UNIVERSITY OF NAIROBI
OFFICE OF DEPUTY VICE CHANCELLOR
RESEARCH, INNOVATION & ENTERPRISE

POLICY BRIEF

Volume 2024 Vol. 1 (1)

December 2024

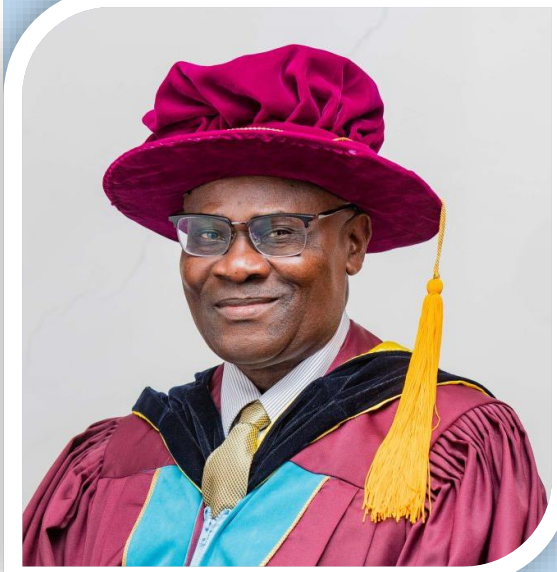
Copyright

Published by the Office of the Deputy Vice Chancellor,
Research, Innovation and Enterprise,
University of Nairobi

Contacts

Office of the Deputy Vice-Chancellor,
Research, Innovation and Enterprise
PO Box 30197 - 00100
Office. +254-020-4913164
Mobile: +254-0703126934
Email: policybriefs@uonbi.ac.ke
Website: http://uonresearch.uonbi.ac.ke/

Message from the Deputy Vice Chancellor, Research, Innovation and Enterprise



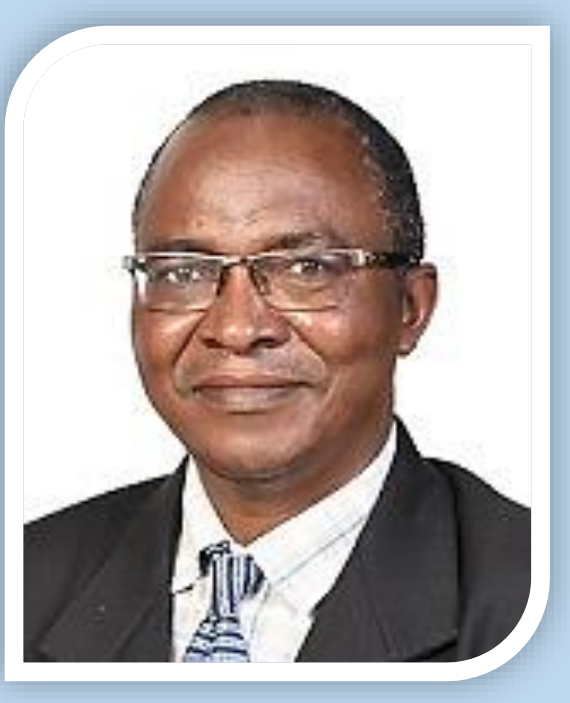
It is with great pleasure and enthusiasm that I present to you our latest policy brief publication. Publishing of Policy Briefs is quite an important dissemination approach of our research findings, that aims at delivering very specific messages that quickly inform policy makers on areas that require urgent interventions. Policy briefs are meant to address specific gaps and call upon action by the targeted institutions to address those gaps, as a way of solving societal problems. The Policy Briefs also help to bridge the gap between theory and practice, and to bring closer research institutions to the industry.

I would like to thank the authors, of the policies published in the current issue, the reviewers and members of the editorial Board who have put in their energy and time to make this publication possible.

I encourage our researchers to submit more policy briefs for publication through the office of the Deputy Vice Chancellor, Research, Innovation and enterprise, as a way of being able to reach out to policy makers and influence decision making. It is through your unwavering support that we are able to undertake initiatives like this policy brief publication and work towards a better future.

PROF. FRANCIS J. MULAA
AG. DEPUTY VICE CHANCELLOR
RESEARCH, INNOVATION AND ENTERPRISE

Message from the Editor-In-Chief



The UoN Policy Brief series are published by the Office of the Deputy Vice Chancellor, Research Innovation and Enterprise on a quarterly basis, and we encourage authors to submit policy briefs for publication as a way of disseminating their research findings and informing policy. I take this opportunity to all the authors who have contributed in the current issue of the policy Briefs. I also wish to thank our reviewers and the editorial board members who have continued to support us in ensuring that the policy briefs are of the highest quality. This is the first issue of policy briefs we are doing during 2024, as we had a few challenges that delayed our earlier publication. The current issue has focused on a diverse array of areas that will be of interest to policy makers, and we do hope that the recommendations given will guide policy makers in their decision-making

I wish to congratulate all the authors and contributors who have participated in the current issue of the UoN policy briefs.

Prof Justus M Munyoki,
Editor-In-Chief
UoN Policy Briefs

Contents

PB-2024-01-01

Identification of Competences among Autistic Learners Inflate Acquirement of Adaptive Skills

Gatuura Festus Doris, Odundo Paul Amollo, & Ganira Khavugwi Lilian

Key Messages

- **A well designed competence identification procedure culminates in rightful pinpointing of incapability among autistic learners which might be hindering adaptability in school and wider society.**
- **Accurate establishment of the competences such as communication, social and self-care among autistic learners influence adoption of interventional measures commensurate with adaptive skills acquirement for survival.**
- **Management of challenges hindering effective identification of competences among autistic learners.**

Context

The prevalence of Autism Spectrum Disorder (ASD) globally has been on rise with an estimation of 1 in every 100 children having been affected according to World Health Organization (WHO, 2023). This has been equated to an increase in number of diagnosed children with autism globally. However, little is known on autism prevalence in African countries. As noted by Matthew (2021) most cases of autism goes undiagnosed in African children in early years of life until celebration of eighth birthday, which is contrary to American counterparts where diagnosis is done as early as four years. In Kenya Autism Spectrum Disorder prevalence is about 4% which is 1 in every 25 children as per Autism Society of Kenya, (2007). Apparently, the prevalence in Kenya is higher compared to global statistics which could even escalate if recent data is established. Nevertheless, availability of recent data on autism prevalence in Kenya would necessitate the stakeholders develop appropriate intervention measures to manage challenges associated with the spectrum. Establishment of abilities in communication, social and self-care skills among autistic learners is based on guidelines provided by Diagnostic and Statistical Manual of Mental Disorders-5 Text Revision (DSM-5 TR, 2022) Manual published by American Psychiatric Association. The parameters of identification highlighted in the manual guidelines are deficits in verbal and non-

