

9TH ISSUE



National
Irrigation
Authority

UNYUNYIZI NEWS

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Chairman of the Board
Hon. Eng. Joshua Toro

Chief Executive Officer
Gitonga Mugambi

Chief Editor
Daniel M. Nzonzo

Editor
Rhoda Mbuvi

Writers
Rhoda Mbuvi
Brendah Rajwayi
George Maina
Johnbosco Obonyo
Elvis Ngugi

Photographers
Brendah Rajwayi
George Maina
Johbosco Obonyo
Elvis Ngugi

Graphic Designer
George Maina

CHIEF EDITOR'S NOTE



Daniel M. Nzonzo
Head of Corporate Communication

Agriculture, the economic backbone of Kenya, offers multiple livelihood and employment opportunities. As such, the National Irrigation Authority (NIA) continues to implement several irrigation projects across the country as highlighted in this issue.

In this edition, we feature diverse people who have embraced farming as a source of livelihood through the opportunities opened up by irrigation projects being implemented by the Authority. On demystifying terms, we focus on gravity-fed irrigation. We also explain Human Rights and Non-discrimination in the

National Cohesion and Values section.

We highlight on measures growers have taken to achieve optimum production against the third wave of Covid-19 and look forward to featuring your feedback on how our newsletters have been through the financial year and their impact on you.

We appreciate the warm reception of the Staff News segment and give you more news on what the Authority's employees went through within this quarter. We feature the knowledgeable Mr Daniel Atula, who is the Deputy General Manager, Operations, as well as the Acting Deputy General Manager, Corporate Services, at the Authority in our interview segment.

Enjoy the read.



A quarterly publication
UNYUNYIZI News

WORD FROM THE CHAIRMAN



**Chairman of the Board
Hon. Eng. Joshua Toro**

After closing the 2020-2021 Financial Year, my Board commends the Management and staff for the good job during the ended period. Indeed, in the 2019-2020 year the Authority excelled as captured in the Public Service Performance Management and Monitoring Unit review where the NIA was the overall fifth best among the more than 200 State corporations,

scoring 2.3539. The Authority was further ranked eighth best in the core-mandate category. Under the Ministry of Water, Sanitation and Irrigation, the NIA was position one. Congratulations!

During the Fourth Quarter, the Authority achieved another milestone after reviving cotton farming at the Tana Irrigation Scheme and introduced a pest resistant BT Cotton variety. This revival is anchored in the Manufacturing pillar of the Big 4 Agenda of the government as the Authority seeks to provide raw materials for the textile industries in Kenya. This will lead to resumption of operations of the ginneries in Tana River as well as other parts of the country that collapsed due to inadequate cotton. The steady supply of cotton to the ginneries and their continued operation will not only offer our farmers a ready market for their yields but also create jobs for our youth as well as all value chain players in the textile industry.

With irrigation playing a key role in the realisation of the Big 4 Agenda, the Government has set aside funds for implementation of irrigation projects in the 2021-2022 financial year. The Board of Directors in close collaboration with the Management will ensure the funds are spent on implementing irrigation projects, completing on-going projects and increasing water storage for irrigation. The aim is to increase acreage under irrigation as well as production and productivity as envisioned in President Uhuru Kenyatta's Big 4 Agenda.

On behalf of the Board, I urge farmers to make maximum use of the irrigation infrastructure put in place by the Authority for continuous food production. I commend the Irrigation Water Users Association (IWUA) for their cooperation and support by ensuring coordinated water distribution across our schemes. We call upon IWUA to ensure equitable distribution of water so that farmers can adhere to the established cropping programmes. I further call upon the beneficiaries of our projects to lead in protecting the installed irrigation infrastructure so as to enhance water supply to crops and avert crop failure as a result of missteps of the users.

Lastly, the Authority will continue observing Covid-19 pandemic protocols of the Ministry of Health and World Health Organisation to keep safe in farming activities. It is commendable that a majority of the Authority's staff have voluntarily received the Covid-19 vaccine as a measure of protecting self and others from the virus.

Be mindful of your health as well as your neighbours' as we fight Covid-19 and produce food to feed the nation.

WORD FROM THE CEO

Delivering on our mandate as an Authority in these challenging times, partly with the Covid-19 pandemic, is commendable. I applaud the staff and Authority's stakeholders for being steadfast in delivering services despite Covid-19. It is my hope that we stay vigilant in lowering the Covid-19 curve by observing the measures put in place by the Ministry of Health.

