase farmers' participation in the value chain**
- **iii. Incentives to encourage networks and alliances formation among coffee farmers**
- **iv. Coffee branding, particularly through single-origin identification like the Geographical Indication (GI) of coffee, which offers opportunities for contract farming and joint ventures.**

AGRO-INNOVATION

Dairy sector gets tech-savvy with World Bank's help

The World Bank is supporting Kenya to implement the five-year smart agriculture project.

The Kenya Climate-Smart Agriculture Project (KCSAP), from 2017-2022, is being implemented under the framework of the Agriculture Sector Development Strategy (ASDS) (2010-2020) and the National Climate Change Response Strategy (NCCRS, 2010).

Dairy farmers in Taita Taveta are already reaping the benefits of the project, with the County government setting an annual target of 30 million litres of milk, up from 18 million litres.

The project supports small-scale farmers in mobilisation, training and operational expenses to increase their productivity and enhance supply of products. Programmes initiated include artificial insemination and veterinary services that have benefited 7,000 dairy farmers. Extension officers from the Ministry of Agriculture are also facilitated by the County administration to advice farmers.

In Kisii County, small-scale dairy farmers are using artificial insemination and zero-grazing techniques to boost milk production. Friesian, Ayrshire, and Jersey breeds are serviced with semen from bulls of superior quality, to give birth to hybrids that yield more milk.

According to the Tegemeo Institute of Agricultural Policy and Development, milk from livestock in Kenya is estimated at 5.2 billion litres annually, out of which cows account for 75 percent.

Milk is primarily produced under zero-grazing, semi-zero grazing, and open grazing by an estimated 1.8 million small-scale farmers.

Embracing technology in the livestock sector, producing climate change resilient and high-yielding breeds are part of key efforts smallholder dairy farmers are making to help the Government achieve the Big 4 Agenda pillar of Food Security and Nutrition. Tana River County, in partnership with the European Union (EU), has constructed two mini milk cooling plants in Bangale and Garsen Wards. The two solar-powered cooling plants will be used for milk collection, bulking and as chilling centres.

Once operational, the Tana River Fish and Milk Authority (TRFMA) will manage the project. The plants are equipped with milk reception centres, pumps, cooling and storage tanks, solar panels and backup batteries.

The plants will reduce losses by farmers and increase the shelf-life of milk. Two satellite milk collection centres are operating at Boka in Tana North Sub-County and Tarassa in Tana Delta Sub-County, holding the milk for onward transport to the main cooling plants.

The quality and hygiene of milk will improve, thus enhancing its marketability. Ten thousand litres of milk will be processed daily up from the current 3,000 litres.

In Trans Nzoia County, KALRO is collaborating with dairy farmers to plant brachiaria grass for increased milk production due to its higher protein content.

KALRO is also promoting fodder grass in Trans Nzoia, West Pokot, Elgeyo Marakwet, Turkana and Uasin Gishu counties.

The wonder grass takes four to five months. Among the varieties being promoted are basilisk, xaiares, Flata and M G 4. The grass can be planted for open grazing fields or harvested and stored for future use.

More than 1,000 dairy farmers in western Kenya have doubled their milk production and grown their incomes by saving on feed and growing their own high-quality, drought-resilient forage grasses. The farmers have been trained since 2018 on new varieties of grasses.

KALRO tested the grasses for suitability to local conditions before they were released to farmers. Young people without cattle are also benefitting, growing the fodder and selling it to farmers.

Meanwhile, the Dairy Industry Regulations, 2021 were gazetted and launched in March 2021 and are now law. They are meant to solve challenges facing the dairy sub-sector, including seasonality of production, low productivity, poor quality, costly and inaccessible animal feeds and a weak regulatory framework.

The regulations fall under Section 19 of the Dairy Industry Act and underwent rigorous legal and constitutional requirements and incorporated input from stakeholders, including the county governments.

The regulations will also ensure that automated milk dispensers meet international standards of hygiene.

They cover a raft of areas, including registration, licensing, cess and levy, returns, reports and estimates, enforcement of compliance, produce traceability and recall, contracts for milk sales, pricing of dairy produce, imports and exports and safety of produce.

The regulations will stabilise the prices of dairy products and reduce the negative impact of cartels and middlemen. They empower the Kenya Dairy Board to set minimum prices for raw milk and limit the importation of dairy products.

Nakuru County is implementing the Dairy Value Chain Strategic Plan (2019-2023) to assist small-scale farmers to increase production.

The dairy sub-sector is the largest in the agriculture value chain, creating employment and ensuring food security. Although Kenya is the second largest producer of milk in Africa, the dairy sector incurs a lot of losses during production and processing.

The Strategic Plan will formulate approaches and programmes for the development of the industry.

Farmers will benefit from improved artificial insemination, cattle sheds, mobile veterinary clinics and the establishment of bulk milk chillers, collection centres and skills on how to cultivate fodder.

Milk production is driven by small-scale dairy farmers, whose population is estimated at 1.8 million. The informal sale of raw milk in rural, peri-urban and urban areas is a regulatory concern due to the potential public health concerns.

The Strategic Plan increases the capacity of dairy farmers to produce and deliver quality dairy products and expands their access to domestic and export markets. ■

FACTS & FIGURES

30M litres

Annual milk production target set by Taita Taveta County

2019-2023

Duration of the Nakuru County Dairy Value Chain Strategic Plan

FOOD SECURITY

VALUE ADDITION

Shot in arm for livestock farmers in 10 counties

Siaya, Busia, Bungoma, Elgeyo Marakwet and Samburu among regions that stand to gain from six-year project

The Government has set aside KSh9.6 billion to establish the Kenya Livestock Commercialisation Project (KeLCoP) in 10 counties in collaboration with the International Fund for Agricultural Development (IFAD), The State Department for Livestock initiative, hopes to boost rural smallholder farmers' incomes and enhance food and nutrition security. The beneficiary counties are Siaya, Busia, Bungoma, Elgeyo Marakwet and Samburu.

Others are Kakamega, Nakuru, Baringo, Marsabit and Trans Nzoia. The six-year project focuses on small ruminants, improving local poultry breeds and strengthening bee-keeping value chains, which have the potential to provide productive employment and food security for women and the youth. It also covers sheep and dairy and goat meat farming.

Up to 495,000 farmers will benefit directly and indirectly from the multibillion-shilling project.

Use of climate-smart production technology is at its core, supported by electronic extension services, breed improvement, upgrading of market infrastructure, capacity development, and provision of grants for marketing in the targeted counties.

The Ministry of Trade, Industrialisation and Enterprise Development has already identified the foreign markets to be targeted. In a related development, the Kenya Agriculture Livestock and Research Organisation (KALRO) has introduced improved breeds of dairy cattle and grass adapted to harsh climatic conditions to mitigate the effects of drought on livestock.

The crossbreed of the indigenous Sahiwal and the exotic Friesian cattle are resistant to most pests and diseases and can yield as much as 30 litres of milk per day. KALRO, through its Dairy Institute in Naivasha, is also training farmers on breeding, disease control, animal health, feed formulation, value addition and marketing.

The high cost of feed is a major challenge for small scale dairy farmers. KALRO is equipping them with skills to grow their own feeds from maize germ, boma Rhodes and brachiaria grass.

The cross-bred dairy cows can survive the harsh nomadic lifestyle in arid and semi-arid regions and allows pastoralists to keep fewer animals, but with higher milk or meat production potential. To deal with the perennial feed shortages, KALRO has introduced, through its Arid and Rangelands Research Institute, a re-seeding programme, where grasses, mainly indigenous and adopted, are re-grown in the rangelands.

The improved cattle breeds are well adapted to the range and grasslands, and are being used to improve the African Zebu breed that is less productive, yielding an average of just 10 litres of milk per day.

KALRO has also secured registration of four range grass varieties for establishment of new pasture fields and restoration of the degraded rangelands. Sahiwal bulls are providing semen to the Kenya Animal Genetics Resource Centre (KAGRC), for use in artificial insemination. KALRO has also established a call centre where farmers can receive advice on planting materials, fertilisers, plant and animal diseases and weather updates.

The 600,000 small-scale farmers geo-referenced on the platform are easier to locate for extension services and other support. These efforts are informed by the reality that Kenya's informal milk sector accounts for more than 70 per cent of 40,000 jobs in the dairy sub-sector.

Trainings focus on technologies, innovations and management practices including assisted reproduction in dairy cattle breeding, disease tolerance, forage conservation, feed rations, manure management for bioenergy, fortification of feeds, marketing and milk handling. ■

INFOBOX

Insurance cover extended to vulnerable pastoralists

The Government has put in place measure to mitigate the losses suffered by pastoralists during drought.

With 60 percent of Kenya's livestock being resident in the arid and semi-arid regions, or over 70 per cent of the country, and severe drought a major challenge, the Government in 2014 launched an insurance scheme for the pastoralists.

The scheme was launched by the Ministry of Agriculture, Livestock, and Fisheries - with support from the International Livestock Research Institute (ILRI) and the World Bank.

The Kenya Livestock Insurance Programme (KLIP) targets pastoralists whose livelihoods are entirely dependent on livestock. KLIP has been developed as a public-private partnership (PPP) where the Government creates the enabling conditions, including premium support, and the insurance companies focus on service delivery, including product development and paying claims.

KLIP is based on the internationally recognised index-based livestock insurance model, which was developed in 2009 by a team of scientists from ILRI and technical partners. Its signature feature is the use of satellite data to generate an index for grazing conditions so that payments are triggered early when conditions fall below a certain critical level.

The index eliminates the need for monitoring by insurance agents and ensures timely payouts to pastoralists, which help herders keep more livestock alive.

DIGITAL JOBS

Trends shaping the future of online work

It was the Greek philosopher who once said that "The secret of change is to focus all of your energy not on fighting the old but on building the new."

On the 11th of March 2020, Dr Tedros Adhanom Ghebreyesushe, the Director General of the World Health Organisation (WHO), uttered the most dreaded words since the Great Plague of Europe.

"WHO has been assessing this outbreak (Covid-19) around the clock and we are deeply concerned both by the alarming levels of spread and severity, and by the alarming levels of inaction. We have therefore made the assessment that COVID-19 can be characterized as a pandemic," he said in a press statement.

With those words, what began with an outbreak in Wuhan, China officially became a global pandemic, one that would change completely the traditional view of work and delivery of goods and services.

The year 2020 became the defining year for Kenya's Gig economy. As the government moved to impose travel bans and shutdowns to limit the spread of the virus - a variation of the strain of coronaviruses known as SARS-Cov - business struggled to stay afloat.

But even in the darkest of those moments unleashed by the virus, others were adapting to take advantage of new opportunities. Kenya is a regional and African leader in digitalization of business and services. The Internet and its allied technologies, therefore, offered a platform for enterprising innovators to tap into the increasing reliance on digital technologies for delivery of good and services at the height of the pandemic.

Covid-19 had not only reinforced the need for people to be able to work from home, but also opened the Internet as a dynamic channel for Kenyans to procure goods and services based on greater freedom of choice and flexibility.

A hybrid world

The Covid-19 pandemic accelerated a number of workforce trends, particularly among white-collar workers who are easily transferable to remote scenarios. It redefined the term "essential worker," as well as the social and psychological contract between employers and employees, who now have very different expectations than three years ago.

What employers are responsible for and what employees are willing to accept has changed the game. The pandemic reshuffled the deck and shifted the conversation among professionals who realised that constant travel and separation from family wasn't the only way to make a living. Companies and organisations are coming to terms with business as usual in what has evolved into a hybrid world.

The pandemic challenged and reshaped the gig economy, redefining the status of remote workers. Freelancers or freelance pools are making companies and organisations more productive and flexible. It is both a cost-saving and practical tool and "freelancers" or "remote workers" are exploding alongside cultural change and adaptation.

Employers realized that outsourcing non-core functions to freelancers or freelance pools boosts productivity and flexibility and saves costs.

Collaboration at work

In a gig economy, self-directed and smaller teams within an organization or company work with autonomy but are interconnected and constantly in communication with one another. But to avoid creating mini silos, they all work from a common blueprint as work moves from team to team.

There are multiple tools to support collaborative work. For example, Google sheets are available for all members of a team to see and repurpose as necessary.

Collaboration technologies are helping too. Email is no longer the primary means of collaborating Video conferencing apps like Zoom and Webex have added to the paltforms available to facilitate real time collaboration.

Thanks to the Internet and social media channels, workers in the gig economy can also easily upskill without waiting to enroll in formal training programmes run by their employers.

Unlike in the full-time traditional workplace environments where reporting rules create the illusion of control, in the gig economy, this has taken a paradigm shift where outcomes are measured rather than input by setting clear goals.

Leaders in the gig economy workspace do not need to see the workers. To be sure they are working.

The virtual workplace is opening up an entirely new landscape. Workers in this space no longer have to live near or close to their employers, thus creating new markets for companies offering health, travel insurance, food and vehicle services for freelance and distributed workers.

This is the "new normal". Things are changing at an incredible pace. Growth is no longer gradual, but about massive changes and the pace increases every year. Organisations and individuals must therefore adopt the new normal. Things will never slow down.