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

verbal communication, friendship formation, social interaction, rigid adherence to routines and repetitive behaviors. In accordance with Gatuura, Odundo, Kazungu and Ganira (2023), establishment of abilities in learners living with autism may boost behavior change, adoption of interventions/support required as well as obtainment of language and social integration, creating a just and cohesive society where every person enjoys equitable social development in realization of vision 2030. Nevertheless, a study by Abubakar, Gona, Kipkemoi, Rimba, Amukambwa, and Newton (2022) on Perspectives of key stakeholders on educational experiences of children with autism spectrum disorders at the Kenyan Coast, postulated that absence of structured process in identification of children with ASD slowed the diagnosis for rightful intervention. Further, Abubakar et.al (2022) asserted that barriers like insufficient training, skimpy resources and strain in supervision of children with varying functional abilities in the same class compromised identification of skills as well as adoption of appropriate interventions to support attainment of adaptive skills for functionality. Based on this assertion, there were inconsistences in identification of competences in autism, which lead to wrong diagnosis where some learners may be perceived to be hyperactive while others mentally handicapped. In such instances, parents may be misinformed resolving to hide, lock and tie up learners in homes inhibiting accessibility to intervention programs. Wrong diagnosis may as well lead to placement in astray school resulting in overstaying in the same class for many years without a positive progress in academics and adaptive skills thus dropping from the education system. Therefore there is need for a structured identification procedure that will support homogenous identification of autistic competences across the schools to guide establishment of a mediation program that would facilitate acquisition of adaptive skills as early as possible. Consequently, attained adaptable abilities enhance integration and participation in school and social activities minimizing a feeling of lesser being among autistic learners.

Methodology

The study's within subjects experimental research design involved teachers, autistic learners and stakeholders of public primary schools housing autistic learners in Tharaka Nithi County, Kenya. Data was obtained using three tools; Achievement test, Questionnaire and Observation guide. The study revealed that identification of autism competences was based on establishment of abilities in verbal and non-verbal communication, friendship formation, and participation in social activities like play, self-care such as feeding and cleanliness as well as emotional expressions. Additional findings unveiled that there was inadequacy of structured identification procedures which could result in disparities in diagnosis process inflicting the learning and acquirement of adaptive skills for self-reliance. In addition the results exhibited that identification of competences among learners living with autism at grass root levels was affected by insufficient funds, inadequate personnel, inadequate equipment and delayed identification in instances where parents were uncooperative in diagnosis procedures. The challenges hindered effective identification of autistic competences slowing adoption of intervention measures which would escalate attainment of adaptive skills for integration. Despite the lapses during identification process, effective implementation of discrete learning method increased obtainment of adaptive skills like communication competence, social integration and self-awareness among autistic learners for survival.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Conclusion

Identification of autistic competences entails establishment of abilities among autistic learners to determine the level of support required to attain independence for positive living. Appropriately identified autistic competences may necessitate adoption of right intervention measures which tend to boost acquirement of adaptive skills for independence. For instance, Applied Behavior Analysis therapy which may encompass intervention procedures like Picture Exchange, Communication System, Discrete Trial Training, Reinforcement Systems and Modeling, may be adopted in teaching adaptive skills like communication, social skills, self-care, play, motor skills as well as learning and academic skill among autistic learners to improve functionality at home, school and community. To single out, discrete learning method which involve simplifying complex skills into easy procedure that are easily comprehended by autistic learners increases acquisition of adaptive skills for self-reliance. Similarly, instructional resources like social stories, visual timers and visual schedules used in discrete learning method expose learners to real life experiences which support learning and mastery of adaptive skills. When right interventions which support acquirement of adaptive skills are put in place, acquisition of communication allows expression of ideas, social skills enhance co-existence in society while self-care enable proper planning and organization. When autistic learners are equipped with adaptive skills, there is smooth transition and integration in the society.

Recommendations

Short term:

- Government to necessitate identification of autistic competences by establishment of supportive Education Assessment Resource Centers (EARCs) at Sub county levels.
- Government to provide precise identification procedures to ensure valid diagnosis across the country for adoption of rightful intervention.

Medium Term

- Training of teachers specifically on autism who can adequately identify autistic competences for adoption of appropriate intervention.
- Adoption of sector wide approach involving stakeholders to enhance authenticity and clarity of identification results.
- Further research on advanced competence identification criteria to minimize biasness in the process which may result from overlapping of identification features.

Long Term:

- Government to work closely with Autism society of Kenya to establish institutions that mentor individuals with autism to fit in job markets.
- Government to facilitate onset of programs that support integration of autistic individuals in the society.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Acknowledgement

This policy brief is work of Doris Gatuura, Prof. Paul Odundo and Dr. Lillian Kavugwi. The authors appreciate all participants of the study for the insights from which this policy brief was derived.

References

Abubakar, A., Gona, J. K., Kipkemoi, P., Rimba, K., Amukambwa, D., & Newton, C. R. J. C. (2022). Perspectives of key stakeholders on educational experiences of children with autism spectrum disorders at the Kenyan Coast. *African journal of disability*, *11*, 847. https://doi.org/10.4102/ajod.v11i0.847

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

Gatuura Festus Doris, Odundo Paul Amollo, Kazungu Theresa, Ganira Khavugwi Lilian. (2023). Effect of Identification of Competences on AutisticLearner's Achievement in Adaptive Skills in Public Primary Schools in Tharaka Nithi County, Kenya. *International Journal of Elementary Education*. Vol. 12, No. 1, pp. 7-15. doi: 10.11648/j.ijeedu.20231201.12

Matthew J. (2021). A lamplight on technology and autism spectrum disorder in Africa. Techpoint.africa.autism-in-africa.

Authors

- Gatuura Festus Doris, dgatuura@gmail.com**;**
- Odundo Paul Amollo, odundopaul@yahoo.com
- Ganira Khavugwi Lilian, lganira@uonbi.ac.ke

Rehabilitation of Offenders in Kenyan Correctional Facilities and the Built Environment

Prof. Arch. Paul Mwangi Maringa & Arch. Christopher Matseshe Naica

KEY MESSAGES

- **Living spaces acquire their character from the values and lifestyles of their occupants, while reciprocally providing a context whose personality selectively promotes particular human conduct.**
- **Deviant behaviour is a pathological response to a particular social and physical environment. Certain physical and social attributes therefore act as environmental hints for some kinds of behavior. Certain environments therefore simply attract specific kinds of people.**
- **Society therefore influences its social and physical environment, while also receiving stimulus from these surroundings, in a process of cultural or behavior adaptation. In consequence, behavior can only be understood or shaped conclusively in the environments in which it occurs.**
- **Desired behavioural change of inmates in Kenyan correctional facilities can most sustainably be achieved through well designed spaces and built forms.**

Figure 2: Manicured gardens in Langata women's prison;

Source: Author-2

Figure 1: Exterior of Langata women's prison;

Source: Author-2

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Introduction

Poor architectural designs and the resulting configuration of buildings and spaces generate micro-environments that inhibit normal patterns of social interaction while conversely encouraging diverse deviant behaviour (Knox, 1998). In this regard, Kenyan correctional facilities, exemplified by the Industrial Area prison, Lang'ata Women's prison, and Kamiti Maximum prison are no doubt clearly challenged. A heartbreaking question in Kenya today is whether architecture has completed its task of seeking design solutions that correspond to the development of penal concepts. Protection of the community necessitates isolation of delinquents till they acquire law-abiding attitudes before their re-integration into the community. Sustainable behaviour change can come about in a social and built environment that does not unduly suppress the personality of the offender. In addition, an interaction between prisons and the ordinary communities should be stimulated and developed.