Having come to a close of the Financial Year 2020-2021, I commend the Authority's staff for the effort on opening up more acres to irrigated agriculture and management of the existing public irrigation schemes among others. Thanks to this effort, the Authority emerged first in



**Mr. Gitonga Mugambi
CEO National Irrigation Authority**

position in delivery of core mandate amongst the State Corporations in the Ministry of Water, Sanitation and Irrigation and ranked eighth by the Public Service Performance Management and Monitoring Unit in the 2019-2020 Financial Year review. I challenge the staff not to slow down on service delivery in order to leave a better nation for future generations as they finish

up with the evaluation of the Financial Year 2020-2021 performance and implement strategies for achieving the targets set for the current financial year.

This far, the Authority has implemented more than 200 irrigation projects under the Expanded National Irrigation Programme (ENIP) across all the 47 counties, opening up more than 129,796 acres to irrigated agriculture as we continue to manage the national irrigation schemes. On water storage for irrigation, the Authority has cumulatively achieved a volume of 30,853,560 cubic metres, putting an additional 30,854 acres under irrigation and benefiting 26,866 households directly. To date, the Authority has

realised 561,856 acres under irrigation. The Authority is keen on seeing more farmers take up irrigated agriculture as envisioned in the Big 4 Agenda and the Vision 2030, the government's two key growth blueprints.

During the fourth quarter of the financial year 2020/2021, the Authority completed Tunyai Gakurungu and Muringa Banana Irrigation Projects and continued with implementation of Household Irrigation Water Storage Programme across the country. As we usher in a new financial year, our focus remains firmly on irrigation expansion as well as maintenance of the already installed irrigation infrastructure to increase food production.

THE AUTHORITY BAGS TOP POSITION IN STATE CORPORATIONS RANKING



Community water pan in Kajiado County Constructed by National Irrigation Authority



by JULLYANE OKELLO

The National Irrigation Authority (NIA) has made it to the top of the charts in the State performance review of Ministries, Departments and Agencies, revealing a forward-looking leadership and a commitment to make Kenya food-secure. Of the 223 State Corporations reviewed in 2019/20 financial year Performance Contracts, the Authority attained the fifth best position overall while under the functions category it was rated the best as a regulatory agency in a group of 46 institutions.

On delivery of core mandate, the Authority emerged eighth best in the category headed by the University of Nairobi. It also ranked fifth among the top performing State Corporations where The University of Embu tops the list of the 223 corporations with a score of 2.1250 followed by Tharaka University College (2.1791), TVET Curriculum Development, Assessment and Certification Council (2.2587), and the University of Nairobi (2.2621).

Graded as Excellent, these top-five corporations exceeded performance by 30 percent or more, charging the Authority to deliver its vision of ‘water to every irrigable acre’ and in turn meet irrigation goals of ensuring food security, improving nutrition and making available raw materials for value addition, the nexus that creates jobs and saves lives.

This performance by the Authority is attributed to the excellent working relationship and collaboration between the Board of Directors led by the Chairman, Hon. Eng. Joshua Toro and the Management led by the Chief Executive Officer, Mr. Gitonga Mugambi. The current leadership has seen the Authority realize several milestones such as increase in area under irrigation, implementation of new projects and investment in water storage to support irrigation activities at household level through

the Household Water Storage Programme.

The Authority is working round the clock to provide water for irrigation to support production of food and pasture, agro-processing for value addition while securing surplus for trade and exports.

Water, Sanitation and Irrigation, the parent ministry of the Authority, was the fifth top-performing Ministry in a category headed by the National Treasury, State House, EAC & Regional Development, Office of the Attorney General in that order.

Through monitoring, the government enhances efficiency and effectiveness in service delivery, says Public Service and Gender Cabinet Secretary, Prof Margaret Kobia in the Report on Evaluation of the Performance of Ministries, State Corporations, and Tertiary Institutions for 2019/20 financial year.

Ministries, Counties, Departments and Agencies, the CS says, are increasingly using performance contracting as one of the performance monitors to achieve annual targets and mandates. According to the report released by the Public Service Performance Management and Monitoring Unit, five or 2.2 percent of the MDAs attained “Excellent” grading; 23 percent were “Very Good” while 74.8 percent secured “Good”, “Fair” or “Poor” ratings. “Excellent” performance exceeds set target by 30 percent or more while Very Good meets the goal or exceeds by up to 30 percent. Good is between 70 and 100 percent of target whereas Poor is below target at between zero percent and 50 percent.

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National Irrigation Authority emerges 5th position out of 223 state corporations reviewed in 2019/20 financial year performance contracts.