According to Jacob Morgan, author of "The Future of Work in 2014", gig economy workers don't have to be chained to a desk from 8 a.m. to 5 p.m. but are free to work when and where they want. They don't have to follow a single career path, but can instead choose one that is customised to their needs. They can control their learning and share their skills with others.

"These are just a few ways employees are changing. These changes aren't just minor surface-level adjustments–they are seismic shifts in how employees view their purpose, future, and career. Going forward, the divide between companies hiring employees of the past and those hiring employees of the future will grow even wider," says Morgan.

The gig economy offers workers the freedom to pursue multiple customised career paths or ladders: they can control their learning and share their skills with others. ■

BEEF EXPORTS

Middle East now key market for Kenya's beef, dairy products

The Middle East has become a major export market for Kenya's beef and dairy products as part of diversification from the traditional floriculture and horticultural exports.

Already, meat from goats and sheep comprise over 85 percent of total exports, followed by cows, fowls, rabbits and turkeys, according to export statistics which also single out the United Arab Emirates, Saudi Arabia, Bahrain, South Sudan and Kuwait as the top five markets.

The five are part of the Gulf Cooperation Council (GCC), the others being Bahrain, Qatar, Kuwait and Oman-where, early this year, Kenya resumed direct export of livestock after a 16-year plus ban.

A ship ferrying more than 14,000 goats and sheep left Mombasa for Salalah Port, Oman, as part of boosting livestock trade between the two countries.

"For Kenya, the journey of growing this industry has just begun," Dr Wilfred Marube, the Chief Executive Officer, the Kenya Export Promotion and Branding Agency (Keproba), wrote in an opinion in a local daily.

"There is still a huge unexplored potential in the export of Kenya's meat and meat products to countries like the United Arab Emirates, the United States and Oman."

The Livestock sector, for starters, accounts for 12 percent of Kenya's Gross Domestic Product (GDP), with exports of meat and its product accounting for 1.1 percent of total in 2020.

To streamline the sector, Agriculture Cabinet Secretary (CS) Peter Munya, this year revealed that four laws were undergoing consultation in Parliament. They are the Livestock Bill, the Veterinary Public Health Bill, the Animal Welfare and the Protection Bill.

Besides meat and related products, Kenya is also exporting milk with projections estimating annual increase of KSh100 million.

The New KCC, for instance, initiated a partnership with Oman's Azim Milk Company to supply lactose-free milk to Oman for an initial five years.

"The agreement between Azim and New KCC is just one of the opportunities we expect this year," said Dr Marube. "More deals are coming, especially because now that we have had several fruitful Business-to-Business engagements taking place for vegetables, fruits, nuts, tea, coffee, meat, dairy and flowers."

During the 2020 Dubai Expo held from October 2021 to March 2021, Kenya was among the 192 countries which showcased their opportunities in the livestock sector to the larger GCC region, and attracted investments through Keproba. Speaking at the Dubai Expo, President Uhuru Kenyatta said besides meat and dairy products, the Middle East is also a highly untapped export market for cut flowers, textile, and leather and fishery products.

The chairman of the Nairobi Securities Exchange (NSE), Mr Kiprono Kittony, reckons that having excelled in logistics, Dubai "is a key strategic partner, supporting Kenya in delivery of flowers, coffee and other export products" and that by next year, there is no reason why the country's exports to GCC countries should not grow to KSh280 billion, up from KSh61.75 billion since 2019.

The six month Expo takes place every five years and Kenya showcased its apparel, avocados, bulk black tea, cut flower, goat meat, vegetable, coffee and textiles.

The Dubai Expo attracted more than 17 million delegates from all around the world, enabling Kenya to widen its export market beyond the traditional Europe and East Africa, said Dr Marube.

Apart from the GCC countries, other markets that Keproba seeks to grow exports are the USA, from KSh52.47 billion (US$467.32 million) to KSh100.92 billion (US$898.92 million) in 2023, and China, from KSh1.32 billion (US$109.9 million), to KSh1.84 billion (US$163.7 million) over the same period. ■

MILK

East African project targets hybrid goats to boost milk output

The productivity of the dairy goats is poised to increase following the establishment of an artificial insemination centre at Kutus in Kirinyaga County. The KSh500 million centre at the Animal Health and Industry-Training Institute (AHITI) was built with World Bank aid, under the Eastern Africa Agricultural Productivity Project.

It is expected to increase the productivity of the dairy goats from an average of 1 litre to 5 litres per day.

The centre is part of the Government's commitment to delivering on the Big 4 Agenda pillar of Food Security and Nutrition, and will enable small-scale goat farmers to access quality breeds.

The Government has purchased full artificial insemination kits to support the dairy sub-sector and lower the cost of the service. Also being built is an embryo transfer plant at Mariba farm in Meru, to be equipped with an embryo-sexing machine for high-quality breeds.

Dairy farmers in Mt Kenya region are already enjoying subsidised costs for artificial insemination, thanks to a multimillion-shilling liquid nitrogen gas plant already in operation.

The cost of artificial insemination services has been reduced by 50 per cent from KSh1,000 to KSh500. Service providers were charging farmers exorbitant fees due to the long distance between the county and Kabete in Kiambu, where the crucial nitrogen gas is produced.

The project will boost the dairy sub-sector due to easy and cheaper access to certified semen. The KSh200 million nitrogen plant produces 20 litres per hour, and benefits farmers in Nyeri, Muranga, Embu and Tharaka-Nithi counties.

Kenya will be able to produce enough goat semen for local farmers and have a surplus for export within East Africa from the Ndomba plant alone. ■

POLICY REVIEW

Reforms spark revival of cotton and textile industries

Intervention identifies the priority areas under the Third Medium Term Plan

The Ministry of Industrialisation Trade and Enterprise Development prepared and approved Kenya's first ever comprehensive industrialisation road map, which identified the priority areas under the Third Medium Term Plan (MTP III).

One such area is the revival of failed industries, including cotton processing and ginning.

The Cotton, Textile and Apparel (CTA) industry remains largely labour-intensive and employs both semi-skilled and unskilled workers, and hence a key contributor to rural livelihoods. Specifically, about 200,000 households and an estimated 40,000 farmers rely on proceeds from cotton growing.

The value chain includes production, ginning, spinning, and weaving, apparel making and output sales and marketing. Export Processing Zone (EPZ)-based manufacturers employ 52,000 people in the related apparels sub-sector, of which about 21,000 people are formal workers.

Major inputs include fibres (natural/man made), dyes, chemicals, yarns, threads, fabrics, utilities such as water, electricity and fuel, machinery and skilled and semi-skilled labour. Cotton growing in Kenya is mainly undertaken by small-scale farmers

Interventions by the Government, under MTP III are bearing fruit. Policy reviews and legislative changes have improved the cotton growing ecosystem alongside the revival of Rivatex.

Among the key policy interventions was the introduction of the hybrid BT cotton variety, which has been genetically modified to produce a natural pesticide to combat pests, including African bollworm, which causes the greatest damage to farmers.

By planting BT cotton, farmers are seeing huge savings in cost of pesticides, leading to more earnings and higher yields. BT cotton is enhanced by incorporating a gene derived from soil-dwelling bacteria.

With the assurance of a ready market by Rivatex, more farmers have been encouraged to increase cotton production. Following Government investment in Rivatex, the factory now has the capacity to consume 10,000 bales of cotton and is committed to buying all the locally planted crop. A Government directive also requires state agencies to buy locally tailored fabrics.

> **This is expected to increase revenue and create 500,000 jobs in cotton production and 100,000 in the apparel sector by 2022.**

Ginneries in Embu and Kirinyaga that were long-dormant, now have a new lease of life.

The revival of cotton is expected to eventually reduce the influx of second-hand clothes, also known as mitumba.

The Government has already trained 50,000 youths and women in the production of the crop, and established five million square feet of industrial sheds. This is expected to increase revenue and create 500,000 jobs in cotton production and 100,000 in the apparel sector by 2022.

Farmers in Mwea have harvested more cotton than previously, at the rate of three times the conventional varieties, with a shorter maturity period of between 130 to 180 days. Whereas average yields from the conventional cotton seed are 250kgs per acre, BT yields average 7,000kgs per acre.

Increased production will spur the manufacturing sector through the provision of raw materials for the cotton value chain, including ginners, spinners, textile mills and apparel manufacturers, and create jobs for youths and women. Annual local demand for cotton is 140,000 bales, with a potential to grow to 260,000, yet the industry is producing a mere 21,000 bales annually.

The commercialisation started in 2011, culminating in a conditional approval from the National Biosafety Authority in 2016 to Monsanto Company, which owns the BT technology.

The National Environment Management Authority (NEMA) gave Monsanto a clearance certificate after conducting an environment impact assessment (EIA).

A 12-member taskforce, set up by the ministries of Agriculture and Industrialisation Trade and Enterprise Development, selected nine sites for national performance trials of BT cotton at Bura, Katumani, Mwea, Perkerra, Kampi ya Mawe, Matuga, Kibos, Alupe and Barwessa.

In addition to higher yields, the industry benefits from improved cotton quality and export revenues.

In Homa Bay County, farmers are reinvesting in cotton through their co-operative society and have acquired land to put up a modern warehouse and office and eventually a new cotton ginnery.

The National Agriculture and Rural Inclusive Growth Project (NARIGP), supported the Cotton Cooperative Union to buy the 2.5-acre land in Magare Village in Homa Bay town.

A similar revival is ongoing in the Kerio Valley, following the signing of an MOU between the county and the Moi University-owned Rivatex. Farmers there are setting up a cooperative to deal directly with the buyers.

Farmers in the area, which is classified as semi-arid, would have greatly benefited from the Kimwarer and Arror dams, whose construction was halted due to alleged corruption.

The Government established 1,000 demonstration farms in 23 cotton-growing counties, ahead of the commercialisation of BT.

Each demonstration farm was to train at least 40 farmers and create a pool of 40,000 growers as catchment for BT cotton, with a target of 200,000 acres under cultivation by 2022, hence creating over 2,500 jobs for Kenyans along the value chain. This is going in tandem with the strengthening of smallholder farmers' cotton development organisations' governance capacities in their co-operatives, modernisation of ginneries and the establishment of new ones to enhance value addition.

For the programme to succeed, farmers are being encouraged by the Co-operative Department to form co-operative societies so as to enjoy economies of scale.

Kenya was the seventh country in Africa to adopt the BT cotton after South Africa, Sudan, Ethiopia, Malawi, Nigeria and eSwatini.

Commercial farming of BT Cotton would have been impossible without the lifting, by the Cabinet, of a Government ban for importation of GM foods imposed in 2012.

The first trials on the crop were carried out in 2001, at then Kenya Agricultural Research Institute (KARI), now the Kenya Agricultural Research and Livestock Organisation (KARLO), Mwea Centre. Increased cotton production will spur the manufacturing sector through provision of raw material for the cotton value chain, including ginners, spinners, textile mills and apparel manufacturers, while creating jobs for the youth and women.

Overall, this will improve rural incomes and reduce poverty, while contributing to the realisation of the Big 4 Agenda in respect to manufacturing. Among the key drivers of the manufacturing sector under the Big Four agenda, is cotton and textiles, which makes the commodity as a strategic crop in the marginal areas, and mainly grown in smallholder farms.

Other envisaged measures include, buying domestically grown cotton, improving governance in the import rules for textile products to cushion local producers and providing incentives to investors to build modern ginneries and textile manufacturing plants.

Once the Fibre Crops Development Authority Bill becomes law, the cotton industry will be even more invigorated. It will allow the Government to promote and market fibre crops and products.

Globally, 15 countries are currently growing GMO cotton, covering an area of 24 million hectares. Kenya is the latest entrant. ■

PERSPECTIVE

Linkages and value addition raising household incomes

The Big 4 Agenda prioritised investment in projects geared towards boosting the agricultural value chain as key to achieving food security.

It is based on studies that jobs created within the agriculture sector are low-paying, and cannot offer enough employment, unless the Government pursues targeted interventions.

Policies developed by Government over the years also stress the immense potential of agro-processing and value addition to employing the youth.

They include the Agriculture Sessional Paper No.4 of 2013 on employment policy and strategy for Kenya; Sessional Paper No.4 of 2013 on employment policy and strategy for Kenya; Sector Development Strategy (2010-2020); the National Industrialisation Policy for Kenya (2011-2015); Kenya National Youth Policy (2007); and the Kenya Youth Agribusiness Strategy (2017-2021)

Linking their efforts through the Kenya Agricultural Value Chain Enterprises (KAVES) project, 30 Government and private sector organisations have been addressing the value chain constraints to increase the productivity and incomes of smallholder farmers, and other actors in the dairy, maize (and other staples) livestock and horticulture sectors.