Approaches and Results

Interview of inmates covered topical issues such as safety, services provided, the built environment, anomie (breakdown of social values) and crime in prison. The study relied on a combination of environmental behaviour survey and case study research designs to probe inmates and the physical facilities of correctional centers. Random sampling was used to select respondents. Structured scaled interview schedules were used to elicit from not less than 30 respondents and 3 to 4 key informants in every prison, ranked opinions, feelings, thoughts, expectations, dislikes, motivations, and attitudes on summated Likert-type scales. Environmental behaviour research enabled inconspicuous investigation of the inmates, tracking down otherwise hidden or past user patterns, with the interviewer acting as a recognized outsider (Zeisel, 1984).

Up to 31% of respondents concurred that public places were safe. Forty eight percent (48%) felt that prison was safe for staff. Thirty eight percent (38%) felt that their cells were safe. Up to 90% of the inmates felt that their movements were restricted and 81% of them were of the opinion that security in prisons was tight. Concerning anomie, up to 75% agreed while 46% strongly agreed that there was homosexuality in prisons. Considering the services provided, 11% felt that their families cared little for them and their situation. Up to 65% lacked confidence of still achieving many things in life. Up to 51% felt that prison authorities and other national leaders cared little for their needs. On crime, 75% concurred that smuggling and sale of drugs existed in prisons. Ninety one percent (91%) agreed that there existed a threat of inmate-to-inmate violence. Up to 90% of the respondents agreed that theft existed while 76% of the respondents agreed that assault existed in the prisons.

About 80% of the inmates felt that general prison conditions were satisfactory. Acceptable accessibility of toilets scored 23%, satisfaction with libraries 25%, and goodness of dining facilities 7%. A meagre 13% of the prisoners liked the prison buildings. Only 18% liked the wall surface colours, while 28% found the lighting levels sufficient. Up to 23% reported that the prison cells were hot and 21% found the prison cells sufficient in size. A considerable 55% felt that prison buildings were not well linked.

Overall, inmate anomie in Kenyan prisons was moderately confirmed. Community leaders were perceived to be indifferent to the needs of prisoners. Inmates were generally cynical and felt that little could be accomplished in society, and that their life's goals were receding. Inmates desired to succeed outside prisons and had confidence of family support, possibly a reactive stance to the rather apathetic relationships with their prison authorities, and the filth in prison.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

The results of this evaluation mitigate against imprisonment in favor of remedial treatment, and possibly service within the community. In addition, a radical change to the socio-physical environment of correctional facilities is necessary.

Policy Recommendations

Short-term

The Government needs to:

- Urgently initiate a review of the whole penal system. In so doing, it should embrace the expert views of lawyers, sociologists, statisticians, penologists, psychologists, psychiatrists, social workers, and specialists on organization of the industry.
- Move the specific objectives of the penal institution beyond the singular purpose of detention and indiscriminate collective containment that was easily fulfilled by simple physical structures with buildings acting as barriers to the external world, to ensuring security, preventing moral contamination, and providing a healthy environment (King and McDermott, 1995).
- Facilitate Prison authorities to develop distinct building forms with desirable architectural quality that is well aligned to the fundamental purpose of behaviour change in a correctional facility.

Medium-term/Long-term

The Government should:

- Put more effort towards alternative remedial treatment, and possibly service in the community, by integrating the offender within the community from which he/she comes as opposed to imprisonment. Possible, approaches should be explored where offenders are kept within the community for as long as possible before other remedies are tried.
- Construct new and smaller prisons each with not more than 300 inmates in groups of from 10 to 14 (King and McDermott, 1995).
- Ensure that more prisons are located within urban areas near the families of prisoners to foster easier visiting and for the staff to be near their homes too.

It is important to provide educational facilities, training workshops, recreation and visiting facilities and attractive landscaping in prisons to facilitate innovativeness among prisoners.

References

King, D.R., and K. McDermott, (1995). "The State of our Prisons", Clarendon Press, London.

Knox, Paul, (1995). "Urban Social Geography: An Introduction", Longman, Singapore.

Zeisel, John, (1984). "Inquiry by Design: Tools for Environment – Behaviour Research", Cambridge University Press, London, UK.

Acknowledgements

Effective field access owes much to the availability and exemplary goodwill of the following officers of the Prisons service: D. Mwakazi, A. Kaliti, M. Okoko, J. R. Kipkorir at the Prisons' Headquarters, Wafula Hassan and Noor Mohammed of Industrial Area prison, Nancy Icharia and Nereah Ouma of Lang'ata Women's' prison, and finally Solomon Kinyanjui and Duncan Ogore of Kamiti Maximum security prison.

Authors

- Professor Arch. Paul Mwangi Maringa (PhD), CBS, FAAK, MKIP, Adjunct Professor of Architecture and Planning, Department of Urban and Regional Planning (DURP), Faculty of Built Environment and Design (FBED), University of Nairobi (UoN); E-mail: pmmaringa2013@gmail.com
- Architect, Christopher Matseshe Naica, B.Arch. hons, MAAK. Principal partner at Design Source Ltd., E-mail: chris.naicca@designsource.co.ke

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Strengthening Research Ethics Oversight in East Africa

By Teresia Nyawira, Lillian Omutoko, Beatrice Amugune, Irene Inwani, Moses Masika, Gloria Omosa-Manyonyi, Cyrus Kamau, Charity Muchoki, Joan Chepleting, Linda K'Apiyo, Christine Obare, Moses Mundia, Boniface Wanyama, Walter Jaoko

Key Messages

- **Revamping ethics training for Research Ethics Committees and researchers by introducing compulsory units and initiating mentorship programs.**
- **Developing governance infrastructure to strengthen research integrity and online platforms to reduce the turnaround time of reviewing research proposals**