TOP TEN PERFORMING STATE CORPORATIONS

S/NO.	MINISTRY	COMPOSITE SCORE
1.	University of Embu	2.1250
2.	Tharaka University College	2.1791
3.	TVET Curriculum Development Assessment and Certification Council.	2.2587
4.	University of Nairobi	2.2621
5.	National Irrigation Authority	2.3539
6.	Chuka University	2.4085
7.	Kenya Industrial Estates	2.4459
8.	South Eastern Kenya University	2.5738
9.	Capital Markets Authority	2.5996
10.	Media Council of Kenya	2.6148

The Authority intends to accelerate irrigation expansion so as to meet Vision 2030 goals by implementing several programmes and projects throughout the country, including the following key programmes:

1. Mwea Irrigation Development Project (Thiba Dam and Irrigation Area) in Kirinyaga County: The project aims at increasing area under irrigation from 25,000 acres to 35,000 acres and also have a double crop. This will increase the current rice production from 114,000 metric tonnes to about 200,000 metric tonnes
2. National Expanded Irrigation Programme: 168 irrigation projects have been completed countrywide, putting 129,769 acres under irrigation and directly benefiting 88,010 farmers. In the financial year 2020/2021, some 42 irrigation projects were on-going and upon completion an additional 14,000 acres will be put under irrigation.
3. Household Irrigation Water Harvesting Project: In the last five years, 20,775 water pans have been constructed across the country, which is able to harness a total of 28,536,275m3 of water.
4. Bura Irrigation Scheme Development Project in Tana River County: The project aims to increase the area under irrigation in Bura to 15,000 acres from the current 6,000.
5. Turkana Irrigation Development Project: The project targets growing the area under irrigation in Turkana from the existing 22,000 acres to 53,000 within five years.
6. Lower Kuja Irrigation Scheme in Migori County: Upon completion, the project is expected to cover 19,293 acres. The project will greatly reduce the rice deficit in the country. To date, 2,980 acres are completed and under production.

able to put an additional 129,796 acres under irrigation by developing 168 irrigation projects which means that on average, 16,224.5 acres are cropped annually by irrigation projects. A total water volume of 43,480,175M3 has been attained following the establishment of 20,775 household water pans and rehabilitation of 206 community water pans across the country, indicating a significant growth in irrigated land as well as enhanced livestock production countrywide. This is tied to the adoption of modern irrigation technologies and enhanced farmer education among others. In terms of cost efficiency, the Authority has realized value for money. The cost of putting an acre under irrigation has significantly reduced after putting in place stringent measures to enhance project supervision and implementation, reducing unnecessary costs, claims and contract extensions. Same is the case with construction of water pans where the Authority adopted a highly negotiated cost of excavating a cubic meter at about KSh 150 compared to the existing market rates of between KSh 350 to KSh 450. This has enabled the Authority do many water pans using little resources and in turn helped many farmers to irrigate.

Kenya’s total irrigation potential with enhanced water storage is estimated at three million (3M) acres, according to the National Water Master Plan 2030. About 1.913 million acres can be irrigated without water storage. From 354,831 acres under irrigation by 2013, the area has risen to 561,856 acres, adding 207,025 acres within the period. This benefits about 1,035,125 people directly and indirectly and generates KSh31.1 billion annual revenue worth of produce. This shows that the Authority’s efforts to accelerate irrigation expansion is in top gear. It further confirms that achievement of Vision 2030 goals on food security and the Big 4 Agenda focus on food and nutrition security as well as enhanced manufacturing due to increased raw materials from irrigated agriculture are on course.



The Authority over the past five years has enhanced its efficiency in delivering service to the people of Kenya. Within this period, the Authority has been

Ongoing works at the Thiba Dam diversion and outlet in Kirinyaga County

KOMBOKA: NEW RICE VARIETY ARRIVES IN BURA SCHEME



A combine harvester harvesting rice in Bura irrigation scheme



by ELVIS NGUGI

Peter Mburu, a farmer at Bura Irrigation and Settlement Scheme in Tana River County, dropped Pishori rice for the new Komboka (80064) variety in his three-acre farm. He explains: “The Pishori we produced at Bura did not have much demand because it breaks a lot during processing.” During processing, Komboka remains intact, he says, adding that the percentage that breaks is less than that of Pishori.

Komboka rice, developed through a collaboration of Kenya Agricultural and Livestock Research Organisation (KALRO), International Rice Research Institute (IRRI) and National Irrigation Authority (NIA) was launched in late 2020 promising about seven tonnes per hectare (28 bags/acre). Dr. Raphael Wanjogu, Chief Officer, Research and Development at NIA and Endless Africa Rice Programme introduced it to Bura Irrigation Scheme. From 1.5 acres, Peter gets up to 35 bags of about 100kg each. “The cost of growing this variety from scratch is roughly

KSh140,000 for my three acres”, he added. The crop has a ratoon that yields at least 50 per cent of the initial production with very minimal crop management.