The Kenya Youth Agribusiness Strategy recommends value chain analysis, to investigate the potential fit for the youth. ■

INFOBOX

The partners in KAVES include:

i. Ministry of Agriculture, Livestock and Fisheries.
ii. County governments.
iii. Agricultural Sector Development Support.
iv. Programme (ASDSP).
v. Kenya Dairy Board (KDB).
vi. Kenya Plant Health Inspectorate Services (KEPHIS).
vii. Kenya Food Security Steering Group.
viii. Pest Control Products Board (PCPB).
ix. Horticulture Competent Authority Structure.
x. Horticultural Crops Development Authority (HCDA).
xi. Kenya Agricultural Research Institute (KARI).
xii. Public and private sector actors in the dairy, maize, and horticulture value chains.

They are working with smallholder farmers, businesses, and national and county governments, including agro-processors, suppliers, transporters, exporters, retailers, financiers, to develop fully functioning and competitive value chains.

This is boosting the productivity and incomes of smallholder farmers, and other actors along the value chain, in the dairy, maize (and other staples) and horticulture sectors.

The goals are to:

i. Improve economic stability and food security
ii. Improve nutritional outcomes, reduce chronic under-nutrition
iii. Build and diversify sustainable value chains
iv. Increase the productivity and incomes of 500,000 smallholders

The success stories of KAVES are documented on: https://www.fintrac.com/success-stories/kenya-kaves

FUTURE OF WORK

Youths praise Ajira Digital for opening up their world

Big 4 Agenda programme was initiated by the Ministry of ICT Innovation and Youth Affairs

The Ajira Digital Programme is transforming the lives of hundreds of Kenya's youths' preparing them to participate in the digital economy under the motto, "The Future Works Online".

A government initiative driven by the Ministry of ICT, Innovations and Youth Affairs to empower over one million young people to access digital job opportunities, the program is positioning Kenya as a choice labour destination for multinational companies.

The programme seeks to empower and expose the youth to online jobs through training. The number of trained youths under the programme grew from 21,105 in 2018 to 91,615 in 2021

It is also encouraging local companies and the public sector to create digital work. The government digitization projects already create lots of viable micro work that can be completed by digital workers. Access to digital is building wealth and growing the middle class across the country.

A larger middle class means more opportunities for businesses and direct growth of GDP. The main objectives are to raise the profile of digital work; promote a mentorship and collaborative learning approach to finding digital work; provide Kenyans with access to digital work; and promote Kenya as a destination for online workers.

Following are testimonies from some of the youth who benefited from the Ajira Digital Programme training.

Clifford Okoth

Born and bred in Webuye town, in Bungoma County, Clifford Okoth's story is one of triumph against all odds. The 29-year-old former student of Kenyatta University has turned the tables from being a jobless young graduate to a successful entrepreneur and a community youth influencer.

The co-founder of the Lighthouse NARIGP Poultry Youth CIG (an associate of the World Bank) farm in Webuye East has climbed out of poverty and ushered fellow youths in his community into employment and economic growth by leveraging digital skills opportunities.

Through the Lighthouse NARIGP Youth CIG, a community-based organization (CBO) co-founded by Clifford and his colleague Daniel Barasa and currently has over 30 young people involved in meaningful employment, which is heavily complemented by the Ajira Digital training and mentorship.

Clifford succeeded despite a difficult childhood. For starters, he dropped out of his undergraduate degree in Environmental Science at Kenyatta University, as he was self-sponsored and his parents could not afford the fees. This unfortunate turn of events did not discourage or deter Clifford from pursuing his dreams; he explored a certificate in business management from the Kenya Institute of Management (KIM), Digital skills from Digital Opportunities Trust (DOT), among other opportunities.

Clifford has also trained with KYEOP (Kenya Youth Employment Opportunities Project) and is currently doing exams for grade 3 in Tailoring and Dressmaking: he was also elected the representative for Webuye Chapter KYEOP cycle 6. His commitment and determination gave him the necessary soft and hard skills to start a poultry farm business which is currently a registered CBO with two poultry farms and a hatching station in its name.

When Covid-19 hit in early 2020, Clifford could not sustain his needs through the business and was happy to discover Ajira through a social media platform. He trained on transcription and soon landed well-paying clients on Upwork with the help of Ajira Digital mentors. One of the online work projects that Clifford delivered on the Upwork platform paid him ksh 160,000.

He invested the whole amount into his poultry business, and he continued with online work whilst running his business on the side. He later trained in Digital Marketing and Data entry, which were instrumental in building his business. Clifford has been a great ambassador of the Ajira Digital Programme and has mobilized over 200 young people, including Lighthouse poultry farm CBO members, to take up the training, mentorship, and job linkages to earn a dignified income from online work.

Currently, Clifford doubles up as the Project Manager and the Chairman of the Lighthouse NARIGP Poultry Youth CIG, with Daniel Barasa as the Project Operations Manager and CBO Secretary and Alphonzine Etota as the Marketing Manager and Treasurer.

"From the Ajira Platform work, I have managed to make money to cater form my daily needs and even start a poultry business by buying incubators," says Clifford.

"On average I make about KSh20,000 monthly which I use to purchase eggs to run my incubation business. This has helped me be more consistent in my poultry business because as we speak now, my incubators produce about 3,700 chicks at once and all this is through the Ajira Digital platform which has equipped me with the knowledge and skills to earn a decent living. It's a great initiative for the youth since it has enabled us to rise and be sustainable in what we do. Therefore, I would urge the youth countrywide to embrace this Programme as it is because, at the end of the day, online work is work.," he adds.

The Lighthouse Narigp Youth CBO continue to leverage the Ajira Digital Programme value to grow. One of the basic requirements to join the CBO is to train on Data Entry/management and Digital marketing/e-Commerce at the Webuye East Ajira Youth Empowerment Centre (AYEC) under the mentorship of Lucy Kilwake, the Centre Manager in the constituency.

Through Clifford's leadership, most members of the Lighthouse Narigp CBO are resident online workers at the AYEC. They're a part of the Online Workers Community in the area, involved in digital freelancing and digital marketing of the business and CBO Partners' products.

At the AYEC, they are privileged to access Free laptops, WiFi and working space, and online work mentorship from the Centre Manager. Some activities that the Lighthouse Narigp Poultry CBO is involved in include Chick hatching, brooding and rearing. To ensure sustainability, the organization also supports its clients through value-addition customer service such as animal vaccination, farmers' training and digital marketing services for partners' poultry products.

The Light House Narigp CBO, started as a small poultry business by two young men with an ambitious vision, is now a regional business that serves clients from Western, Nyanza, and Rift Valley with chicks for rearing, Free farmers training and digital marketing services. The business started with a small incubator with a capacity of 528 eggs now has two other more prominent incubators with a capacity of 1056 and 2112.

The project now prides itself on owning two poultry farms where they rear chicken to produce hatching eggs to sustain the business, given the scarce supply of improved hybrid chicken eggs in the market. Lighthouse Narigp's business growth has been growing on a positive trajectory. It has attracted numerous like-minded well-wishers who have supported the organization with Free financial training free land to expand their business among other partners, with the latest one being AMPATH.

The AMPATH organization was impressed by Clifford's Lighthouse business model presentation, and they committed to fund them for expansion. Lighthouse Narigp will be receiving a cash donation of ksh 100,000 from AMPATH after a successful application and upon meeting all the grant criteria.

Mercyline Owino

"Being a penniless single mother can be a double tragedy in a capitalist country like Kenya. My name is Mercyline Owino a mother of three boys from Ndhiwa constituency. Growing up, just like any other "normal" girl, I had big dreams. To study hard and excel in my studies, secure a good job and loving prince to settle down with, have children, and live happily afterward. Well, all of this came true, save for living happily ever after as my marriage ended faster than I expected.

"After graduating from college with a bachelor's degree in Environmental Studies, I met the father of my three boys (currently ex-husband), and we started a family together. Unfortunately, we ended the marriage after a few years of living together. My life took a new twist and gave me the title of Single mother of three boys at a tender age, broke and hopeless.

"However, my story is different today; Ajira digital Programme gave me hope when everything else was falling apart. Having separated from my ex-husband last year in March 2020, I returned to my parents' home in Ndhiwa since that's the only place I could seek refuge, considering I was jobless and could not afford to rent a house. I came along with my three handsome baby boys, who were four years old and four months old twins, respectively.

"My parents equally struggled to meet my daily basic needs and their grandchildren's. We barely ate a square meal a day, and my firstborn, a four-year-old boy at the time, could not join pre-school to commence his education due to inadequate finance. As a mother, this was a deal-breaker, and I could not settle any longer with the state of things at the time. This financial challenge pushed me to move out of my comfort zone in search of a source of income.

"As I was in Ndhiwa town, I saw the Ajira Digital Platform awareness flag and remembered my brother had advised me to try the Programme some days back. I gained interest and visited the Kosewe Ajira Empowerment center (AYEC) In Ndhiwa to find out more about the opportunity and what could be in it for me. After a detailed and engaging info session with the Kosewe AYEC manager, I saw a ray of hope, and my life took another turn towards the journey of empowerment and independence.

"I attended a two-day virtual training on Transcription and Data Entry at the Center and managed to secure some online work on Upwork and QA World accounts which paid me some reasonable income to put food on the table. Luckily, through hard work and diligence, I got a job opportunity as a legal transcriptionist at Adept Technologies, one of Ajira Digital Business

OUTSOURCING

Govt eyes BPO sector to create online jobs

Business Process Outsourcing, also known as Information Technology Enabled Services (BPO/ITES) involves the transfer of value contributing activities and processes to anotherfirm to reduce the operating costs, for better quality and the ability to focus on core competence.It is simply the movement of business processes from inside the organization to an external service provider.

The term encompasses a range of activities that include customer servicework, data entry, transcription, digitization, financial accounting, auditing and other higher value-knowledge processing such as content development, animation, legal services, engineering design, and data analytics.

With the global telecommunications infrastructure now well established and consistently reliable, the BPO industry is expected to help Kenya realize its development goals. The Kenya Vision 2030 development blueprint identifies BPO as a key sector under the economic pillar and has played a big role in the growth and development of a knowledge-based economy and opening a window for thousands of jobs to unemployed youths in the country.

Further, BPO has continued to provide business services via the internet to companies and organizations in developed countries.

Kenya's Third Medium Term Plan (MTP III) 2018-2022 had envisaged attracting top international IT suppliers, leading multinational corporations, and foreign companies with top BPO brands. The sector is expected to create over 200,000 direct jobs and contribute towards the achievement of ICT sector Target of 10% of Gross Domestic Product (GDP).

In order to bridge the digital divide and promote innovation and creativity, the Plan had focused on the promotion of Kenya as a Business Process Outsourcing (BPO) destination as well as enhancing development capacities for science, technology and innovation. Programmes and projects in the BPO/ITES sector are ongoing and include the establishment of a Smart City (Konza Technopolis), Digital Literacy Programme, provision of mentorship toyouth on online digital work, exploiting digitally-enabled job opportunities, equipping youth with skills and access to the available information.

There is also a focus on identifying opportunities in the investment, trade and manufacturing sectors making Kenya a hub of BPO/ITES and e-commerce services. The sector will continue to improve public information management and awareness creation on BPO/ITES opportunities through gathering, packaging, and dissemination of news and information on the development, implementation, and review of related policies, projects, and programmes. The BPO/ITES is a priority sector under the Economic Pillar of the Kenya Vision 2030.

The main goal under the BPO is to create employment opportunities and contribute significantly to the GDP. BPO is an integral part of the day-to-day business activities, including healthcare, retail and e-commerce, banking, asset management, supply chain management, and business services.

The government and other stakeholders in the sector have implemented various initiatives identified in MTPIII. This has enabled the BPO/ITES to contribute significantly towards the ICT overall contribution to GDP from 1.4 percent in 2017 to 2.5 percent in 2020.

Presidential Digital Talent Programme

The objective is to provide apprenticeships to ICT fresh university graduates in bothprivate and public organizations. A total of 1,600 Graduates have benefitted fromthe programme in the last four years.

Establishment of Studio Mashinani

The objective of the project is to enhance youth talent through the establishment of production studios to empower talented youths to record their music and other digital content for commercial purposes locally. Foue Studio Mashinani were established in Gatanga, Kitui, Eldoret, and Kisii towns. A total of 145 productions have been made in the Studios.

Promotion of Film Industry

The objective is to promote the development of high-quality, easily accessible,relevant local digital content and to make Kenya the destination for African content. Two (2) Regional Film Incubation Centers were established in Migori and Bomet.Acquired and refurbished Nairobi Cinema Theatre. The Kenya Film school was established at Moi International Sports Centre.

Ajira Digital Programme

The aim of the project is to empower and expose the youth to online jobs through training.

The sector increased the number of trained youths under Ajira Digital Program 21,105 in 2018 to 91,615 in 2021 and over 100 institutions have been trained. The number of youths working on digital and digitally-enabled jobs increased from 1,227,850 to 1,942,609. The sector engaged 878 youths who worked on Judiciary Transcription jobs, scanning, and data entry through the Ajira Digital Program.

The sector established and operationalized 339 and utilized Ajira Youth Empowerment Center (AYEC) in 200 Constituencies.

The Ajira digital curriculum was reviewed and an Ajira Digital Trainer Manual developed.

Digital Media City

The goal of the project is to position Kenya as global filming and investment location in Africa. The specific objective is to create a new content- producing platform for entertainment, media, and tourism; and to promote entertainment and media industry start-ups and training youth.