Introduction

Research Ethics Committees (RECs), in their oversight role, are critical for protecting research participants from harm and ensuring compliance with the highest internationally accepted ethical standards. Though East Africa has an elaborate research ethics review system, certain gaps have been identified. The number of proposals to be reviewed has continued to rise, without a commensurate increase in the number of trained RECs members. This situation is aggravated by the fact that several REC members have limited knowledge in critical proposal appraisal. With global technological advancement, increase in testing of novel ideas, and an upsurge of collaborative research with potential for financial gains for institutions, managing emerging ethical issues is crucial. Continuous and appropriate training to equip committee members and researchers is necessary. Specific ethical challenges arise when handling international collaborative research, especially clinical trials on a population offering diverse genetics and large numbers of treatment-naive patients. Other emerging ethical concerns emanate from data use, sharing, ownership, and shipping of biological samples resulting in the likelihood of ethical dumping. (Chatfield et al, 2021; Schroeder et al, 2020, Omutoko et al, 2023). This policy brief recommends consistent capacity building of REC members and hosting institutions should provide appropriate and adequate infrastructure and resources for managing the committees.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Methodology and Key Findings

Strengthening Research Ethics and Oversight in Kenya project funded by the European and Developing Countries Clinical Trails Partnership (EDCTP; 2018-2022). The project's goal was to build the capacity of REC members. The specific objectives were to: develop strategic governance documents including standard operating procedures, a training package, and mentorship guide; upgrade the ICT infrastructure for the management of RECs; create a database to enhance networking among RECs and hold a stakeholders' conference.

Findings were derived from a literature review, trainee evaluation results, and feedback from the conference. Participants included REC and National Bioethics Committee (NBC) members, research regulatory representatives, researchers, faculty, and students from East Africa and beyond. Study deliverables included an NBC strategic plan, SOPs, a REC training package, and a REC mentorship guide.

Key Findings

Training in Research Ethics (RE) ensures the credibility of researchers, maintains trust and responsible conduct of researchers. Observations and feedback revealed that RE does not feature in the curriculum of most universities and where it does, the content is inadequate. Most NBCs in the region have mostly focused on training REC members. Some key stakeholders in RE like social scientists, REC lay members, administrators, and general secretariat staff are rarely trained. Students and early career researchers need to be inducted early enough to ensure ethical compliance. The proposal review turnaround time remains an ongoing concern. Obtaining ethical approval from RECs and authorization from other regulatory agencies takes an average of three months and a minimum of 6 months for clinical trials. The quality of the review process and need for multiple approvals for multisite studies especially when accelerated approval is desirable was of concern with significant effect on research outcomes. Such delays make countries in the region unpopular research destinations. To ensure data privacy and security, most countries have enacted data protection laws. There is however a need to sensitize and educate all relevant parties. Despite a recognized governance framework for RE, there is inadequate and appropriate infrastructure for handling research misconduct. There is need to build the capacity of REC members and the research community on Research Integrity (RI), to ensure and maintain high standards of integrity necessary for knowledge advancement (Science Europe, 2015). Further, strengthening regulatory frameworks would help to curb research misconduct (Edwin *et. al.*, 2020

Conclusion

Strengthening capacity in RE is crucial for upholding moral and social values. The ethical norms guide researchers in ethical decision-making. Training and mentorship of REC members can improve the quality of research proposals, reduce the turnaround time for review, and create a conducive environment for conducting credible research. Data protection laws and regulations are vital for the protection of the rights and privacy of research participants.

Policy Recommendations

Short-term

Training and mentorship in RE should target REC members, lay REC members, researchers drawn from all disciplines, research regulators, REC administrators, students, and early career researchers, while mentorship should target REC members and REC administrators. Procurement and use of technology such as online platforms can be employed to improve the turnaround time for proposal review. To ensure data privacy and security, stakeholders should be sensitized on data protection laws. To promote research

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

integrity, a research integrity culture needs to be built at the national and institutional levels.

Medium-term

To fast-track the review process of clinical trials and multiple-site studies, concurrent ethical review by relevant approval bodies will assist in reducing delays.

References

Chatfield, K., Schroeder, D., Guantai, A., Bhatt, K., Bukusi, E., Adhiambo Odhiambo, J., Cook, J., & Kimani, J. (2021). Preventing ethics dumping: the challenges for Kenyan research ethics committees. Research Ethics, 17(1), 23–44. https://doi.org/10.1177/1747016120925064

Edwin Were, Eunice Kaguiri & Jepchirchir Kiplagat(2020) Perceptions of occurrence of research misconduct and related factors among Kenyan investigators engaged in HIV research, Accountability in Research, m27:6,372-389, DOI:10.1080/08989621.2020.1759425

Omutoko, L., Amugune, B., Nyawira, T., Inwani, I., Muchoki, C., Masika, M. ... & Jaoko, W. (2023). Strengthening research ethics oversight in Africa: The Kenyan example. South African Journal of Bioethics and Law, 16(1), 19-22.

Schroeder D, Cook J, Hirsch F, Fenet S, Muthuswamy V. Ethics Dumping: Case Studies from North-South Research Collaborations. Cham, Switzerland: Springer Nature, 2020.

Science Europe. (2015, June 17). Seven reasons to care about integrity in research. Science Europe. https://www.scienceeurope. org/media/42sphgqt/20150617_seven-reasons_web2_final.pdf.

Authors

- Teresia Nyawira teresia.nyawira@nacosti.go.ke, National Commission of Science Technology and Innovation (NACOSTI)
- Lillian Omutoko, joyce.lillian@uonbi.ac.ke University of Nairobi (UON)
- Walter Jaoko, WJaoko@kaviuon.org, UoN
- Beatrice Amugune, beatrice.amugune@uonbi.ac.ke, UoN
- Irene Inwani, Kenyatta National Hospital
- Moses Masika, University of Nairobi
- Gloria Omosa-Manyonyi, University of Nairobi
- Cyrus Kamau, NACOSTI
- Charity Muchoki, NACOSTI
- Joan Chelating, NACOSTI
- Boniface Wanyama, NACOSTI
- Linda K'Apiyo, University of Nairobi
- Christine Obare, University of Nairobi
- Moses Mundia, University of Nairobi

Agroecology Benefits in Coffee using Legume Cover Crops boosting Climate Resilience.

