

# Conceptualizing the Child-Author Development Programme (CADP) as the Missing Element in African Civic Education Programmes

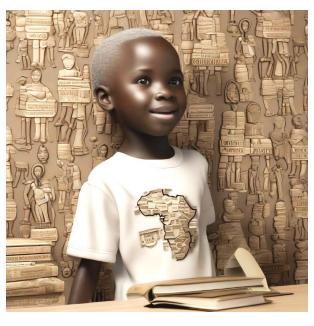
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The African Science Fiction Project / Child-Author Development Programme (CADP)

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#### **ABSTRACT**

Civic Education programmes in Africa primarily focus on citizenship, governance, democracy, and social responsibility. However, these programmes often overlook critical elements necessary for shaping future-ready citizens, particularly in the domains of scientific leadership, technological innovation, and knowledge production. This paper conceptuates the Child-Author Development Programme (CADP) as a missing but essential component of African Civic Education. It argues that CADP extends the Civic Education agenda by integrating African Technological Nationalism, African Scientism, and the Science-Technology-Society (STS) discourse. We argue here that these novel Civic/Citizenship Education elements are capable of producing a generation of young thinkers capable of shaping Africa's future through scientific storytelling. The paper situates CADP within broader Civic Education or Citizenship Education frameworks, examines its role in creating African Technological Citizenship, and presents a case for its institutionalization within African education policies. By positioning CADP as both a pedagogical intervention and a civic awakening tool, the discourse pushes beyond conventional educational thinking, advocating for a civic model in which technology and science are not peripheral luxuries but intrinsic rights and duties of the citizen. Our re-imagination of civic literacy asserts that an African citizen's preparedness for the 21st century must not be measured by mere political consciousness or patriotic sentiment, but by the readiness to defend, advance, and co-create indigenous scientific and technological capacities as part of their social obligations. CADP therefore redefines "public responsibility" to encompass technological patriotism, "civic rights" to include the right to technological alternatives, and "social causes" to elevate the quest for a national technological identity to the level of the most fundamental civic mission.

**Keywords:** African Civic Education; Child-Author Development Programme (CADP); African Technological Nationalism; Science-Technology-Society (STS) Literacy; Technological Sovereignty/Independence; Scientific Storytelling; Indigenous Innovation; Civic Technological Identity; Civic Science Fiction.





#### INTRODUCTION

Civic Education, also known as Citizenship Education in some countries, has historically focused on political participation, rights and responsibilities, rule of law, and governance. While these themes are crucial for effective citizenship development, they do not sufficiently prepare African youth to engage with global technological transformations and the challenges of scientific literacy in the 21st-century technological development trajectories. The **Child-Author Development Programme** (**CADP**) emerges as an innovative solution, blending Civic Education with **scientific storytelling** to mobilize technological awareness, critical thinking, and future-oriented leadership in the people. The programme's slogan, "**Making World Leaders Out of African Children,**" embodies its transformative potential.

Whereas traditional civic literacy equips young people with the political vocabulary to navigate governance structures, CADP furnishes them with the **technological vocabulary** and **imaginative frameworks** needed to actively participate in shaping the socio-technical architecture of their societies (Winner, 1986). The civic imagination must therefore be broadened: the citizen of the future is as much a **custodian of democratic values** as they are a **guardian of technological sovereignty** (Nwosu, 2025a).

From patriotism, CADP imbricates **technological patriotism** – a sense of pride, protection, and proactive engagement with homegrown science and technology as a symbolic and material defense of national dignity. From responsibility, CADP implicates the notion that society, through its divergent social groups and organized civic actors, bears collective responsibility for the survival, expansion, and success of every invention or technological breakthrough achieved by fellow citizens. From participation in local governance and social causes, CADP embeds the conviction that the **search for a nation's technological identity** is not a marginal hobby but the **most fundamental social cause** of the 21st century for every citizen (technological asymmetry Akinyemi, 2019) who wishes to see Africa's independence deepen beyond the political to the technological domain. From democracy and human rights, CADP extends this conversation to include the **right to technological alternatives** (Mubangizi, 2020) – the recognition that citizens must be empowered to seek, support, and utilize alternative technological solutions, especially when such alternatives are homegrown or Pan-African in origin, thereby imbuing the nation with fresh technological capabilities.

#### The Limitations of Traditional Civic Education in Africa

Most Civic Education curricula across African countries emphasize the following:

- 1. **Political literacy**: Understanding constitutions, governance, human rights, and democracy.
- 2. Ethical and moral education: Instilling values of honesty, responsibility, and patriotism.
- 3. Community engagement: Encouraging participation in local governance and social causes.