The Authority provides irrigation water to their rice farms at a one-off fee of KSh 5,000 per 1.5 acres in a season of six months. Additionally, it gives technical and production support by offering training on the best farming practices for the Komboka rice variety.

Most of the farmers practise mechanised rice harvesting, which the growers say is cost-effective. “We pay a fee of KSh8,000 per 1.5 acres for a combine harvester, which is a drop from the initial manual labour costing KSh15, 000. I am contributing to the growth of the economy by creating employment to the youth during land preparation, weeding and packaging of the paddy rice. The market for

Komboka is already established; National Cereals and Produce Board buys the paddy at KSh40 per kilogramme and we get paid within 24 hours after sale,” said Mr Mburu.

Mr Mburu says the NIA has intervened in a number of challenges farmers face at the scheme, including acquiring certified seeds and land levelling. Manual levelling takes time, especially for those holding large tracts of land.

The Bura Irrigation Scheme manager, Mr Peter Orua, says the scheme has put 1,400 acres under rice production, which are at different growth stages in the current cropping season. Other crops under irrigation at the scheme include green grams, commercial maize, watermelon, bulb onions, sunflower and Bt Cotton.

The irrigation potential of this Scheme is 25,000 acres; currently 12,000 acres are developed while 9,000 acres are actively in use.

“The Scheme contributes to the economy of Bura and Tana River County directly and indirectly. In the 2016/2017 Financial Year (FY), farmers earned about KSh60 million, KSh15 million in the 2017/18 FY, KSh28 million in the 2018/2019 FY and KSh39 million in the 2019/20FY seasons, from contracted farming of seed maize by Kenya Seed Company Limited”.

He added: “Averagely, farmers additionally earn about KSh200 million annually from horticultural crops’ production, that is watermelon, tomatoes and bulb onions and KSh150 million from rice, commercial maize, pulses and cotton production.”

“
Mr. Peter Orua

The Scheme has put 1,400 acres under rice production, which are at different growth stages in the current cropping season

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4



National Irrigation Authority Hon. Eng. Joshua Toro, and Mr. Gitonga Mugambi respectively (front row in brown and black jackets) as well as other senior officers from the Authority.

2. Joseph W. Irungu, CBS (third right), the Principal Secretary, Ministry of Water, Sanitation and Irrigation (MoWSI) and senior officials from County Government of Tana River inspect cotton in Tana Irrigation Scheme on June 11, 2021
3. Joseph W. Irungu, CBS (centre in a grey scarf), the Principal Secretary, Ministry of Water, Sanitation and Irrigation (MoWSI) and other officials from the National Irrigation Authority and County Government of Tana River inspect the progress of reservoir dam in Tana Irrigation Scheme on June 11, 2021.
4. Hon. Eng. Joshua Toro, REng MIEK (right), the chairman of the National Irrigation Authority board and Tana Irrigation Scheme Manager Kiri Kirigia inspect a green gram farm in Tana River County on May 22, 2021.

1. Ministry of Water, Sanitation and Irrigation Cabinet Secretary Sicily K. Kariuki (Mrs) E. G. H (centre in a pink jacket) inspects the drilling of Gathima, Passenga and Kiaduva boreholes on May 10, 2021 in the company of the chairman and CEO of the

NEW CROP VARIETY DAWN FOR PASTORALISTS OF TANA RIVER



by ELVIS NGUGI

Since time immemorial, people of Tana River have been identified with pastoralism. However, this is changing on realizing the potential of irrigated agriculture thanks to National Irrigation Authority's presence in the region. Slowly, they are taking up farming while keeping animals, only now closer home because the water provided for irrigation is also tapped for livestock and other household needs. "It is a wonder that even our semi-arid region can accommodate farming," said Ali Bare, a pastoralist now cropping cotton.

Mr James K. Kirigia, the Manager, Tana Irrigation Scheme, said that the Authority provides water for irrigation and gives the farmers technical support and advice on crop farming. "Financial partners such as AFC, Equity Bank and KCB Bank fund the farmers, and they pay little-by-little after selling their produce," Mr Kirigia said.

Ramadhan Igu, a cotton farmer at Umoja Area 5 of Tana Irrigation Scheme, said the first time he tried cotton farming pests heavily attacked the crop, causing disappointment. But that did not hinder him from continuing. Together with other farmers, they were introduced to Bt cotton, which is pest resistant. They put 100 acres under cotton, and after three months, the results are much better than the first one.

"At this rate, Tana River County will soon be the largest producer of cotton", said Ramadhan.