James Mwangi Ndiritu, Dr. Kinama Josiah Mwivandi, Prof. Nzioka John Muthama

Key Messages

- **Coffee monocultures increase challenges of seasonal weed competition and result to lower coffee yields while increasing production costs.**
- **Regular tillage lead to bare exposed soils that become highly predisposed to soil erosion during rainstorms loosing productivity especially amplified after drought.**
- **Climate smart adaptation actions in coffee presents an opportunity for the adoption of desmodium cover crops for weed control while optimizing the same space for producing legume fodder livestock feeds through increased biomass formation from the photosynthetically active radiation in the same space in the system as ecosystem service.**
- **Legume cover crops support better landscape by providing habitat for ground dwelling bees and policy makers should embrace these ecosystem services benefits.**

Context

Coffee Arabica comprising 95% of Kenya's coffee production, is a major cash crop to an estimated 700,000 smallholder farmers having more than 115,000 hectares (GCP, 2018). Arabica coffee being climate sensitive is among the crops that have been predicted to be negatively affected by changing climate impacts. At introduction in Kenya, the coffee industry ordinance in 1933 came up with the Cap 333 coffee production with prohibitions on any intercropping in coffee production systems relegating it to monocultural practices. This has contributed to the limited research related to the synergistic intercropping of coffee with legume cover crops for ecosystem benefits. Dominant weed control methods comprise herbicide application and manual weeding which have been attributed to aggravated soil degradation in sloping areas increasing susceptibility to soil erosion (Christopher et al,.2023), resulting to lower yields and increased reliance on synthetic fertilizers resulting to increased loss of ecosystem services. Kenya has a chronic fodder shortage that makes livestock production perilous and expensive. Adoption of legume fodder cover crops like desmodium *spp.* in coffee production systems will therefore support fodder production for livestock, utilizing the photosynthetically active radiation interception (Kinama *et al.*, 2011) producing more biomass from the intercrop, control weeds and augment beneficial ecosystem services aiding coffee productivity and thereby increasing farmers' resilience to changing climate.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Study Approach and Results

The SDG 13 and Malabo declaration emphasis on climate action advocating for agricultural production activities that align to increased efficiency in resource use, sequestration and retention of carbon in agriculture while ensuring biodiversity for provision of ecosystem services. Adjustments in production systems should therefore be aimed at increasing adaptation and resilience with dynamics of changing climate (Ndiritu *et.al*. 2022). Conventional agricultural practices has been driven by the green revolution campaigns of increased agricultural production through intensification of synthetic inputs despite their negative environmental consequences which been attributed with soil degradation, soil erosion, and loss of biodiversity. Conventional agricultural practices consequently have reduced land carrying capacity due to loss of soil fertility and monoculture systems reducing healthy soil functional biological systems which has been defined as soil sickness. Juma *et al* (2013) have urged the urgency in the need for farmers to increase sustainable agricultural intensification practices that uses the same land or less with less resources to produce more while intentionally reducing emission of greenhouse gases.

This study carried at the University of Nairobi Kabete coffee plantation compared 3 weed control systems of herbicide application, hand weeding and desmodium legume cover crop in coffee production. Soil analysis for different periods for moisture and nutrients was compared among the treatments and the desmodium fodder production potential at 17 tons per hectare based on the number of harvests was extrapolated. At the end of the study, coffee yields among the treatments was compared and deductions made based on the interpretation of the results. The study was further enhanced with a Knowledge, attitude and practices (KAPs) survey in Githunguri sub county in Kiambu County notable for having coffee and high dairy production. The survey showed a notable absence of ecosystem services knowledge among the farmers surveyed despite some farms recording sizeable challenge with soil erosion (Ndiritu *et.al*. 2022). Cost of fodder or animal feeds for the livestock contributed more than half the cost of the milk production. While intercropping is widely practiced with seasonal crops, the benefit of legume cover crops is absent.

Our study suggests the need for increasing ecosystem knowledge among farmers using desmodium legume fodder cover crop in coffee for ecological benefits of weed control and better moisture regulation while controlling soil erosion in sloping areas to sustain higher coffee production. Increasing population and changing climate, amplifying the intensity of the impacts of conventional agriculture will likely worsen the climate impacts unless mitigation is promoted through suitable policies that supports agroecology. Climate-smart agriculture integrating sustainable methods of crop production has been suggested as offering new dimensions embracing natural biological systems which are more stable to changing climate (FAO, 2019).

Policy Recommendations

Short-term

- Agroecology using legume cover crop for weed management system in coffee production should be integrated by Ministry of Agriculture (MoA) and County governments based on evidence from studies on sustainable intensification of agriculture seeking for the place of additional biomass production from increased light interception at no extra cost benefiting from intercropping

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

- The MoA should facilitate establishment of demonstration platforms that show the comparative advantage of agro-ecology practices using legume cover crops in coffee production versus conventional farming practices to spur up scaling.

Acknowledgement

This was part of PhD study under the Wangari Mathai Institute under the University of Nairobi.

References

Christopher J. F., David A. R., Amy R.C. T., Pasquale Borelli, David M. C. , Linda M. (2023). Agricultural practices drive elevated rates of topsoil decline across Kenya, but terracing and reduced tillage can reverse this. Science of the Total Environment, Vol.870, 161925; https://doi.org/10.1016/j.scitotenv.2023.161925

FAO (2019). Climate-smart agriculture and the Sustainable Development Goals: Mapping interlinkages, synergies and trade-offs and guidelines for integrated implementation. Rome.

GCP 2018; https://www.globalcoffeeplatform.org/country-platforms/kenya/.

Juma, C., Tabo. R., Wilson, K. and Conway, G. (2013). *Innovation for Sustainable Intensification in Africa, the Montpellier Panel, Agriculture for Impact, London.*

Kinama, J.M., Ong, C.K., Stigter, C.J. Ng'ang'a J.K, Gichuki, F.N. (2011) Hedgerow intercropping maize or cowpea/senna for drymatter production in semi-arid Eastern. Journal of Agricultural Science and Technology B; 372-384, en

Ndiritu J.m., Kinama J.M., and Muthama J.N. (2022) Assessment of Ecosystem Services Knowledge, Attitudes, and Practices of Coffee Farmers Using Legume Cover Crops."Ecosphere13 (4): e4046. https://doi.org/10.1002/ecs2.4046

Nyangito H. (2001). *Policy and Legal Framework for the Coffee Sub-sector and the Impact of Liberalization in Kenya*, Kenya Institute for Public Policy Research and Analysis (KIPPRA), Discussion Paper, No. 2, Jan. 2001, pp. 31–32.

Authors

- Ndiritu James Mwangi - (mwasnd@gmail.com), Wangari Maathai Institute for Peace and Environmental Studies, University of Nairobi.
- Dr. Kinama Josiah Mwivandi. jkinama@uonbi.ac.ke, Department of Plant Science and Crop Protection, University of Nairobi
- Prof. Nzioka John Muthama- (Jmuthama@uonbi.ac.ke), Wangari Maathai Institute for Peace and Environmental Studies, University of Nairobi.