While these are foundational, they are insufficient for the realities of the present century. The African citizen is confronted not only by questions of political order but also by the problem of *technological asymmetry* (Castells, 2010), a condition in which the capacity to innovate, adapt, and control technological tools lies predominantly outside the continent. The fact is that the existing Civic Education frameworks seldom interrogate Africa's technological dependence, the geopolitical consequences of *imported innovation models*, or the civic duties that arise from living in an age where science and technology determine national power, social stability, and even cultural survival.

The absence of Science-Technology-Society (STS) discourse in Civic Education effectively divorces the African child from the most consequential conversations shaping humanity's trajectory. Without structured exposure to technological decision-making as a civic matter, African students grow into citizens whose engagement with science is primarily as *consumers* rather than *shapers*. They become adept at defending political rights but remain silent when foreign technologies undermine national security, exploit local resources, or erode cultural autonomy. This silence is not born of apathy but of an educational gap – a gap CADP is uniquely designed to fill (Nwosu, 2025b).

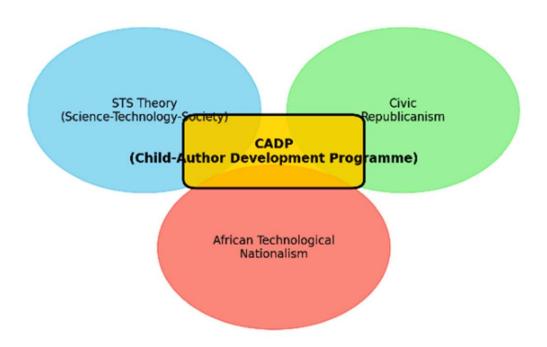
Moreover, traditional Civic Education has not sufficiently problematized the role of **indigenous innovation** in the formation of the African state. While nationalism in the political sense has been celebrated, **technological** 

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**nationalism** – the belief that Africa must chart its own scientific and technological course – has been left largely unarticulated. Without it, Africa's political sovereignty risks becoming symbolic, as technological sovereignty becomes the true determinant of independence in the modern era (Ocheni, 2015).

#### THEORETICAL FRAMEWORK

# Theoretical Framework Integrating CADP



This study is grounded in three intersecting theoretical traditions: **Science-Technology-Society (STS) Studies, Civic Republicanism**, and **African Technological Nationalism**. Together, these frameworks provide the intellectual foundation for conceptualizing the Child-Author Development Programme (CADP) as a missing but essential component of African Civic Education.

First, **STS** Theory emphasizes that science and technology are not neutral forces but are embedded within political, cultural, and social structures (Winner, 1986; Feenberg, 1999). By integrating STS into civic education, CADP reframes technological literacy as civic competence, ensuring that African children are not passive consumers of technology but active participants in shaping socio-technical futures.

Second, **Civic Republicanism** offers a model of citizenship that prioritizes civic virtue, collective responsibility, and the pursuit of the common good (Pettit, 1997; Osler & Starkey, 2018). CADP extends this framework by recasting the quest for technological independence/sovereignty as a civic duty, aligning with republican ideals of self-rule and independence but situating them within Africa's contemporary technological struggles.

Third, the framework of **African Technological Nationalism** (Rodney, 1972; Ocheni, 2015; Nwosu, 2025a) builds on the argument that true political sovereignty is unattainable without technological sovereignty. This perspective asserts that Civic Education must cultivate technological patriotism, which is the obligation of citizens to support, defend, and advance indigenous scientific knowledge and innovations as a national priority.

In weaving these theories together, CADP is theorized as a **civic-technological framework** that reconceptualizes citizenship in Africa beyond mere political membership to include active participation in the advancement of scientific and technological futures.





#### **METHODOLOGY**

This study employs a qualitative conceptual research design embedded in critical discourse analysis (CDA)

and theoretical synthesis. The methodology reflects the paper's purpose which is to interrogate existing African Civic Education frameworks and to propose CADP as a transformative model that integrates technological citizenship into civic life.

# **Conceptual Analysis**

- 1. The research systematically reviews and critiques dominant themes in African Civic Education curricula (Akinyemi, 2019; Osler & Starkey, 2018), identifying gaps related to science, technology, and innovation.
- 2. It draws on primary texts in STS scholarship (Latour, 2005; Cutcliffe & Mitcham, 2017) and African political economy (Rodney, 1972; Mkandawire, 2005) to establish the conceptual parameters for CADP as a civic innovation.

#### **Critical Discourse Analysis (CDA)**

- 1. Using CDA, the study examines how African Civic Education has historically framed citizenship around political and moral participation, while neglecting technological participation.
- 2. The analysis pays attention to narratives of technological dependency (Castells, 2010; Schwab, 2017) and evaluates how CADP reframes these narratives through child-authored scientific storytelling.