The pre-feasibility study for the project located at Konza Technopolis was completed. ■

PICTUREBOX


Alex Kanyoi


Crystal Norman


Maureen Obuya


Richard Etale


Samuel Karafa


Steven Muchiri

Processes Outsourcing (BPO). "Working as a transcriber has exposed me to a lot of valuable soft skills, but most importantly, I can fend for my children without financial support from my parents. It gives me immense joy and inspiration to see my son in school with his peers because I can pay the much-needed school fees out of the money I earn from online work. I have also employed a house help to look after my twins while I am at work. Knowing that I can empower another woman by creating an opportunity to earn is a daily motivation for me to keep pushing the bar to absorb more mean in meaningful employment besides referring them to Ajira Digital to explore the available digital opportunities.

"This opportunity has broadened my aspirations, and one of my short-term plans now is to save up some money to complete my ACCA professional course to advance my career.

"I thank the Ajira Digital Programme for granting young Kenyans a lifetime opportunity to grow.

Boniface Mogambi, founder of Gamigeeks Company

"Obstacles are put in your life to test if what you want is worth fighting for because success is preceded by diligence and persistence. I am Boniface Nyaigero Mogambi from Nyakeore, a small village in Nyamira County. Having been raised in a humble background where parents struggled to put food on the table, leave alone afford school fees and other necessities, life forced me to appreciate the importance of hard work at a tender age.

"Despite the financial challenges, I graduated in 2019 with a BSc in ICT. I am grateful to my parents because they understood the importance of education, and they worked hard to put us through school, albeit with a lot of struggle. I also acknowledge the impact of the Ajira digital Programme as currently, I am earning a decent wage through online work. My college life was tough, especially after my dad lost his eyesight as I survived on one meal a day. My dad kept encouraging me to push through to complete, and life would be much better for myself and the family at large. I braved the Programmeming classes with an empty stomach. Still, I was optimistic that the future would be brighter upon completing my studies and securing a lucrative job in the city.

"Upon graduating in 2019, life did not take a linear curve as promised. I had the power to read and write but not to put food on the table. Job search in Nairobi was such a daunting task and a dispiriting one that it humbled me to return to my ailing father's home after the mental and financial drain. While at home, a friend sensitized me to Ajira Digital and connected me with one of Ajira Digital Youth Empowerment Centre (AYECs) managers Mark Mundia and a trainer named Vincent, who trained and mentored me on transcription and ways to excel in online work.

"Courtesy of Ajira digital, I am now a proud founder of the Gamigeeks Company, dealing with IT services where I make a decent income to foot my bills and care for my family. I have also employed online workers to deliver various online projects and earn an income to fend for themselves. I have been able to find contracts. Most importantly, I am building Gamigeeks into a digital empire to absorb more young people who wallow in unemployment years after completing their studies. My dad might not see me due to his failed eyesight, but he truly is a proud father of a successful man.

Ajira opened doors for me as the knowledge & networking opportunities are immense. It is the go-to place for all young people interested in online work opportunities or digitally-enabled work. I encourage more youth to come out of their comfort zones and make life more meaningful through the opportunities offered by the Ajira Digital Programme.

Crystal Norman

She's a student at Jomo Kenyatta University of Agriculture and Technology pursuing a BSc. Degree in Strategic Management. She has trained in Digital Marketing and Virtual Assistance under the Ajira Digital Curriculum in 2020. Currently Crystal is an proficient onlinefreelancer with multiple online tasks including long and short term projects. On average, Crystal makes about $800. She has worked for both local and international clients and some of her biggest achievements include:

- Being able to pay her own bills from and Supporting her siblings and parents from her average monthly income of $800
- Working with a group of sex workers in collaboration with an NGO to empower them on how to work online and earn a dignified income
- A member of JKUAT Ajira Club and online workers community

"Before joining Ajira, I was living at the mercy of my parents most of the time because I didn't have any income. One thing that triggered me to join the Programme is that I was already working with a company where I was required to sell products online, so that is what triggered me to do a Digital Marketing course with Ajira.

"Through this, I was able to acquire so many skills in both Digital Marketing and Virtual assistance through which I have managed to source jobs online. As a result, I have had a chance to work for clients abroad as their Virtual Marketing Coordinator. This has enabled me to get an extra source of income to support myself, my family, and even my friends.

"During the mentorship, we had help for both Digital Marketing as well as Virtual Assistant and during this period, we were taken through specific skills we both didn't have or understand and if we did understand, we were then required to deepen our understanding. During this period, we got a one-on-one interaction session with our mentors where they taught us how to register for online working platforms. I deal with Upwork and in this period, my mentor helped me to create an Upwork profile which was verified and that was very exciting for me.

"It is from here that I was able to bid for jobs through proposals and I was successful in getting an opportunity to work as a Virtual Marketing Coordinator for a Real Estate company."

Ajira has given me a life-changing opportunity for a lack of a better word. Just as it has been a life-changing opportunity, I would like as more people to join and have their lives changed. All one needs is to be open-minded and ready to learn.

"And on the impact on the community, through a contract with the Northstar Alliance, I have had an opportunity to train Commercial Health workers in Mlolongo on how to start and improve their businesses and introduced the Digital Marketing aspect to those that had their businesses ongoing. And that was impactful because they go to understand that they can take their businesses online particularly during the COVID-19 pandemic season when most of them had given up for lack of access to the market. But when they got to learn that they can take their businesses online, they got excited at such opportunities.

"Through this, I have managed to support family and friends financially. What surprised me about the Programme is that it has empowerment centers where every youth can access free internet and laptops to attend training and mentorship sessions if they are unable to get one from home which is mind-blowing because, through such initiatives, we can reach even youths in the most interior parts of the country and even the disadvantaged ones in society. What this does is that the Programme can impact all youths across the country irrespective of their social or financial status.

"To the youth out there, online work pays. The Ajira Programme has impacted many lives. There are very many success stories out there. For example, I remember introducing a friend of mine to the Programme and during her first week of mentorship, she got her first gig with an online working Programme which was impactful for her because she was trying to find ways to pay her bills and all."

Samuel Kalafa

Samuel is a graduate of Taita Taveta University who lost his job due to Covid-19 in 2020 and embraced Ajira Digital training for Content Writing and Translation. Samuel heard of Ajira Digital while in college, but initially brushed off the idea as he believed it was not for elite graduate like himself; surprisingly, this has become his full time job and had enabled him start his own venture. Some his achievements include

- A monthly average income of ksh 60,000
- Support to his family- was able to offset hospital bill of Ksh 300,000 for his brother
- Started a business where he's employed 3 young people and are earning decent income to fend for their families

Maureen Obuya

Maureen is an ECDE teacher by training but currently working as a secretary to the office of Likoni Constituency MP. She got to know Ajira from the Likoni AYEC and was trained mentored on virtual assistance by Janet Muchoge the Likoni AYEC Centre Manger. Some of her achievements include:

- A monthly average income of ksh 30,000 from online work excluding her monthly salary
- Sponsored her sister's college and later introduced her to get Ajira training and mentorship on Digital Marketing.
- With her sister she co-founded a Travel and Tours company Called Wakanda Expeditions
- Set up a business for her mother
- She is a member of the Likoni AYEC online workers community

"I came to know about the Ajira Digital Platform when it was introduced to our constituency (Likoni Constituency), and it has given a good impact on my life as at least it has given me a side hustle in my life.

"I enrolled in two programs, Data management, and Virtual Assistant. Professionally I am a teacher but currently work as a secretary to Hon, Mishi Mboko and I thank God for Ajira because they have a variety of programs, and going through them I was able to find something that fits into my busy schedule.

"I was introduced to Upwork after two days of training and three to four weeks of mentorship. Following the mentorship, it is expected that one starts bidding for work on Upwork, this was not easy because it took about two months of bidding to get my first job. And this did not even pay well. I got paid about US$3 for my first assignment but as time went by and I took on more work, I was able to start making some decent money.

"But after more bidding, I can say I am now able to make more, that is about USD 200, and this has been of great help because I am a firstborn of three siblings and a breadwinner. This has changed my life and that of my siblings because of my two siblings, one is in college attending Utalii College where I pay her fees withi9n two weeks from the biddings while the other one is still in high school.

"I do my biddings at night as that is when I get more jobs. So, besides the KSh15,000 that I earn from my day job, I currently make about KSh40,000 from bidding for jobs through the Ajira Digital platform

"I would recommend the Ajira Digital Programme to anyone because I find it accommodative to other people because of the flexible schedules which allow them to come in and try. After all, one can do this and keep their full-time job. Remember this is free for the youth who I encourage to take advantage of because, for years to come, none of us know if there will be such opportunities. So, I encourage my fellow youth to come in large numbers because like in the Likoni Constituency office, we have enough Wi-Fi and laptops at your disposal.

"So, thank you Ajira Kenya for this amazing opportunity for young people."

Joseph Mjomba

An Agriculture and Bio-technology B.Sc. Degree holder from the Masinde Muliro University of Science and Technology, Joseph graduated in 2019 b. In April 2021 when he saw an Ajira Digital poster on Facebook and enrolled for training in Data Entry.

He has since been able to earn from data annotation tasks in various international platforms and started his own venture to address a market gap, Some of his achievements include:

Today he runs his own online business called www.fundilink.co.ke where he earns money from customer subscriptions, and is a member of the Likoni AYEC online workers community.

Richard Etale

"My name is Richard Etale from Zetech University and today, I would like to tell you my Ajira Digital story. I remember two years ago when I joined the campus, I wanted online jobs. Sadly, I did not know where to start or someone to show me. "In my first and second years of college, I tried unsuccessfully. Lucklily, soon after graduating, Ajira Digital Programme was introduced. At that point through the training that was being offered, I grabbed the opportunity that had been so elusive to train in online work and useful applications.

"The training took two weeks and afterwards, I became a freelancer taking up data entry jobs. I no longer depend on my parents. All I needs is a simple laptop, Internet, a workspace and headphones to work. Online jobs pay, I am a living witness to this because importantly, you just need to set aside some time to work as you make sure that you are a disciplined individual." ■

> **"I came to know about the Ajira Digital Platform when it was introduced to our constituency (Likoni Constituency), and it has given a good impact on my life as at least it has given me a side hustle in my life."**
> — Maureen Obuya

DEVOLUTION

Afri-Cities summit puts Kisumu on world map

Kenya's third-largest city showcased the benefits of decentralised urban planning

Kisumu welcomed Africa when it hostsed the 9th Afri-Cities Summit this month that brought together thousands of delegates from across the continent under the umbrella of the United Cities and Local Governments of Africa (UCLG-A).

It was the second time that Kenya is hosting the summit, with Nairobi having been the host city in 2006, but Kisumu was also the first ever intermediary African city granted this unique chance.

It featured workshops to discuss among other topics, how to light up, feed, and improve the quality of life in intermediary cities, how to develop economic activities and employment in intermediary cities and the contribution of intermediary cities to African integration and unity. Both the National Government and the County Government of Kisumu view Kisumu City as a showcase of successful decentralization of urban planning and development under devolution.

A progressive and integrated urban planning policy by the County government alongside National Government investments in transport and related infrastructure including Kisumu Port, the old but refurbished medium gauge railway and the Kisumu Shipyard and ferry have positioned Kenya's third largest city as an attractive investment hub and gateway to the East African Community (EAC).

Among the successful projects in Kisumu initiated by the County Government are the improvement of roads, construction of the International Convention Center, and the beautification of the city.

The Kenya Vision 2030 national development blueprint highlights rapid urbanization as one of four key challenges facing the country. The Third Medium Term Plan (MTP III) 2018-22, sought to strengthen sustainable urbanisation through investments in infrastructure, connectivity and accessibility, safety and security.

The Afri-Cities summit came with short and long-term benefits to Kenya. The National and the County governments, especially those in the Lake Region Economic Bloc, rode on the summit to showcase their investment opportunities.

Kenya gained from the Afri-Cities Investment Forum, a unique platform for networking and debate between the business community and the political and territorial decision-makers.

There was also an economic boom as Kenya and Kisumu housed, fed, transported and entertained the visitors. SMEs and wananchi selling artefacts and other products at the local markets, and the boda-boda riders will have a taste of the cake.

Kenya's six year-old National Urban Development Policy (NUDP) has as its vision secure, well governed, competitive and sustainable urban areas and cities, with quality and efficient infrastructure and services and good governance structures.

The NUDP objectives are to promote effective governance and management of urban areas build efficient financial management systems in cities and towns with systems for vibrant economic growth and development.

Other objectives are for urban areas to mainstream spatial planning of development, improve access to land of the right quality and promote environmental planning and management as well as climate change adaptation.

The policy also seeks to promote the development of necessary infrastructure and services in urban areas and cities, support investments in quality affordable housing and ensure towns and cities mainstream safety and disaster risk management in their planning.