Desmodium intercropped with coffee (Mwangi Ndiritu, Kabete 2021)

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Land and Institutional Reforms for Food Security and Employment Creation in Kirinyaga East Sub-County

Mugo, F.W., Osengo, K. C., Musyoka, R. M., Maringa, P.M. and E. Abuya

Key Messages

- **Current land tenure and inheritance arrangements are leading to excessive land sub-division which is a threat to food and livelihood security of Kirinyaga East Sub-county.**
- **Transforming agriculture into a formal full-time employment activity is key to food security, employment creation and economic growth of the Sub-county.**
- **A combination of one acre of tea or coffee, one acre of Napier grass for two (2) dairy cows, or 500 chicken, 0.25 acres for food and 0.25 acres for a commercial forest can sustain a household of 3– 5 persons and also contribute to climate mitigation.**
- **Institutional reforms such as cooperative strengthening and social cultural re-engineering are necessary for food and livelihood security of the sub-county.**

Context

Recent studies have shown that fragmentation of agricultural land in Kirinyaga East Sub-county is likely to lead to food and livelihood insecurity in less than ten years. A study in Kirangi Sub-location in Kiambu County (Chepkemoi, 2019) reported that household land size was decreasing by 77% per generation due to inheritance sub-division among heirs. A similar study in Kiganjo Kiambu (Kagwe, 2019) reported a rate of 70% while in Kirinyaga East Sub-county, the rate was estimated at 85% (Mugo et. al, 2022). By 2032, the average household land size in Kirinyaga East Sub-county is estimated to reduce from 1.09 acres in 2022 to 0.8 acres against a preferred minimum of 2.5 acres per household. The land will be too small for sustainable household farming. Food and cash crop production will go down and unemployment will increase. There is need to intervene and ensure that land size does not fall below 2.5 acres. This calls for stakeholders' dialogue and urgent action to avert the impeding food and employment insecurity in the sub-county.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Plate 1: Tea farm (*Source: www.vecteezy.com*)

Plate 2: Coffee Farm (*Source: www.nayax.com*)

Plate 3: Dairy Cows (*Source: Jeruto & Mugo, 2019*)

Plate 4: Dual Purpose Chicken *(Source: Redsoil Farm)*

Approach and Results

Two reconnaissance visits were carried out in Kirinyaga East Sub-county by the students to appraise the situation on the ground. They conducted household and enterprise interviews and also carried out focus group discussions with men, women and youth groups. Key informant interviews mainly with relevant departmental heads were also carried out. Mapping of all the urban centers in the five wards was done. Three alternative plans on land use reforms were considered. They included (i) complete ban of land subdivision among heirs and settlement of younger households in existing urban centres, (ii) linear settlement along transport routes and (iii) cluster settlements in the existing urban centres. Five validation workshops were conducted one in each ward to get feedback from members of the communities. The majority, 82% preferred cluster settlements in existing market centres so that farms are preserved for agriculture.

Considering the provision in the Physical Planning Hand Book of a minimum of 2.5 acres per household for high rainfall areas, participants were asked to allocate the land to different agricultural land uses. They proposed one (1.0) acre for coffee or tea, one (1.0) acre of Napier grass for two (2.0) high yielding dairy cows, 0.25 acres for subsistence food production and 0.25 acres for a commercial forest. In the lower warmer zones, households can keep 500 chicken for eggs or meat instead of dairy cows. Participants also proposed that all rivers in the sub-county should be surveyed and planted with

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

indigenous trees for water, bio-diversity and riverine vegetation conservation.

Overall, a total of 58,375 affordable houses are required to house all the projected households in urban centres by 2032. They will be distributed in the 35 urban centres of the sub-county and constructed at a total cost of about Ksh. 149.4 billion over a 10 year period. Up to 1,002 acres of land valued at Ksh. 4.008 billion is required for the housing. Agricultural reforms will require Ksh. 6 billion per Ward. The study recommends consensus building among all stakeholders for adoption of the cluster settlement model and agricultural reforms. Agricultural cooperatives should be established and or strengthened to facilitate inputs supply, production, processing and marketing of produce that could also support payment for the affordable houses.

Policy Recommendations

Short-term

The County Government of Kirinyaga should:

- Establish two gender balanced committees of 15 persons each per Ward to prepare a comprehensive community driven human settlement and agricultural reforms plans, sensitize the public and initiate implementation of priority projects as resources are made available. The sitting MCA should be a member of both committees.
- Create two, 13 persons Sub-county Committees: i.e. Sub-county Settlement Committee (SSC) and Sub-County Agriculture Reforms Committee (SARC) chaired by the Sub-county Commissioner, with the County Administrator as the Vice-Chair and the County Physical Planner as the Secretary. The two will coordinate line committees in the Wards. The sitting MP should be a member of both Committees.
- Create a gender balanced Task Force of seven (7) persons at the County level to mobilize the Ksh. 153.41 billion and other resources required for the proposed housing projects and another Ksh. 30 billion for agricultural reforms.

Medium and Long-term

- The Ministry of lands, public works, housing and urban development in collaboration with the county government should create digital accurate land-use records in each ward to ensure optimal utilization of all land as prescribed in the Constitution.
- Establish a seven (7) persons Ward Environment and Development Control Committee to facilitate survey of all the rivers to mark the 30 meters riparian reserve and restore their vegetation cover with indigenous trees, ensure all households have a minimum of 0.25 acres of forest or 250 trees of approved species for commercial forestry and manage all environmental issues of the Ward.

Acknowledgements

Information for this policy brief was extracted from the Kirinyaga East Sub-county Regional Studio Report of 2022-23 on “Transformation of Agriculture through Re-organizing of Human Settlements in Kirinyaga East Sub-County” by 23 Masters of Arts in Planning candidates from the Department of Urban and Regional Planning, University of Nairobi. They include: M. Mbatha; P. Mwangi; I. Karimi; P. Kori; D. Muthee; J. Karagai; B. Ngugi; R. Wawire; D. Ukerosi; H. Kitonyi; V. Mwavishi; E. Soletei; W. Tikwa and R. Njambi. Others are: Michieka, B.O; Musya M, M; Nyang’wara. C.O; Mutisya, M.E; Kimutai, M; Goga, A.O; Kipyator, R.R; Anode, N,F; Aloo, C.O and their academic supervisors: F. Mugo, C. Osengo; R. Musyoka, E. Abuya and V. Chepkemoi.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

References

County Government of Kirinyaga. (2018). County Integrated Development Plan 2018-2022. County Governor's Office, Kerugoya.

Chepkemoi, V. (2019). Assessment of Household Land Size and Land Use for Sustainable Food and Livelihood Security in a Tea Growing Zone. The Case of Kirangi Sub-location in Kiambu County. Thesis Report. University of Nairobi.

Jeruto, D. and F. Mugo, (2019). Re-visiting urban agriculture for food, nutrition and youth employment in Uasin-Gishu County. Kenya Policy Brief, January 2021.

Kagwe, Nyambura. (2019). Assessment of Household Land Size and Land Use for Sustainable Food and Livelihood Security in a Coffee Growing Zone. The Case of Kiganjo Sub-location in Kiambu County. Thesis Report. University of Nairobi.