According to Mr Kirigia, more than 1,000 farmers have benefited from the irrigation water where varieties of crops are planted. About 100 acres in Tana Irrigation Scheme have been put under Bt cotton.

It is under a contract farming between the Scheme and Makueni Ginneries. Estimated yield per acre is between 2,500 to 3000kg, yield targets that will earn them KSh50 per kilogramme.



A farmer attends to his cotton farm in Tana Irrigation Scheme

As stated by Mr. Kirigia, the Tana scheme produces average KSh126,082,000 annually under different productions: commercial maize (KSh30.50/kg, KSh82,782,000; green grams (KSh120.00/kg, KSh8,100,000; cow peas (KSh80.00/kg, KSh3,200,000; rice (KSh55.00/kg, KSh11, 000,000), horticulture (KSh18.00/kg, KSh13,500,000) and cotton (KSh50/kg, KSh7,500,000). This is in line with the Big 4 Agenda, especially on food and nutrition security.

The scheme, however, has other crops, including commercial maize covering 1,800 acres, green grams under 150, cowpeas 50, rice on 100 and other horticultural crops having a 50-acre coverage.

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Mr. James K. Kirigia

more than 1,000 farmers have benefited from the irrigation water where several variety of crops have been planted. About 100 acres in Tana Irrigation Scheme have been put under cotton (Bt variety).

KAJIADO WOMEN GROW INCOME USING IRRIGATION



of community water pans, Household Irrigation Water Storage Project and establishment of large-scale irrigation projects under the Expanded National Irrigation Programme.

“My community has ventured into farming, thanks to Olookil water pan implemented by NIA. Now we can earn a modest living and empower other women employed as casuals in the farms,” says Ruth Joshua.

“The water pans in Kajiado County collectively hold up to 325,000 cubic metres with a potential of irrigating up to 260 acres. These have benefited about 260 households directly,” says Eng. Loise Kahiga, the

NIA’s Chief Planning and Design Engineer.

Farmers showing a bumper harvest in Kajiado County.



It is impossible to end poverty, hunger or malnutrition without the right involvement of women. They contribute significantly to agriculture and food security around the globe yet they face unequal access to training, resources,

by [JOHNBOSCO OBONYO](#) and opportunities to adopt new agricultural technologies, grow their businesses, and spend their hard-earned income to improve living. Empowering them is critical to ensuring sustainable development.

With access to improved technologies, knowledge and information, women farming in Kajiado County are bridging the gender gap and changing their lives and those of their families and community members. Pastoralism having been the major economic activity in the region, they have welcomed farming through irrigated agriculture. The common crops grown in the region include watermelon, tomatoes, onions and maize.

They are reaping through irrigated agriculture following water-harvesting pans put together by the government through the National Irrigation Authority (NIA) to boost farming in Kajiado County as well as throughout the country. “*Maji ilikua shida kupata, lakini sasa maji iko karibu*,” (Water access has been a challenge, but now it is within reach) says Gladys Kipaya, a farmer in Kajiado County. Through irrigated agriculture, she has been able to earn and educate her children.

Among the interventions are construction and rehabilitation



Farmers in Kajiado County weeding in their farm.

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Eng. Loise Kahiga

The water pans in Kajiado County collectively hold up to 325,000 cubic metres with a potential of irrigating up to 260 acres.

Congratulations

Congratulations, the entire National Irrigation Authority family for emerging number five among the best performing State Corporations in a report by the Public Service Performance Management (PSPM) and Number one in the Ministry of Water, Sanitation & Irrigation.

Congratulations



Eng. Risper Okumbe

We are thankful to God for the arrival of your bundle of joy. May the baby grow in wisdom and stature and in favour with God and men.

Happy Retirement



Eng. Willy Katembu

A colleague like you is irreplaceable. May this next chapter bring you success in your endeavours.

Happy retirement, Engineer

WATER IS GOOD LIFE, SAYS THARAKA NITHI PAWPAW FARMER



by **GEORGE MAINA**

As American activist Rachael Corrie urged people to follow their dreams and believe in self, Mr Daniel Mugendi is keen on making it in life through irrigated farming. While studying to become a teacher in future, he believes farming can make him achieve his goals and educate his siblings.

Mr Mugendi started as a green grams, cow peas and maize grower. “Due to inadequate water, I could not grow pawpaw as they required a lot of water. However, thanks to the implementation of Muringa Banana

he says, have met all his needs.