With an estimated 27 percent of Kenyans currently living in urban areas, the country's rate of urbanisation is at about 4.3 percent a year. The UN Habitat estimates that by 2050, up to 40 million Kenyans (or half of the population) will be living in cities. Kenya continues to be

The conference was a state event whose preparations was steered by the acting Devolution Cabinet Secretary Eugene Wamalwa and Kisumu Governor, Prof Peter Anyang' Nyong'o at the head of a multi-agency committee. The CEO of the Afri-Cities Secretariat is Mr Joe Ager.

The first Afri-Cities Summit was in Abidjan, Ivory Coast in 1998. Follow-up conferences have been held in Johannesburg (South Africa), Dakar (Senegal), and Marrakech (Morocco) that have hosted twice.

It required intense lobbying by Prof Nyong'o with the support of the Ministry of Devolution and the Council of Governors for Kisumu's bid to succeed. Several serving and former African Presidents are expected to attend through the invitation of the Kenyan President. ■

UNIVERSAL HEALTH COVERAGE

ENERGY FOR HOMES

Biogas popular as a sustainable source of energy for homes

It is ideal because it is friendly to the environment and a safer alternative to firewood and charcoal for cooking

The Kenya Building Research Centre, under the State Department for Public Works, is working around the clock to ensure the best technologies are adopted for efficient utilisation of energy in the housing units.

The most popular forms of energy have been known to significantly contribute to environmental pollution.

The need for alternative sources of energy that are sustainable and environmentally friendly cannot be overstated. Biogas is one of them. It is a renewable source, produced through anaerobic digestion, rather than via geological processes.

As an environmentally conscious, ecologically friendly sustainable type of energy, biogas is often praised by conservationists as one of the best alternatives to the more hazardous sources that are linked to higher greenhouse gas emissions.

Although Kenya is not among the top greenhouse emitters, it is in the group of nations that have ratified the 2015 Paris Agreement. The leading greenhouse emitters are China, the United States, India and Russia.

The accord, however, ties all 196 member countries - the big and the small emitters - to various climate-change measures that must be collectively observed to combat global warming.

The target is to limit global warming to below 2 degrees Celsius. Greenhouse gas emissions have been linked to global warming, an element of climate change that is considered a major challenge.

Biogas is one of the best alternative sources of energy. It is produced from organic matter such as plant and animal waste that has been broken down in a bio-digester by bacteria, in an oxygen-free environment, through anaerobic digestion. It is a good replacement for non-renewable energy. The gas produced during this biological process is tapped and used as a source of energy.

It could be used for cooking, lighting and as an alternative to electricity. Producing flammable gas from decomposing matter was first tried by ancient Persians, who noted that rotting materials from plants and vegetables released gas that could be tapped easily.

The first recorded biogas unit was built in 1859 in Bombay, India. The technology reached the United Kingdom in 1895, when biogas was tapped from a sewage treatment facility and used to fuel streetlamps in Exeter.

In Kenya, the first attempts to exploit biogas for energy were in 1957, when Tim Hutchison, a coffee farmer, ran a bio-digester using coffee pulp on his farm to provide gas and fertiliser.

Since then, use of bio-digesters has greatly diversified. They are now not only used for biogas production, but also for waste water treatment and domestic waste management using biolatrines, which are able to break down the waste deposited in them to produce sludge, water and biogas. Recycling waste materials in a special anaerobic bio-digester system results in the production of biogas, which contains 50-70 percent methane; 30-40 percent carbon dioxide and traces of other gases. The biogas can, however, be further refined to rid it of harmful components like carbon dioxide.

The resultant bio-methane is used to generate energy for households, while the leftover slurry is used for enriching agricultural soils. Domestic bio-digesters, if comprehensively adopted for household energy consumption, could potentially reduce the undue pressure that conventional energy generation is putting on the environment. Amid the country's efforts to ensure affordable housing for its population, adoption of renewable energy is vital for powering these homes and providing fuel. .

Bio-digesters would decrease wanton destruction of the environment, mostly through felling of trees for fuel, and greenhouse gas emissions from burning charcoal, natural gas andoil, among other implications.■

FACTS & FIGURES

The first recorded biogas unit was built in 1859 in Bombay, India

1957

First recorded attempt to exploit biogas in Kenya

70%

Highest percentage of Methane found in biogas

2015

Year that Kenya ratified the Paris Agreement on greenhouse emissions

INFOBOX

ADVANTAGES OF BIOGAS

- Saves forests
- Recycles raw waste
- Lowers energy costs for households
- Friendly to environment
- Generates organic fertiliser for farming

979 BC

Earliest known application of biogas as a source of energy by humans

7.8M

People killed prematurely worldwide by smoke and carbon monoxide each year

SERVICE INNOVATION

Huduma Kenya expands range of services at centres

Huduma Kenya, a citizen service programme that provides national and county government services, has been expanding its partnerships to reach more Kenyans.

The Ministry of Public Service Youth and Gender Affairs is implementing the Huduma Kenya programme through the Huduma Kenya Secretariat. The programme's core objective is to turn around public service delivery to ensure citizens access government services in an efficient manner.

INFOBOX

To do this, Huduma Kenya uses 6 channels, namely:

- *Huduma Centres* – physical one-stop-shop service centres that provide public services from a single location.
- *Huduma Life App* – a mobile application that offers government services to citizens from the convenience of their mobile devices.
- *E & M Huduma* - an interactive online one-stop-shop that enables citizens access multiple national and county government services.
- *Huduma Contact Centre* – a single dialing prefix (020 69000 20) that citizens can use to enquire about services offered by different government agencies.
- *Huduma Mashinan*i - a citizen-centred mobile outreach programme that brings services closer to the people through a grassroots approach.
- *Huduma Card* - a government issued multipurpose identity card will enable individuals to easily access various government services as well as use it as a travel document within the East African region.

Among Huduma Kenya's latest partnerships is its agreement with the National Cancer Institute of Kenya (NCI-K) and the County Government of Embu to offer various free government services to the public through Huduma Mashinani. They include:

- Cancer screening
- Cervical precancerous lesson treatment (cryotherapy)
- Screening for hypertension
- Screening for diabetes
- BMI assessment
- Family planning service (pills, implants, IUD among others)
- HIV testing and counselling
- COVID-19 vaccination
- HPV vaccination
- Eye screening and check up
- Public health education
- Antenatal care services
- General consultation and treatment service

In April 2022, the secretariat launched a masterplan that will see the rollout of Judiciary services at Huduma Centres countrywide. The masterplan was presented by the Chief Registrar of the Judiciary and the co-chairs of the Taskforce led by the CEO Huduma Kenya Secretariat James Buyekane and Deputy Registrar, Automation, at the Supreme Court of Kenya.

Some of the Judiciary services will include:

- *Registry services* - filing of a case, filing of other court documents, request for authentication of documents, Issuance of summons/ court orders, request and allocation of court dates;
- *Informational services* - case status and court processes; and
- *Virtual court sessions.*

Another recently launched partnership with the Unclaimed Financial Assets Authority (UFAA) will see Huduma Kenya boost the number of unclaimed assets reunited with their rightful owners across Kenya.

The partnership targets to reunify at least Ksh3 billion worth of assets annually, in line with the UFAA strategic plan 2018-2023. UFAA manages a total worth of KSh55 billion in unclaimed financial assets from various holders.

Huduma Kenya's services won it the Silver Award in the 2017 for Innovative Management of Public Service from the African Association for Public Administration and Management (AAPAM).

The agency regularly provides critical government services to the public via its Huduma Centres.

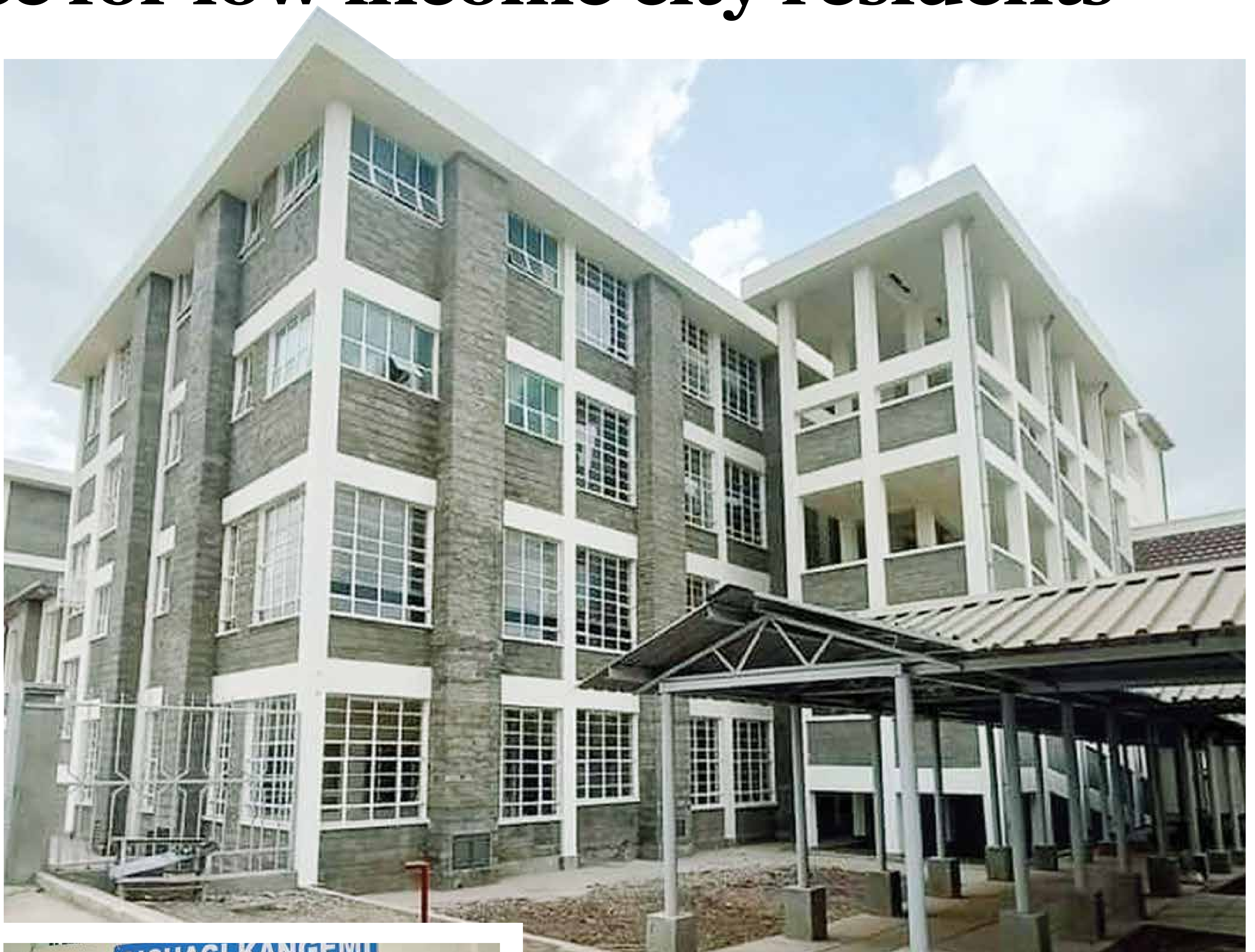
They include:

- Registration of boda boda riders
- National Health Insurance Fund (NHIF)
- Birth and Death Certificates
- Pension Services
- Certificate of Good Conduct
- Credit Reference Bureau (CRB)
- Access to Government Procurement Opportunities (AGPO) Services
- Kenya Revenue Authority (KRA)
- Police Abstract
- Social Services
- Cyber Services
- Duplicate Identity Card

UNLIMITED HELP

24 hospitals launch round-the-clock service for low-income city residents

Upgrade and construction of new facilities designed to increase access to primary healthcare for city's poor



Falling ill for majority of slum dwellers meant taking a hit on their health and pocket due to shortage of public health facilities with trained personnel, equipment and drugs.

For starters, deliveries means engaging affordable traditional birth attendants, as even substandard private clinics are, most times, beyond their financial reach in Nairobi slums where overcrowding, pollution and poor sanitation and hygiene lead to upper respiratory and urinary tract infections, diarrhoea, pneumonia, cholera and anaemia, besides high infant mortality.

That most informal settlements lack adequate public healthcare services, only increases the burden of diseases for the dwellers. Most of them survive on less than a dollar a day, worsening their access to primary healthcare due to lack of health insurance and timeliness of care. Often, their distance to health facilities is prohibitive, and professionals, equipment and drugs are hardly available.

Cost was another significant factor as a 2018 survey in Viwandani slums in Nairobi, and published in the June 2020 issue of BMC Public Health, revealed that majority of male-headed households sought healthcare, more than the female-headed ones.

But Faith-based health facilities, like the Ruben Health Centre in Mukuru slums, most times come in handy for their affordable services. The centre was, for ages, the only facility with a maternity unit in Mukuru- where teenage mothers comprise 11 percent of patients, according to the management.

Before Ruben Health Centre was opened in 2018, about 38 percent of expectant mothers delivered at home, but the number has halved since.

What is more, the centre's eight wards handle about 300 patients daily. It also offers rehabilitation services.

But the Nairobi Metropolitan Services (NMS) earmarked to establish 24 health facilities in the city's informal settlements by upgrading or constructing new ones.