Mugo, F., Osengo, C., Musyoka, R., Abuya, E. and V. Chepkemoi, (2023). Resettlement of Farmers in Clustered Affordable Houses to Release Land for Food and Livelihood Security in Kirinyaga East Sub-County. University of Nairobi, Policy Briefs. Volume 2023, Vol 1 (1).

.

Authors

- Dr. Fridah W. Mugo (fridah.mugo@uonbi.ac.ke);
- Planner Charles Osengo (charles.osengo@uonbi.ac.ke);
- Dr. Rose M. Musyoka (rmumbua@uonbi.ac.ke);
- Planner Eric Abuya (eric.abuya16@gmail.com) ;
- V. Chepkemoi (vivianchepz22@gmail.com).

Department of Urban and Regional Planning, Faculty of Built Environment and Design, University of Nairobi.

Potential of Small Dams for Production and Preservation of Fish in Sericho Community Conservancy in Isiolo County

Titus C. Ndiwa, Gilbert Kosgei, Titus Adhola

Key Massages

- **Small reservoirs play an important role in supporting livelihoods of local communities in semi-arid areas**
- **Small reservoirs have both conservational and fisheries production potential that has not been fully exploited for the benefit of the local community**
- **County government and conservation organization should promote protection of the small reservoirs, and explore a sustainable way of utilizing them for fisheries production**

Introduction

There are about 3 million small reservoirs or dams that have been constructed and are in operation in semi-arid regions of the world. The dams have been constructed to store water and mitigate against water shortages during dry seasons (Mady *et al.*, 2020). These dams have therefore played a major role of sustaining livelihoods of the local communities living in semi-arid areas through providing water for farming, watering animals and domestic use. The small dams have also played a significant role in reducing societal inequality gap for more than 15% of the world's population living in semi-arid areas (Safriel and Adeel, 2005). Many reservoirs have been constructed in various parts of Isiolo County to provide water for livestock, domestic use and irrigation by the local communities. However, other benefits that can be provided by these reservoirs have not been exploited by both the local communities, and the county government.

Methodology

We conducted fish survey between 22nd November to 2nd December 2022 in Iresa Boru and Badana dams found within Sericho community conservancy in Isiolo County. The fishes were caught using a combination of gill nets and seine nets, after which they were identified to determine their species. Individuals of each species were then counted in order to determine their percentage composition.

Results

Four species of fish shown in figure 1 were caught in Badana Dam, and three species were caught at Iresa Boru Dam. The catfish (*Clarias gariepinus*), Sabaki tilapia (*Oreochromis spilurus*) and Ewaso Nyiro labeo (*Labeo percivali*) have aquacultural potential, and can be exploited to provide an alternative source of proteins to the local communities. Silver catfish (*Schilbe intermedius*) and East Coast Squeaker (*Synodontis zanzibaricus*) are fish species that hadn't been collected before in northern Ewaso Ng'iro River and their collection enriches the

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

checklist of the river basin. East Coast squeaker is listed as Data Deficient by IUCN.

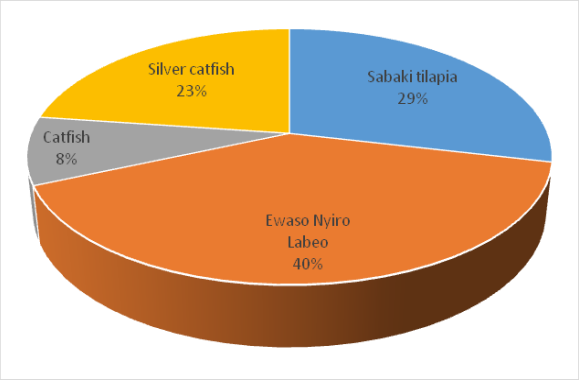


Figure 1: Percentages of the four different species of fish caught in Badana Dam within Sericho community conservancy

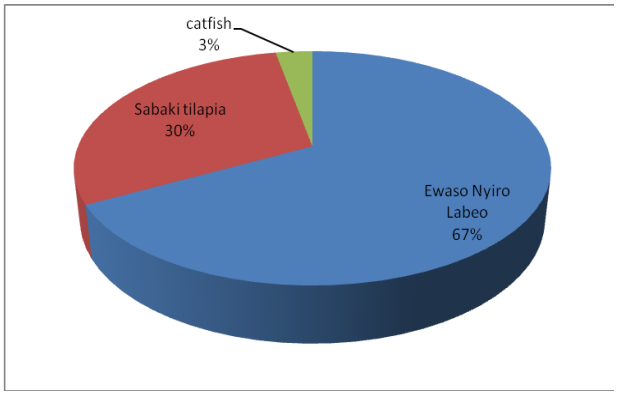


Figure 2: Percentages of fish collected in Iresa Boru Dam within Sericho Conservancy all of them with aquaculture potential.

Figure 3: Images showing the four different types of fish caught in Badana Dam within Sericho community conservancy

Conclusion

- **Aquacultural and socioeconomic potential:** Dams within arid areas have aquacultural potential that can be exploited in a sustainable way for the improved livelihoods of the local communities through income diversification. However, these dams have not been properly utilized for aquaculture.
- **Conservational significance:** Dams act as dry season refuge for fish when the local rivers dry up, and can be used to repopulate the rivers when they start flowing again during the wet seasons hence the need for their conservation.

Recommendations

- We recommend that as a matter of policy, dams without fish be stocked by the county government with native species of fish having economic potential for their maximum exploitation as a means of livelihood for the local people.
- We recommend that as a matter of policy, the county government ensures sustainable

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

utilization of the reservoirs to preserve the native species of fish in the region.

References

Mady B, Lehmann P, Gorelick SM, Or D. (2020). Disttribution of small seasonal reservoirs in semi-arid regions and associated evaporative losses. *Environmental Research Communications*, 2 061002.

Nyingi D. W. (2014). Guide to common freshwater fishes of Kenya. Moran Publishers. 13p.