The farmer takes pride in being one of the main suppliers of pawpaw in his county with 1.5 acres under the crop, having started with less than a quarter acre. From 1.5 acres, he gets



A section of Mr. Mugendi's pawpaw farm.

adding water is no longer a thorn in the flesh thanks to the irrigation project that has made farming a choice for Igamba Ng'ombe people. Through growing various crops, families and individuals earn more in the farm jobs. Through the proceeds of pawpaw farming, he has educated himself, his brothers and sisters. He is undertaking an Education course at Mount Kenya University while his siblings are in different levels of education.

Eng. Gitonga Mbijiwe, the Regional Coordinator, Mount Kenya East, says 6,000 acres have been put under irrigation in Tharaka Nithi with a plan of expanding to 11,000 acres by the end of next year. He asserts that the net revenue of the region will grow with the expansion of agriculture.



Mr. Mugendi inspects pawpaws on his farm in Tharaka Nithi County.

Irrigation Project phase III (Mukami Line) in Tharaka Nithi County by the National Irrigation Authority, I have ventured into pawpaw farming,” he said. The returns from pawpaw alone,

KSh10,000 per week that translates to KSh240,000 per season of six months.

Mr Mugendi lists cost of fertiliser and insecticides as the main challenges,

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Eng. Gitonga Mbijiwe

6, 000 acres have been put under irrigation in Tharaka Nithi with a plan of expanding to 11, 000 acres by the end of next year. The net benefit in the region is expected to grow once the expansion is achieved.

FARMERS GOING AGAINST THE GRAIN TO BEAT COVID-19

The Covid-19 pandemic and its third wave have affected farmers and threatened the food security and nutrition goals of the country. Feedback from farmers reveals that they are working out a number of ways to adapt to the challenging times to continue producing and achieving their best. We got the responses through face-to-face interviews, phone text messages and calls as sampled below.

“The third wave of Covid-19 didn’t change much from what I had adopted since Covid-19 struck. I have continued to employ good agricultural practices: conservation agriculture and regular marketing survey to grow for sale. I also farm along River Galana while embracing solar power irrigation.” --Antony Masaka, Kilifi County.

“To ensure optimum production of my crops in the third wave of Covid-19, I continued to use certified seeds unlike farmers in my village who had stopped because of financial constraints.” --Joyce Obop, Kisumu County.

“Some of the farmers stopped farming during the first and second wave of Covid-19 due to lack of capital. I saw this as an opportunity and started leasing their farms, thus improving my harvest and also contributing to their livelihood.” --James Boweri, Nakuru County.

“Since physical capacity building sessions were reduced at Bura Irrigation Scheme, I have sought guidance on farming through online searches and calling on the Scheme officers. This has helped me a lot in maintaining the production of my farm.” --Ismail Mohammed, Tana River County.

“In the first and second wave of Covid-19, I was working under reduced salary, when my employer could not maintain it in the third wave, hence loss of the job. I have since concentrated purely on my farm using sprinklers and applying fertilisers more often to my crops. I am optimistic of a bountiful harvest.” --Daniel Kiragu, Tharaka Nithi County.

PROMOTING HUMAN RIGHTS, NON-DISCRIMINATION AT WORKPLACE



by **BRENDAH RAJWAYI**

The workplace is one of the places where people gather and assume a similar identity to serve. National values help us adopt shared values, challenges and opportunities with the hope and trust of reciprocity.

Embracing national values helps curb the socio-cultural, political and economic challenges we face when we come together. In this Issue, we focus on Human Rights and Non-discrimination.

Human Rights refer to essential God-given freedoms and privileges to enjoy fully by all people as they get equal protection by the law. As stipulated in the Kenyan Constitution, 2010, every citizen has the right to life, freedom of expression, health, housing, freedom from hunger, social security, education, the right to development and self-determination. Non-discrimination on the other hand refers to offering services and taking care of all persons without bias as defined by the Directorate of National Cohesion and values.

Chapter 4 of the Constitution elaborates the right to enjoy fundamental freedoms, including the right to equal political,

economic, social and cultural opportunities. In promoting these values at the workplace diligently, the Authority has put in place policies and procedures and taken several measures to ensure service delivery is effective and efficient in a non-discriminatory space. These include the development and implementation of National Irrigation Policy, Human Resource Policy, Complaints Handling and Access to Information procedures. Opportunities to offer services at the Authority are tied to the Public Procurement and Asset Disposal Act, 2015 and meets the directive on 30



Human rights for all

percent AGPO directive.

The Authority has equipped its staff with the knowledge and skills to protect human rights as well as carry out duties without discriminating against either customers or colleagues.

The Authority, through the implementation of its mandate,

has created employment opportunities for all Kenyans without bias. Through irrigated agriculture, farmers are able to earn a living and access basic needs such as food, healthcare and housing.