These health facilities will not only ease the burden on such places as the Ruben Health Centre, but increasing bed capacity to 280 will ease the foot traffic to the Kenyatta National Hospital and thin the crowding experienced at Pumwani and Mama Lucy Hospital in Embakasi.

Most of the facilities are Level Three hospitals, offering 24-hour services. They include Maendeleo Hospital in Mukuru, Gichagi in Kangemi and one at Gatina in Kawangware, besides Tassia Kwa Ndege, and Our Lady of Nazareth, both in Mukuru Kwa Njenga slums.

Before President Uhuru Kenyatta commissioned the Maendeleo Hospital, most residents of Mukuru were forced to seek medical attention at Mama Lucy Hospital, with added costs due to distance. A lot of time was wasted in traffic, worsening critical medical cases.

The 24 health facilities, costing KSh2 billion, include Kibra, Githurai 44, Gitare Marigu, Soweto, Mathare, Kayole and Korogocho, for better access to services in the informal settlements. ■

KSh2 billion

Cost of upgrading and constructing 24 health facilities in the city informal settlements

Nairobi Nominated MCA Wanjiru Kariuki and Acting Governor Ann Kananu after signing into law the Sexual Gender Based Violence (SGBV) Bill at City Hall Nairobi on November 1, 2021

SHELTER

New health facilities give refuge to victims of SGBV

The newly opened health facilities in Nairobi's informal settlements have included sexual and gender-based violence (SGBV) services on the face of the over 6,000 SGBV cases reported across the county government hospitals in the past year, according to NMS Director General, Maj-Gen Mohamed Badi.

About 50 percent of the patients are minors and Badi reckons that "SGBV is not only a health concern, but also a human rights issue, and survivors should access medical care, legal aid and psychosocial support, including shelter and community reintegration".

> **Help on the way after over 6,000 sexual and gender-based violence cases are reported in Nairobi in 12 months**

Nairobi County has set aside KSh68 million for safe shelters for survivors of SGBV, with KSh50 million coming from the office of Nairobi Woman Representative, under the National Government Affirmative Action Fund (NGAAF), while City Hall will commit KSh18 million for the project at Mji wa Huruma this September.

Further, NMS is converting all idle county-owned houses into safe shelters for SGBV survivors.

Previously, survivors were holed up in hospitals, which did not help matters as "some didn't even have anywhere to go to after they leave the hospitals. So we want them to feel safe even after leaving the health facilities," said Nairobi County Deputy Majority Whip Waithira Chege, whose motion for the SGBV was approved by the Nairobi County Assembly for NMS to open SGBV desks in all 17 sub-counties.

But wrestling SGBV down faces several challenges, including; harassment of victims, culprits getting lenient bail terms, interference by local kangaroo courts, and delays in production of critical evidence, like DNA and medical reports. ■

TRANSPORT AND INFRASTRUCTURE

BUILDING TECHNOLOGY

Interlocking blocks technology eases cost of building homes

Government looking to work with private sector to increase uptake using locally sourced materials

Owing to the appropriateness of interlocking technology and its sustainability in use of local materials, the Government, through the Ministry of Transport, Infrastructure, Housing and Urban Development, has pushed hard for its use in providing affordable housing.

This falls under the Appropriate Building Materials and Technology (ABMT), as promoted by the Kenya Building Research Centre (KBRC), covering easily sourced materials in specific areas that are also environmentally friendly. The Government's effort and the private sector's investment have, in recent years, witnessed an uptake of appropriate technologies, including Interlocking Concrete Blocks and Pre-fabricated Housing.

This comes as Kenya increasingly ditches the traditional wattle and mud structures, as the fast-growing construction industry swallows cement and timber products in millions of tonnes.

The Ministry is at the same time seeking more private investors and innovators to present information for inclusion on its website.

Interlocking Concrete Blocks (ICB) technology is gaining currency in the country, given its durability and cost-saving attributes during construction. The blocks are made using quarry dust or laterite powder and gravel. According to the makers, a 50kg bag of cement can make around 50 interlocking blocks. In total, they can be manufactured using 4,000 kilogrammes of compress, making them strong enough. The blocks, unlike the baked bricks, are compressed under high pressure with some chemical additives to raise the strength. They are also heavier than baked bricks.

A key advantage of the concrete interlocking block is cost-saving. Each block normally uses minimum cement and sand to conjoin. The blocks are standardised and environmentally friendly.they also cut the duration of construction due to thelight work of joining blocks and can be customised.

50KG

Amount of cement needed to make 50 interlocking blocks

Apart from walls, they are also used as paving blocks, commonly called Cabro in Kenya. Interlocking Stabilised Soil Blocks is a related sustainable and affordable technology because its raw material is readily available in most counties. It mainly uses soil, meaning it can be utilised on small scale in most rural areas, efficiently addressing the twin national problems of affordable housing and poverty eradication. The materials include small amounts of sand and cement, and mostly soil.

Its proper use, according to Government research, can cut the cost of housing by half, while creating structural employment and transfer of skills. It is reckoned to conserve the environment while raising the standards of living, particularly in rural areas, partly explaining the Ministry's investment in disseminating this information to potential users.

Government agencies have carried out research on appropriate building technology of stabilised blocks with the University of Nairobi, an acknowledged pioneer through its phased out HABBRI arms. Research eventually led to the Kenya Bureau of Standards (Kebs) gazetting KS 02-1070 for stabilised blocks way back in 1993. In 1995, an additional code 95 was gazetted. ■

INNOVATION

EPS panels gain popularity in housing sector

The escalating costs of construction, driven by high prices of building materials, expensive labour and extended durations of building, have made housing and home ownership unaffordable, especially for the middle and lowincome citizens.

Panel technology is an invention which, when applied in construction, involves use of structural insulated and timber frame panels, lightweight steel frame panels and prefabricated concrete blocks.

Materials used in panel technology include "expanded polystyrene" (EPS), which is the method most significantly deployed in the country's building and construction sector.

"EPS technology is a construction system of prefabricated panels that are extremely light and can be easily transported from fabrication to construction sites," says Engineering for Change, a consultancy, on its website, in a research paper it wrote jointly with UN-Habitat to guide builders on the materials to exploit in implementing the housing component of the Big Four Agenda.

Air bubbles trapped in the foam mean that EPS houses offer better control of climatic conditions, compared with houses made of concrete or wood. Since air is a poor conductor of heat, the building remains cool when it is hot outside and warm when external temperatures are low.

Touted as an affordable, ecologically friendly and efficient technology, the panel system is one of the innovations that the Government is betting on to help achieve the affordable housing component of its Big Four Agenda.

It involves building house walls by assembling already made pieces and later applying appropriate finishes. EPS panels in building and construction are boards made using expanded polystyrene blocks - often called styrofoam - which are cut to the desired dimensions.

The blocks are covered on either side with high tensile steel wire mesh, joined by steel wire connectors through the panel core, to form a three-dimensional composite of steel mesh and EPS core. It is energy efficient, durable and improves indoor environment quality.

The EPS panels are often used for partitioning in both residential and commercial buildings, in turn reducing concrete and steel reinforcement quantities and thereby saving on building costs.

The material is light-weight, thus minimising labour costs, formwork and construction time.

EPS is a versatile material with different compressive strengths, enabling it to withstand load and backfill force during the construction. The material's closed-cell structure also provides minimal water absorption and low vapour permeance and retention.

This environmentally friendly and aesthetically appealing material is also durable, has low maintenance requirements, is fast in application, and is economical when deployed for use in a construction. Further, the installation process of EPS does not need heavy construction equipment.

The material also ensures high levels of thermal and sound insulation, as well as sanitary and fire safety.

The Manual for Expanded Polystyrene (EPS) Core Panel System and its field application also indicates that EPS 3-D panels allow no additional cost to erect buildings in areas with moving soil, especially heaving, subsidence, frozen ground, and remote areas, while ensuring strength and durability since it does not absorb moisture and hence is resistant to decay.

The National Housing Corporation (NHC) indicates that EPS panel technology has been used in Kenya for at least 20 years now. The first project was at the Kenya Institute of Highways and Building Technology (KIHBT) offices in Industrial Area, Nairobi, in 1996.

Other projects successfully built using this technology include Balozi Estate, a gated community in Muthaiga North, Nairobi, which was constructed in 2000, and a wing of the Silver Springs Hotel, Nairobi, which was put up in 2000.

The NHC has also managed to build multistorey commercial buildings, including on Thika Road, opposite Thika Road Mall; Nakuru; luxury apartments for sale in Kanduyi area of Bungoma County; luxury apartments for sale opposite Nazarene University in Ongata Rongai, Nairobi; a gated community in Kisumu; school projects; offices; and go-downs in various parts of the country.

NHC says the materials come as single panels that can be used for building up to four storeys; double panels for structures of up to 20 storeys; and floor panels for making slabs for a maximum of 6 metre spans. ■

THE LAST MILE

Kenya Railways moves to ease Nairobi commuters' pain

Service launched by President Uhuru Kenyatta to reduce vehicle and human traffic congestion

Kenya Railways has ventured into scheduled bus transport to augment its rail service and the Bus Rapid Transport (BRT) in Nairobi city and its environs.

The venture, through its other arm, the Nairobi Commuter Rail (NCR) bus service, will be a relief mostly to passengers connecting between the city centre and other parts, including Upperhill, Westlands and Hurlingham.

Kenya Railways runs a scheduled monorail service, comprising the Nairobi-Imara Daima-Syokimau route, the Nairobi-Githurai-Mwiki-Kahawa-Ruiru, Nairobi-Embakasi and the Nairobi-Kibera-Kikuyu routes.

The NCR bus service is convenient for rail passengers who alight and board the buses from the Nairobi Central Terminus to the other routes.

Those going to Westlands will pay KSh30 for a ticket bought on board. The bus will pass through Jevanjee-Museum Hill-CFC Stanbic-Chromo-Westlands Bus Terminus-Brookside-Safaricom-ABSA- ABC Palace and James Gichuru Road.

The Upperhill/Hurlingham route will have stopovers at Serena, Integrity Centre, Kenya National Library, Nairobi Hospital, Department of Defence (DoD), Chaka Place and Yaya Centre for KSh50.

The Railway Bus Service was launched by President Uhuru Kenyatta in November 2020 to reduce vehicle and human traffic congestion, as part of a Master Plan of an integrated commuter system in the city and its environs.

Since independence to the 1990s, Nairobi was served with scheduled public transport, from the Kenya Bus Service (KBS), which was preferred, to the chaotic matatus. But KBS faced business headwinds after the Kanu regime introduced buses operated by the National Youth Service (NYS) in 1985. NYS buses, not only provided scheduled transport, but also charged lower fares than KBS and matatus.

The NYS buses met their waterloo from the vagaries of public transport business ineptitude and the erratic maintenance and repairs. The cheap fares also made the business to be unsustainable, but while it lasted, ruined KBS, whose monopoly of city routes had also been taken away with the entry of NYS buses.

KBS also provided more than public transport. It connected businesses, leisure activities, essential services, races, regions and communities. KBS Number 28, for instance, connected traders to Gikomba, but also reunited the communities living in Kibera to those in Huruma and Kariobangi, via plying the Kariobangi-Kibera route.

Bus Number 42 was principally for transporting casual labourers from Huruma to Lavington, but also reunited the kith and kin from Huruma to those in Kawangware, where it terminated its journey.

And so it goes that Route 11, from Highridge to South C, connected the Asian communities which are predominant in those areas, while KBS Number 50 not only plied all city routes, but also operated overnight to ensure those who worked the nightshift were served.

Bus Number 1 went to Dagoretti market enroute to the Ngong Racecourse, where most families once enjoyed horse racing, besides betting on whether the horse named Kaptula would beat Command Post.

All these changed and the NCR is more or less connecting people, work places, government services and hospitals, than anything else.

The breakdown of organised mass public transport is such that, Nairobi is the second most congested city in Africa and the fourth globally, according to the 2019 Nairobi Metropolitan Area Transport Authority report.

Besides pollution, the heavy traffic also leads to reduced productivity from wasted hours, considering an average resident in Nairobi takes about 57 minutes to travel in the city, according to IBM research. Increased car ownership for the rising middle class, has only made matters worse by shunning alternative means of transport like cycling, rail and walking, for personal cars, even for short distances. A 2017 research by the Kenya Institute for Public Policy Research and Analysis (Kippra) titled; Nairobi Metropolitan Region Transportation Challenges, revealed that though private vehicles account for 64 percent of the traffic volume in Nairobi, they only carry 22 percent of the passengers on city roads. To discourage personal cars from entering the city centre, the Nairobi Metropolitan Services (NMS) has been turning some roads, including Mama Ngina Street and Luthuli Avenue, into single lanes, besides increasing parking fees while reducing on-street parking slots.

Passenger service vehicles have also been moved from the city centre to termini in Ngara, Muthurwa and Uhuru Park, as part of the Nairobi Urban Mobility Plan to encourage walking and walking on pedestrian cabro lanes, along Kenyatta Avenue and Wabera and Muindi Mbingu streets.