Safriel UN and Adeel Z. (2005). Dryland systems Ecosystems and Human Well-being: Current State and Trends ed R Hassan, R Scholes and N Ash vol 1 (Washington, D.C., United States: Island Press) 22 623–62

Seegers L., DeVos L. and Okeyo D.O. (2003). Annoted checklist of the freshwater fishes of Kenya (excluding the lacustrine haplochromines from Lake Victoria). *Journal of East African Natural Histor*. 92: 11-47

Authors

- Titus C. Ndiwa, University of Nairobi, Department of Clinical Studies, Kenya
- Titus Adhola, University of Nairobi, Department of Clinical Studies, Kenya
- Gilbert Kosgei, National Museums of Kenya, Ichthyology Section, Zoology Department, Kenya

Building Capacity for Research Management: Policy Pathways for universities in Kenya

Bett S.K; Hutchinson M.J; Munyoki, J.M; Mahaga, A.M; Macharia, M

Key Messages

- **Formal recognition of research administration as a specialized profession within universities is essential to fostering a well-structured and professionalized research environment.**
- **Tailored training programs are essential to equip research administrators with expertise in grant management, compliance, and leadership.**
- **Sufficient staffing, technology, and centralized support systems are vital for effective and efficient research administration.**
- **Strategic policy changes will foster a robust research ecosystem, improve compliance, and boost global research competitiveness.**

Introduction

One of the core strategies of African Research Universities Alliance (ARUA) strategic Plan (2022-2027) is Building Capacity for Research Management. This strategy is significant considering that Universities serve as vital hubs for research, innovation, and knowledge dissemination. However, the success of academic research endeavors heavily relies on efficient research administration – the management and coordination of research activities, compliance with regulations, and facilitation of funding and resources. ARUA (2022) notes that "*for many African universities, the need to enhance research management and support capacity building is given slow attention, in many cases, there is a general lack of awareness within the institutions about research management and innovation issues*". Despite its critical role, research administration often operates in the background, with limited recognition and support within institutional policies. This policy brief advocates for the review and enhancement of university policies to prioritize and support research administration, elevating it as a recognized and respected profession within academic institutions. Specifically, most African universities lack adequate institutional capability for research management, inadequate or poor human resources and too few opportunities for capacity building and retention.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

Background

Research administration encompasses a wide array of responsibilities, including pre-award support, compliance oversight, budget management, and post-award reporting, which are typically handled by research administrators. However, research administration is frequently undervalued and under-resourced within university structures. Administrators often face challenges such as insufficient training, heavy workloads, and lack of recognition for their contributions.

Pulford, et.al, (2020), in their study on Strengthening research management and support services in sub-Saharan African universities and research institutions identified key challenge prevalent in universities as; Limited/nil access to training/professional development activities for research and research support staff; limited/nil institutional structures/services to support professional development; and limited/nil staff mentorship schemes.

This scenario is evidenced by findings of Development of Research Data Management and Staff Capacity Building Project, funded by International Research and Exchanges Board (IREX). During one of the training for administrative staff, one of the feedback was:

"Whereas research is a core function of the University, most research support programmes have not been devolved to academic divisions and administrative staff at these levels do not have the necessary skills to support researchers"

This strengthens a perception that research administration is merely a support function rather than a profession in its own right. This misconception undermines the importance of specialized skills and expertise required for effective research management. Consequently, the career path for research administrators is often unclear, hindering professional development and progression within academic institutions.

Approach

This study is based on analyzed feedback from a survey, stakeholder engagement meetings and training for research administrators and early career researchers as part of Development of Research Data Management Infrastructure and Staff Capacity Building Project undertaken between July 2023 and February 2024. The feedback was analyzed to give the current situation in universities. However, caution must be taken when generalizing the findings because the project was undertaken specifically at the University of Nairobi.

Key Findings

- Academic staff had higher participation in research management training compared to finance and administrative staff, who had the least exposure.
- Training effectiveness was rated at 2.9 out of 5, indicating moderate dissatisfaction.
- There is a need for training in areas such as data management, identifying funding opportunities, proposal writing and Research administration to improve uptake, efficiency and effectiveness in grant applications.
- Need for a user-friendly research management system to reduce administrative burdens and provide clear incentives.
- Stakeholders highlighted past system failures due to poor sensitization, ownership issues, integration challenges, and role duplication while recommending automation, integration with funder platforms, and streamlined documentation support.

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

- There is need for professionalization of research administration, starting with training core research administrative staff and supporting staff growth within this area.

Policy Recommendations

To address the challenges and capitalize on the opportunities associated with research administration, the following policy recommendations are proposed:

- Universities should formally recognize research administration as a specialized profession and integrate it into their organizational structures. This recognition entails establishing clear career paths, job classifications, and professional development opportunities for research administrators.
- University should enhance investment in training and professional development programs tailored to the needs of research administrators, in areas such as workshops, seminars, and online courses.
- Universities should conduct a comprehensive review of existing administrative processes and policies to identify inefficiencies, redundancies, and areas for improvement.
- University policies should prioritize resource allocation to research offices, ensuring sufficient staffing levels and access to tools and systems that facilitate efficient grant management, compliance monitoring, and reporting.

Impact Analysis

S.No	Policy Recommendation	Anticipated Impact	Beneficiaries
1.	Recognize research administration as a specialized profession and integrate it into organizational structures.	Enhances professional recognition, career growth, and competency standards for research administrators, leading to better research management and efficiency.	Research administrators, university management, and academic researchers
2.	Invest in tailored training and professional development programs for research administrators.	Builds capacity, improves knowledge of grant management, compliance, and leadership, and increases the overall effectiveness of research administration.	Research administrators, researchers, and funders
3.	Conduct a comprehensive review of administrative processes and policies to streamline inefficiencies.	Reduces redundancies, clarifies roles, and improves workflow efficiency, supporting research integrity and productivity.	University departments, research offices, and academic researchers
4.	Prioritize resource allocation for staffing, technology, and centralized support services.	Ensures adequate support for research administration, reduces administrative burden on faculty, and boosts research output and quality.	Researchers, research offices, university departments, and funding institutions

Call to Action

Universities must take decisive steps to enhance research administration by formally recognizing it as a specialized profession, investing in tailored training programs, and prioritizing resource allocation to streamline processes and

Published by the Office of the Deputy Vice Chancellor, Research, Innovation and Enterprise University of Nairobi

improve efficiency. Stakeholders, including university management, research administrators, and policymakers, are urged to collaborate in implementing these recommendations to foster a robust research ecosystem. By doing so, institutions can alleviate administrative burdens, enhance research productivity, and uphold research integrity, ultimately driving innovation and societal impact.

Acknowledgement

Information for this policy brief were extracted from the project "Development of research data management infrastructure and staff capacity building" conducted at the University of Nairobi through funding from the International Research & Exchanges Board (IREX)

References

Africa Research Universities Alliance (2022), Strategic Plan 2022-2027, Available at https://arua.org.za/arua-strategic-plan-2022-2027/

Pulford, J., Crossman, S., Begg, S., Quach, J. A., Abomo, P., El Hajj, T., & Bates, I. (2020). Strengthening research management and support services in sub-Saharan African universities and research institutions. *AAS open research*, *3*.

Authors

Bett, S.K, University of Nairobi

Hutchinson M.J, University of Nairobi

Munyoki, J.M, University of Nairobi

Mahaga, A.M, University of Nairobi

Macharia, M, University of Nairobi

UNIVERSITY OF NAIROBI

OFFICE OF DEPUTY VICE CHANCELLOR
RESEARCH, INNOVATION & ENTERPRISE