What are you doing in your capacity to promote human rights and non-discrimination? Let us join in the move for we all deserve an equal chance at life.

The Authority has equipped its staff with the knowledge and skills to protect human rights as well as carry out duties without discriminating against either customers or colleagues.



by **JOHNBOSCO OBONYO**

Irrigation has traditionally leaned on gravity-fed systems because of costs. In these cases, the water is conveyed from surface sources — primarily rivers or reservoirs — and is distributed to fields through a network of canals or pipelines using gravity.

According to Eng. Jairus Serede, a Senior Irrigation Engineer at the National Irrigation Authority, gravity-fed irrigation is the flow of water on the advantage of elevation that creates a natural head/pressure. Systems that rely on gravity instead of pressurisation have the lowest energy input to move water.

Gravity technologies may be characterised by two elements: water delivery

GRAVITY FED IRRIGATION SYSTEM

and how it is controlled to the field.

Water Control: In gravity systems, water is delivered to the highest elevation end of a sloped field or to the edge of a level field and released. In a field that is not perfectly level, water is either controlled by running it down in furrows, between borders, or is not controlled at all (which is rare except in mountain meadows). Different irrigation methods can be operated through gravity.

Basin irrigation is possible in level fields, where water

is delivered to the edge of the basin and allowed to spread. In a level basin, there are no furrows or borders to direct the water, but a border contains the basin itself. In drip irrigation, water from the reservoir is delivered through pipes and small outlets (emitters) to near the base of the plants. The most important feature of gravity irrigation is that the ultimate distribution of water is controlled by the land surface and not mechanically.

However, a hybrid system can be achieved where water is abstracted by pumping

and distributing through gravity. The manner of distribution can be modified by changing the condition of the land surface (for example, land levelling for a smooth the surface or changing the slope, or making of furrows).

However, since changing the face of the earth is difficult, design of surface systems involves choosing proper length and direction of flow and of stream size consistent with conditions of soil and topography.



Construction of Gravity fed irrigation system in Bura irrigation development project, Tana River County.

DANIEL ATULA: MY AGRICULTURE JOURNEY AND SUCCESS FORMULA



Mr. Daniel Atula, Deputy General Manager, Operations and Irrigation Management Services (DGM, O).

by **RHODAMBUVI & JOHNBOSCO OBONYO**

Mr Daniel Atula is the Deputy General Manager, Operations and Irrigation Management Services at the National Irrigation Authority. He is also the Acting Deputy General Manager, Corporate Services. He has not only excelled in these roles but has a lot of wisdom about life. He believes depression or stress sets in when we carry unnecessary baggage and advises everyone to ‘walk light’. He holds a Master of Business Administration degree in Strategic Management from Jomo Kenyatta University of Agriculture and Technology (JKUAT) and a Bachelor of Science degree in Agriculture from the University of Nairobi. Mr Atula is

an accomplished agronomist and manager with experience of more than 30 years.

Describe yourself.

I am a result-oriented person that would do anything possible to get the desired results. I am also a family man, with a wife and three children; two in college and one in primary school. You cannot live without some basic family support. I am a young person at heart, quite talkative and love singing. I am a hodophile who loves discovering new destinations and exploring places.

How was it growing up?

I grew up in Nairobi County. I am the firstborn of nine siblings. My parents were modest workers in the government and resources were scarce

all round from basic to secondary needs. My mother having attained her A-Level education inculcated the need to strive to get educated. She appreciated education gains which she said would earn us good jobs, thus breaking the hand-to-mouth cycle. At that time, I thought she was pushing us too far. Hii mambo ya kukuja na report card was not very interesting (laughs). I have a lot of respect for her.

I was a very playful child. I loved football and often got caned for coming home late because of playing football into the night. I was the captain of our estate team called Upper Hill Tigers. I used to enjoy going to watch the national league and was an ardent supporter of AFC Leopards just like my father until they started performing poorly and I lost interest. I used to escape from school and scale the walls of City Stadium to watch football since I did not have the gate fee. The police on horses would pursue us but I would manage to get in. The National League then was so competitive.

You have mentioned you love singing. Are you the type who says, “I was born singing?”

(Smiling) On the contrary, no. It is self-taught. When I transited to secondary school, some of my estate colleagues such as George Odhiambo and James Opala were in the choir and they encouraged me to join. At first, I had a difficult time juggling between football and choir practice. I had a bad voice then. In fact, the first time I sang, some ladies laughed so much that I disappeared from the choir for almost two years. As a vibrant young man, wouldn’t you? It took a lot of convincing from my friends as well as the same ladies who assured me that it’s normal for beginners to have croaking voice. I went back and slowly started enjoying my voice and singing. As we progressed, we felt the trainer and chairperson were taking the choir for granted by skipping sessions. We

chose to privately learn music and I bought my first book, *Since Singing Is So Good a Thing* by Graham Hyslop. I became the trainer. The first time I stood up to train, some older ladies kept mocking me because they doubted my ability. However, I soldiered on until we did a coup during elections and threw out all the leaders and appointed ourselves. Today, I am the Director of Music at St. Luke's Church, Kenyatta.