"The new cycling and footpaths are being provided to link those termini to the city centre. If you go to Green Park, it will be linked with the paths covered with a shade through Uhuru Highway into town," said NMS director for Roads and Transport Michael Ochieng'. ■

230,000

Number of passengers Kenya Railways aims to carry daily

INFOBOX: Snippet of route-times

WESTLANDS ROUTE

8.35AM
Time the NCR bus to Westlands will leave the Central Railway station to arrive at ABC at 9.15am. The afternoon bus will leave at 4pm and arrive at 4.30pm.

7.44AM
The time the NCR bus will leave the railway station and arrive at ABC at 8.17am. Another will leave ABC at 8.18am and arrive at Railways Station at 8.55am.

9.16AM
The time the NCR bus will leave ABC to arrive at railway station at 9.55am, while at 4.40pm, a bus will be leaving Westlands to arrive at Railways Station at 5.10pm.

HURLINGHAM ROUTE

7.55 AM
Time the NCR bus will leave railway station and arrive at Yaya Centre at 8.30am, while another bus will leave Yaya at 8.33am and arrive in the CBD at 9.05am.

4PM
Time another bus will leave the railway station and arrive at Yaya Centre at 4.30pm, while another bus will leave Yaya at 4.35pm to arrive in the CBD at 5.15pm

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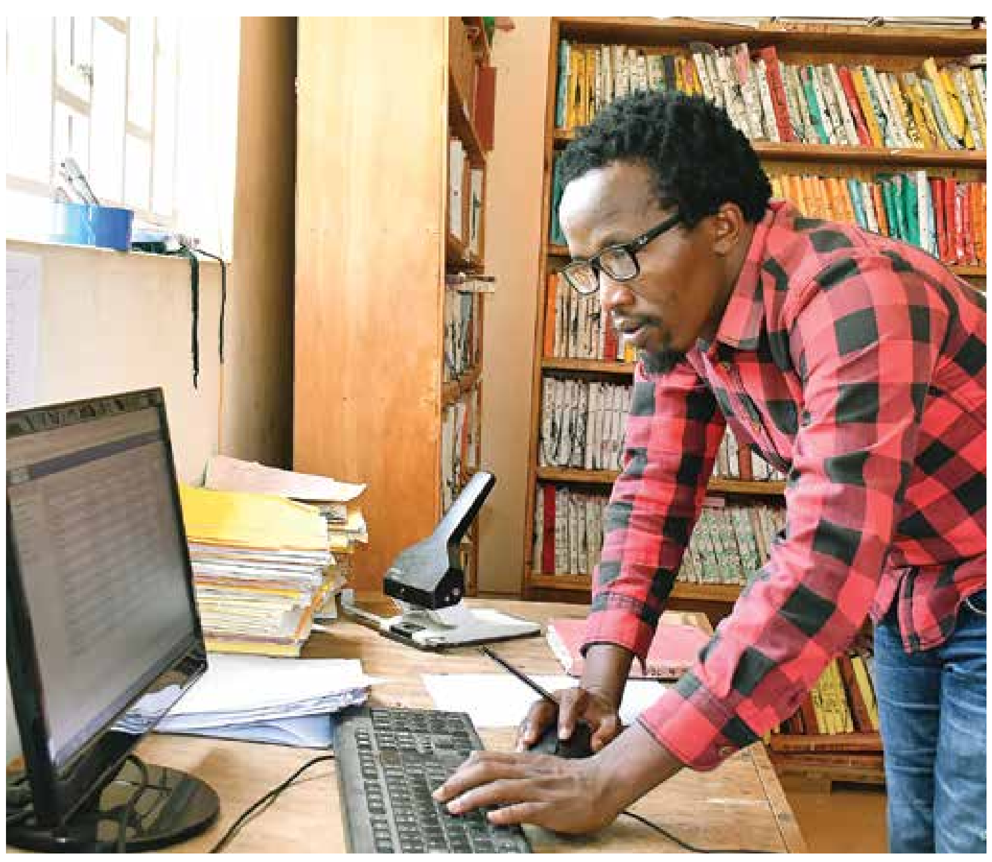
BPO & MANUFACTURING

Service outsourcing keeps businesses afloat, lowers cost of operations



Business Process Outsourcing, also known as Information Technology Enabled Services (BPO/ITES), involves the transfer of value contributing activities to another firm to reduce costs, for better quality and to focus on core competence.

It is simply the movement of business processes from inside the organisation to an external service provider. The term encompasses activities that include customer service work, data entry, transcription, digitisation, financial accounting, auditing and other higher value-knowledge processing such as content development, animation, legal services, engineering design and data analytics. With the global telecommunications infrastructure now well established and consistently reliable, the BPO industry is expected to help Kenya realise its development goals. The Kenya Vision 2030 blueprint identifies BPO as a key sector and has played a big role in the growth and development of a knowledge-based economy and created jobs for the youth.

Further, BPO has continued to provide services via the internet to organisations in developed countries. Kenya's Third Medium Term Plan (MTP III) 2018-2022 had envisaged attracting top international IT suppliers and foreign companies with top BPO brands.

The sector is expected to create over 200,000 direct jobs, and contribute towards the achievement of ICT sector target of 10 percent of the GDP. In order to bridge the digital divide and promote innovation, the Plan had focused on the promotion of Kenya as a BPO destination, as well as enhancing development capacities for science, technology and innovation. Programmes and projects in the BPO/ITES are ongoing and include the establishment of a Smart City (Konza Technopolis) , Digital Literacy Programme, provision of mentorship to youth on online digital work, exploiting digitally-enabled job opportunities, equipping youth with skills and access to information.

There is also a focus on identifying opportunities in the investment, trade and manufacturing sectors, making Kenya a hub of BPO/ITES and e-commerce. The sector will continue to improve public information management and awareness creation on BPO/ITES, through gathering, packaging, and dissemination of information on the development, implementation, and review of related policies, projects and programmes.

BPO is an integral part of the day-to-day business activities, including healthcare, retail and e-commerce, banking, asset management and supply chain management. ■

TRANSPORT AND INFRASTRUCTURE

INFRASTRUCTURE

New railway cargo service scores high on cost savings

Deliveries from Mombasa port to inland destinations a boost for EAC trade

The Kenya Railways Corporation (KRC) is gradually implementing end-to-end rail delivery of cargo from Mombasa to other parts of the country and neighbouring Uganda.

Statistics from KRC indicate that transport logistics increased by five percent this February, compared to a similar period last year. The Naivasha Inland Container Depot (ICD) has also been singled out as an integral part of the seamless connectivity of goods from the Standard Gauge Railway (SGR), to the old metre gauge railway (MGR).

This end-to-end cargo delivery will bypass road transport, thus reducing carbon emissions, while supporting the special economic zones along the counties traversed. Besides enhancing inter-county connectivity, it will also offer lower and more reliable transport and spur general economic development in the region. The counties set to benefit include Nakuru, Kericho, Kisumu, Vihiga, Siaya, Kakamega, Nyandarua and Laikipia.

KRC Managing Director Philip Mainga said about 14 trains moved over 6,000 tonnes of bulk cargo from Mombasa to the Naivasha ICD in February, besides delivering over 300 Twenty Feet Equivalent Units (TEUs).

The February performance translates to an average of 8.3 trains, carrying over 698 TEUs per day (249 trains), against some 230 freight carrying trains in February 2021.

Convectional bulk cargo, through SGR to Nairobi, rose to 478,719 this February, from 404,928 delivered during a similar period last year, according to the Africa Star Railway Operation Company, that is contracted to offer the service.

Mr Mainga attributed the positive performance to increased efficiency in off-take of trains from the port of Mombasa and "daily adequate supply of wagons for both containerised cargo and bulk units that averaged between 500 and 600 wagons".

Mr Mainga added that the Naivasha ICD has facilitated transshipment of cargo for onward rail end delivery to countries like Uganda after completion of the Naivasha-Malaba-Kampala rail line, through which goods move to Jinja and Port Bell, via vessels at the Kisumu port.

Besides cargo, the revamped MGR has also been transporting passengers and increased demand, according to regional manager for Kisumu Michael Disi, saw KRC buying seven more passenger locomotives from China for use along the Nairobi- Kisumu commuter route, whose services will extend to Butere after the line was allocated KSh300 million for rehabilitation.

> **Rehabilitating the old metre-gauge railway, which were "dilapidated, vandalised or overgrown with vegetation" is part of the government's KSh4.5 billion project to improve transit of goods and people to neighbouring countries.**

Rehabilitating the old metre-gauge railway, which were "dilapidated, vandalised or overgrown with vegetation" is part of the government's KSh4.5 billion project to improve transit of goods and people to neighbouring countries.

Kenya Railways has thus been revitalising the 217km Nakuru-Kisumu metre gauge railway, the 77.8km Gilgil-Nyahururu branch line and the 69.05 Kisumu-Butere section, all of which will cost about KSh3 billion.

The three lines will act as main trans-shipment points between the SGR and road for freight traffic destined beyond Naivasha ICD as they will "serve freight destined for Uganda, Southern Sudan, DRC, Rwanda and Burundi..." the Kenya Railways proposed plan reads in part.

The Kenya Ports Authority (KPA) general manager operations and harbour master, Mr William Rutto, noted that the railway line will enable importers and exporters to handle their cargo from Kisumu, instead of travelling to Mombasa.

Indeed, the new Kenya Railways station at Kisumu, with about 50,000 square feet of commercial space, was projected to provide passengers with an enhanced experience, apart from creating business opportunities and over 2,000 jobs. ■

ELECTRICITY GENERATION

Kenya on course to attaining 'green energy' target

Kenya is on course to fully decarbonise its electricity sector, with 92.3 per cent distributed by the Kenya Power now generated by renewables, also referred to as "green energy" sources.

The demand for electricity in Kenya is growing at an average rate of 4.5 per cent annually, driven by economic activities as the country recovers from the effects of the COVID-19 pandemic.

At the same time, Kenya has scaled up the use of renewable sources, further boosting the country's standing in the fight against climate change.

According to the 2021 Economic Survey, from the Kenya National Bureau of Statistics (KNBS), the total installed electricity generation capacity was 2,836.7MW in 2020, of which geothermal's share was 863.1MW, and solar 52.5MW in 2020. Generation from thermal sources decreased slightly to 749.1MW in 2020.

Of the 2,836.7MW installed, 2,705.3MW is the "effective capacity" - the maximum electric output a power station can achieve under operating constraints.

In 2020, thermal plants were responsible for just under 7 percent of the electricity generated, even as Kenya imported less power. Unfortunately, electricity transmission and distributive losses at 2,790.7GWh in 2020, were still too high, amounting to 24.3 percent of total supply. The Kenya Electricity Generating Company (KenGen) PLC, on its website *https://www.kengen.co.ke/* confirms that 86 percent of what it generates today is green energy, and that its installed generation capacity market share is over 60 percent.

The breakdown of the 1,818MW of installed generation capacity by KenGen is Hydro (826MW), Geothermal (713MW), Thermal (253MW) and Wind (26MW).

The company is also preparing to add another 83MW to the national grid in the first quarter of 2022, once the Olkaria I, Unit 6 geothermal power plant is commissioned.

In November 2021, the demand for electricity in Kenya hit a new record, peaking at 2,036MW on the back of a resurgence lifting of COVID-19 lockdowns across the country.

At the same time, the country recorded a new energy gross demand peak of 36,381MWh, mostly drawn from renewable sources as the economy responds positively to the lifting of some of the COVID-19 related restrictions.

Responding to the demand, KenGen scaled up generation from its geothermal, hydro and wind power stations to meet the growing demand.

The Energy and Petroleum Regulatory Authority (EPRA) reported that KenGen's hydro power stations exceeded the period's projections by 581MWh or 5.56 percent, with a total installed hydro capacity of 826MW.

KenGen's Gitaru, Kindaruma, Kamburu and Kiambere power stations were among those that surpassed the projected generation output.

The stations are part of the Seven Forks cascade and a crucial piece of KenGen's infrastructure, accounting for around 29 per cent of Kenya's total installed capacity.

The power generation giant's expertise is also on high demand across Africa, with governments keen to track KenGen's footprints in Olkaria, Naivasha, where the company has successfully drilled about 320 geothermal wells. The firm announced that it had begun drilling one of three geothermal wells in Djibouti, under a KSh700 million contract signed in February 2021.

The experts from KenGen comprise mechanical and drilling engineers, project managers, drillers, cementing technicians and specialised welders in the value chain.

KenGen was also set to commence drilling of three geothermal wells for the Djibouti Office of Geothermal Energy Development (ODDEG) in 2022. The Djiboutian venture is part of KenGen's diversification strategy, in which the company is seeking to acquire new revenue streams by offering commercial drilling, geothermal consulting and related services across Africa.

This is the third mega geothermal drilling contract that KenGen is implementing in Africa. In October 2019, the company secured KSh5.8 billion contract to drill 12 geothermal wells in Ethiopia. The contract, with Ethiopia's independent power producer Tulu Moye Geothermal Operations (TMGO) PLC, includes installing a water supply system and equipment.

In February 2019, KenGen won a contract to drill geothermal wells for the Ethiopian Electric Company (EEP) at Aluto-Langano. The contract is for the implementation of drilling rigs and accessories, as well as rig operation and maintenance for geothermal wells. It is financed by the World Bank, through a loan to the Ethiopian Government.

In November 2021, KenGen announced that it had completed drilling the deepest geothermal well in the Aluto-Langano, reaching a depth of 3,000 metres, surpassing a target of 2,750 metres. KenGen posted a 7 per cent increase pre-tax profit in its full year Financial Results, ending June 30, 2021, from KSh13.79 billion, to KSh14.76 billion, and recommended KSh0.30 (KSh1.98 billion) dividend per share, to all its shareholders. ■

TALENT HAVEN

Jamhuri Complex, a welcome addition in a sports-mad country

President says no charges will be levied for use of the new facility in Nairobi

The newly-commissioned Jamhuri Sports Complex in Nairobi will join the Dandora stadium, Kinoru stadium in Meru County, and the Jomo Kenyatta International Stadium in Kisumu County, as among the big sports venues erected or refurbished in President Uhuru Kenyatta's second term.

But the Jamhuri Sports Complex is special: Besides being free for use, it will be the first of its kind and magnitude after the City Stadium, Nyayo National Stadium and the Safaricom Stadium, Kasarani, which was opened for the 4th All Africa Games, held in Nairobi in August 1987. Of these, only the 35,000-seater Nyayo and the 60,000-seater Kasarani stadiums are up to scratch to host international soccer, athletics and other sports.

But major qualifiers have often times been moved to facilities of lesser stature, capacity and image when both stadiums are under renovations. In 2010, for instance, the Kasarani stadium was closed for almost a year as it underwent a KSh900 million facelift, shifting sports events to the Nyayo National Stadium. It was also closed in March 2020 for renovations, in preparations for the World Athletic Continental Tour-which was muddied by the outbreak of COVID-19 that month.

It was not until September 2021 that Kasarani hosted the Kip Keino Classic, in which sprint sensation Ferdinand Omanyala became the first Kenyan and African to run the 100 metres in 9.77 a milli-second behind Trayvon Bromel of the USA.

But the grounds at the Nyayo National Stadium are often rendered uneven by the military, which undertake preparations for national events like Madaraka and Jamhuri Day celebrations there, months to the events.

The KSh600 million Jamhuri Sports Complex will thus be a welcome addition to the city's sports facilities. "This is a pitch for the youth to train and sharpen their sporting skills," said President Uhuru Kenyatta, adding that "this field is free 100 percent. Teams...will only be required to give notice for planning purposes to avoid crowding of events".

Sitting on 19 hectares of reclaimed public land, this legacy project will boast three soccer pitches, one rugby ground, running track, hockey and handball pitches, and a basketball court. Other facilities will include a club house, food court, a picnic site, children's play area and a police station.

The Jamhuri Sports Complex will thus only be rivalled by the Kasarani Sports Complex, which has an aquatic stadium, and indoor arena, the three-star Stadion Hotel, a police post and a Presidential Suite with a bedroom, a living room and a bathroom. The suite was included with the late President Daniel arap Moi in mind, and for his use during the half-time of international matches. While the Stadion Hotel is used by the soccer and athletic national teams during their camps, the Presidential Suite at Kasarani is hired by sporty honeymooners.

The Jamhuri Sports Complex's location is a key cog in the development of sporting talent. It is situated west of the city, along Ngong Road, the home of rugby, and surrounding neighbourhoods known to nurture great sporting talents like the Oliech family from Dagoretti Corner. The family produced soccer greats Dennis Oliech, Andrew Oyombe, the late Kevin Oliech and the late Steve Okumu.

Location of facilities has been known to spur interest and prowess in sports: The cricket facilities at Sir Ali Muslim Club, the Nairobi Gymkhana and the Simba Union, all around the Ngara area of Nairobi, were instrumental in Kenya producing the world beating squad that went all the way to the semi-finals of the Cricket World in 1996. Maurice Odumbe, the Tikolo, the Odoyo and the Suji brothers took up cricket for growing up around cricketing facilities.

The Jamhuri Stadium is also near Kibra, from where the excess energy of youth can be channeled to sporting activities, and according to research, goes a long way in promoting fitness, a healthy lifestyle, self-control and discipline, besides lowering overall negative aggression, according to a 2011, study published in the Science Daily.

Indeed, it was the taming of military aggression by the colonial government after soldiers returned from World War II that led to the establishment of boxing halls in Pumwani, Kaloleni and Muthurwa areas-which later produced Olympians Ibrahim 'Surf' Bilali and brother Suleiman Bilali, besides Africa's first boxing gold medalist, the late Robert Wangila.

Sports facilities, coupled with sporting tradition and role models, are thus important in churning out talent-as has been the case with athletics, majorly in the Rift Valley.

But the eastlands of most cities, including East London, mostly produce stars in 'hunger sports' like boxing and soccer.

East of Nairobi will also thus have the KSh350 million Dandora Stadium, whose construction had been halted for over two years after the Ethics and Anti-Corruption Commission (EACC) launched investigations into irregular payment of KSh196 million by City Hall to the contractor when the project was in its final stages in September 2019.

Investigations by the Public Procurement Regulatory Authority (PPRA) also cited alteration of contract specifications and quality of works.

But Nairobi Governor Anne Kananu and the Senate Committee on Labour and Social Welfare promised Kenyans that its completion is on course.

The stadium will, not only benefit youth of the populous Dandora and surrounding areas like Umoja, but also reduce the pressure on teams which have to travel to Thika and Machakos stadiums for games.

Nairobi Senator Johnson Sakaja said the Dandora Stadium will be a welcome relief for team trainings since, "apart from Camp Toyoyo, we don't have other playing fields" besides the MYSA stadium, along Kangundo Road, which is owned by the Mathare Youth Sports Association, which runs Mathare United football club. ■

FACTS & FIGURES

This is a pitch for the youth to train and sharpen their sporting skills — President Uhuru Kenyatta

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Number of international soccer stadiums in Kenya, as opposed to over 35 golf courses with Vipingo Ridge being Africa's largest and only PGA accredited course.

POWER IN SCHOOLS

1,200 public institutions to be linked to national power grid

In December 2021, the Government launched the Electrification of Public Facilities Project (EPFP) to connect over 1,200 public institutions in 36 counties to the national power grid at a cost of KSh6.4 billion.

The Rural Electrification and Renewable Energy Corporation (REREC) is implementing the project in five sectors: Nyanza and Western; North Rift; South Rift; Central and Upper Eastern; and Lower Eastern and Coast regions. It is to be completed by June 2022.

Connecting the public facilities to the national power grid will improve their ability to provide social services such as education and health.

The public facilities to benefit include markets, health centres, educational institutions, tea buying centres, coffee factories and administration centres.

To expedite the project, the Government of Kenya, secured credit from the Arab Bank for Economic Development for Africa (BADEA); the OPEC Fund for International Development (OFID); the Saudi Fund for Development (SFD) and the Abu Dhabi Fund for Development (ADFD).

In schools, electrification will result in the uptake of ICT and use of modern learning methods, thereby improving the competitiveness of rural schools in attracting qualified teachers, as well as improving their performance.

Availability of electricity in rural trading centres empowers the populace, enabling growth of income generating activities such as the jua kali sector. It also enables mechanised farming for improved food security. ■

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AFFORDABLE HOUSING

KSH1.1M

Cost of constructing Kenya's first ever 3D-printed house

30,000

Number of 3D-printed homes IFC plans to finance in Africa

INNOVATION

Why 3D-printed homes are no longer just an architect's dream

A joint venture called 14Trees tested the market with an affordable 3D-printed house built in just 12 hours

Kenya is among the first African countries to test the concept of 3D construction as a way of building affordable homes. 3D printing in construction can include deploying a 3D printer attached to a robotic arm to build a house on-site, or the use of printers off-site to create components of a building that are later assembled on-site.

Although still a very niche concept, the technology has improved over the last 10 years and the costs have come down significantly.

Just like an inkjet printer, 3D printers for construction rely on a software programme - CAD or BIM - to 'tell' them about the dimensions of the end product so that they can inject material on a platform meeting the precise measurements. 3D printers can work with liquid metals, plastics, cement and a variety of other materials to form structures.

A partnership between Franco-Swiss cement multinational firm, LafargeHolcim and CDC Group in early 2021 through a joint venture called 14Trees saw the first affordable 3D-printed house in Kenya built in just 12 hours at a cost of only KSh1.1 million. 3D constructions can reduce CO2 emissions by as much as 70 per cent compared to typical house-building projects, making them ideal for clients keen on protecting the environment but also seeking low-cost solutions for constructing homes.

The rapid urbanisation taking place in Kenya and Africa today calls for technological solutions to lower the cost of building affordable housing. However, for 3D-printed homes to become a reality, the technology will need to rapidly scale up acceptance in the construction sector where profit margins a usually razor-thin.

One solution is public private partnerships (PPPs) where the Government works with private sector players and also provides them with incentives to lower the cost of investing in the required equipment.

The 14Trees building projects are one example of such public-private cooperation helping to create jobs as well as housing across Africa.

The IFC is working with a Chinese multinational construction and engineering company, CITIC Construction, and plans to build 30,000 homes over a five-year period by partnering with local businesses across Africa and estimates that each housing unit will create five full-time positions, equating to 150,000 new jobs in all.

"As sub-Saharan Africa becomes more urbanised, the private sector can help governments meet the critical need for housing", Oumar Seydi, IFC Director for Eastern and Southern Africa writes on the IFC website.

"The platform will help transform Africa's housing markets by providing high quality, affordable homes, creating jobs, and demonstrating the viability of the sector to local developers. A recent article in the UK newspaper, *The Guardian* newspaper detailed how scientists developed a way to construct 3D-printed and "environmentally friendly buildings using local soil that they say has the potential to revolutionise the construction industry."

They see this as an alternative to concrete whose production is energy intensive and leaves a harmful carbon footprint. Research by the International Energy Agency (IEA), according to the article, shows that concrete alone accounts for 7 per cent of global carbon dioxide emissions harmful to the earth's protective ozone layer.

Because it cannot be recycled and consumes a lot of energy to mix and transport, concrete remains a challenge for the construction sector. ■

INFRASTRUCTURE

Expressway to ease motorists' pain in time-sapping traffic

For a modest fee, they can save time and fuel driving from Mlolongo to Westlands

The Nairobi Expressway is now be open. Thanks to the partially elevated new 27km road, the irritating traffic snarl-ups between the Jomo Kenyatta International Airport (JKIA) and Westlands, are greatly reduced.

Traffic jams in the metropolis are estimated to cost the country KSh2 billion annually, or KSh50 million daily, in lost man hours. That high cost will significantly come down, thanks to the Expressway, also expected to enhance Nairobi's competitiveness as a regional hub for business and transport.

The KSh88 billion road will dramatically change the city's skyline and ease traffic flow in and out of Nairobi, which will be a major milestone. It is a significant enabler of business in Nairobi. The four-lane dual carriageway runs along the median strips of Mombasa Road (starting at Mlolongo), Uhuru Highway and Waiyaki Way, terminating at James Gichuru Road. It is to be tolled and will have 10 interchanges at Mlolongo, SGR, JKIA, Eastern and Western bypasses, Haile-Selassie, Museum Hill in Westlands and James Gichuru Road.

It is part of the Government's plan to ease traffic from JKIA that accesses Nairobi city centre. Also, traffic from central Nairobi is expected to be facilitated to reduce the number of departing passengers who miss their fights while stuck in road traffic.

The Expressway comprises four lanes one-way, (eight lanes total), with footpaths, drainage channels, overpass bridges and street lighting.

Though its construction worsened the traffic situation on the Mombasa and the adjoining roads, it was a temporary setback that will be replaced by enjoyable motoring.

The project was undertaken as a Public Private Partnership (PPP) with the China Road and Bridge Construction Corporation (Kenya) (CRBC) on a build-operate-transfer model. The concessionaire, CRBC, will operate the road for a period in order to recover its costs before transferring the operations to KeNHA.

2,000

Number of jobs Expressway created for Kenyans

60,000

Number of vehicles to JKIA from Westlands daily

The Expressway will slash commuting time between Westlands and JKIA from about two hours, at peak time, to just 15 minutes, a major saving, not just for motorists, but the economy as well. Meanwhile, the Expressway created over 2,000 jobs for Kenyans, provided markets for locally manufactured goods and services, and encouraged the transfer of valuable technical skills. A section of the road, from Mlolongo to NextGen Mall, a distance of 18.2km, is a flatbed model, while from Nextgen Mall, through the city centre, to St Mark's Church, covering 8.2km, is elevated.

The bigger plan is to connect JKIA to the neighbourhood of Rironi, in Kiambu County, along the Nairobi-Limuru Road.

Sections of the Expressway have eight, six, and four lanes, respectively, based on traffic projections.

It is estimated that up to 60,000 vehicles ply the JKIA-Westlands route daily. About 25,000 motorists are expected to use the tolled Expressway when completed. ■