Did you ever imagine yourself being in the field of agriculture?

Growing up, I had never imagined a career in agriculture. My dream and interest was to become a dentist and a veterinary was my second choice. However, I missed the entry points by one point. I was admitted to university to do Biochemistry, which I realised the Chemistry part of it came later. This was another disappointment. Reluctantly, I moved to Agriculture in the first semester.

How did you end up working with the National Irrigation Authority?

Born and bred in Nairobi — studied in Madaraka Primary School, Dagoretti High School, Highways Secondary School for my A-Levels and the University of Nairobi, Kabete campus — I had a sentimental attachment to the city. I thought life begins and ends here.

After graduation, I wanted a job that could maintain me in the city. I applied for jobs with the Authority which was then known as National Irrigation Board and Kenya Bureau of Standards (KEBS). KEBS — my preferred choice — had a three-stage interview which I aced to the second level. I however nailed my interview with the Authority and was posted to Ahero Research Station as a research officer. I must appreciate Mr Moses Muloni, the officer in charge and fellow officers at the station, who got me into developing interest and eventually my love for agriculture. As an officer, my first task was on crop and fertiliser trials. When I joined the Authority, we were growing a rice variety called BW196, which was a good yielder, but poor on the table and Basmati 217, which had good aroma but a poor yielder. Through our interventions, we were able to change and bring on board a variety called IR, IPA 310 and Basmati 370. Over the years, I have climbed up the ladder to my current position.

Lessons learnt this far...

When I got my first degree I thought I was a learned fellow,

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The clock is ticking. Time matters every single moment. There is nothing like too early or too late to make the right decisions. Grow your career. Invest in multiple sources of income and plan for your retirement as early as now. Rome was not built in a day!

but when I sit here, I discover perhaps that's when I started learning. In the course of this journey, I have learnt that it is important to be flexible as sometimes things do not work out as planned and one must adapt to different situations. In addition, if you want a different result, do things differently. I have also come to the conclusion that it is paramount to set goals and develop a positive attitude in life both at home and at work. The two environments can become complicated and frustrating, sometimes to the point of depression.

I cannot emphasise hard work enough. Work hard, earn your life. Nothing comes easy. The saying “ukiona vyaelea jua vimeundwa” still holds the same weight it did yesterday. Always seek to improve continuously in whatever field you are pursuing. Learn from published materials, your experiences and from other players. Spirituality is very important in life. There is a need to look at powers beyond your powers to cross some situations!

Advice to people starting out their careers...

The clock is ticking. Time matters every single moment. There is nothing like too early or too late to make the right decisions. Grow your career. Invest in multiple sources of income and plan for your retirement as early as now. Rome was not built in a day!

You are in your 50s, but you look 35. How have you managed this?

I walk light. I try to have as much peace as I can and with the right mindset. Singing has had its way in appeasing my body and mind. I watch my diet and work out for at least four times a week. I also have me-time; an hour daily to reflect on my life, which helps me to get new ideas and frontiers to improve on what I do. It relaxes the mind, too.

Any fears?

Of course death, failure and the thought that anything I do could not propel my children to the right path.

What is your take on giving back to the society?

Man is a social being. It is important to give back to the society as a humble way of appreciating the role it has played. The society shapes us. I create time to share knowledge with the old and youth on different aspects of life. I also contribute to the development and progress of my community both spiritually and financially.

What is the importance of diversity at the workplace?

There are inherent potentials and capabilities through diversity. The world today is very dynamic. In 1993, I was teaching staff on how to use computers but now I need the younger generation to enlighten me on emerging technologies. The most successful organisations are those that have a good mix of gender, and age differences in the management and running of the organisation as seen at the National Irrigation Authority.

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VISION

“Water to every irrigable acre”

MISSION

“Provide and Coordinate Sustainable Development and Management of Irrigation Services in Kenya.”

Contacts:

Unyunyizi House, Lenana Road,
P.o Box 30372-00100,
Nairobi, Kenya.

Mobile No: 0711 061 000, 0711 061 140



National Irrigation Authority



@irrigation_Auth



National Irrigation Authority



ceo@irrigation.go.ke, communication@irrigation.go.ke



www.irrigation.go.ke