# **Theoretical Synthesis**

- 1. Insights from STS, Civic Republicanism, and African Technological Nationalism are synthesized to produce a framework where technological sovereignty is articulated as civic responsibility.
- 2. CADP is then situated as a pedagogical intervention and societal investment that embodies this synthesis, offering both theoretical innovation and practical civic application.

This methodology is appropriate for a conceptual-political study of this nature because it does not only describe educational practices but redefines the epistemological basis of Civic Education in Africa. In employing CDA and theoretical synthesis, the study contributes both to scholarly debates in STS and to applied civic policy discourses in Africa.

### The CADP as a Technological Extension of African Civic Education

The Child-Author Development Programme (CADP) introduces a science-conscious Civic Education model through integrating the following essential elements:

#### African Technological Nationalism as Civic Responsibility

CADP positions technological self-reliance beyond the exclusive specialist concern for engineers and scientists but as a **core civic responsibility**, implicating diverse social groups, networks, and actors. This reframing ensures that every child understands the cultural, economic, and political stakes of indigenous technological production (Rodney, 1972). Through its narrative model – recasting real-life African inventors and scientists as **scientistic personae** in alternative futures – CADP **demystifies technology**, dismantles the myth of African incapacity (Nwosu, 2025c), and **constructs a public memory that honors the continent's overlooked scientific legacy**.

Here, technological nationalism is not xenophobic rejection of foreign technology but a principled insistence on the **right to technological choice** and the capacity to produce such choices (Chang, 2008). Civic responsibility is reframed: **to fail to protect and advance indigenous science is to fail in one's duty as a citizen, just as surely as neglecting to vote or pay taxes.** 





#### Science, Technology, and Society (STS) Literacy

The **Child-Professor of Science and Technology Studies** (STS) designation *formalizes technological literacy* as a civic competence (Cutcliffe & Mitcham, 2017). In a global order where policy decisions (from climate change adaptation to cybersecurity) are deeply entangled with science and technology, the ability to critically interpret, evaluate, and influence scientific discourse becomes indispensable for full citizenship (Feenberg, 1999).

This STS literacy within CADP is multi-layered, viz.:

- 1. **Demystifying technology**: Training students to read technological phenomena not as neutral artifacts but as products of cultural values, political choices, and economic interests.
- 2. **Reimagining science leadership**: Using science-fiction narratives to propose African-centered solutions (Achebe, 2012), thus legitimizing the African child as both a participant and a thought leader in technological discourse.
- 3. **Bridging academia and public engagement**: Structuring curricula to ensure that the creative act of storytelling is underpinned by rigorous research, making it both an imaginative and scholarly exercise.

#### **Economic and Policy Implications of Science Storytelling**

Civic Education rarely considers the economic dimensions of knowledge production. CADP's financial incentive structure (\(\frac{1}{2}\)20,000/\(\frac{1}{3}\)30,000 per accepted story and \(\frac{1}{2}\)100,000 for Child-Professors of STS) reframes intellectual work as *economically valuable labor*. This disrupts the persistent undervaluation of African intellectual production, especially that of youth. In linking civic participation to tangible economic rewards, CADP redefines policy advocacy (Smith, 2021) and states thus: young authors are not necessarily passive observers but actually *stakeholders* in the shaping of Africa's technological policies. This financial model has two implications:

- 1. It can inspire public policy reforms to support creative industries as knowledge industries (Drucker, 1993).
- 2. It offers a replicable model for incentivizing youth participation in other civic-technical domains.

#### Institutionalizing the CADP in Civic Education Policies

For CADP to fulfill its transformative potential, it must not remain an isolated or experimental initiative. Its adoption into national education frameworks is imperative if Africa is to transition from a technologically dependent continent to one capable of determining its own scientific future. This institutionalization requires a multilayered approach involving policy recognition, academic integration, and sustainable funding mechanisms.

#### **Policy Recognition**

Governments must formally recognize *science-conscious storytelling* as a legitimate instrument of Civic Education. Such recognition demands the redefinition of civic literacy to explicitly include *technological literacy* as a core competence. This would entail revising Civic Education syllabi across primary and secondary levels to integrate CADP methodologies – narrative-based STS learning, historical reclamation of African inventors, and scenario building for indigenous technological futures.

Policy recognition also requires governments to legislate the **right to technological alternatives**. In the same way that human rights charters protect freedom of speech or association, there should be protections ensuring that citizens can access and develop homegrown technological solutions without structural bias toward imported systems. These reframing positions technological sovereignty, that is technological independence, as an **inalienable civic right**.

Furthermore, this integration would bridge ministries traditionally separated by bureaucratic silos – Ministries of Education, Science and Technology, Youth Development, and Culture – aligning their mandates toward a common goal, which is to produce **science-literate**, **policy-conscious citizens** (Latour, 2005).





#### Collaboration with Universities and Scholars

The role of Professors as **academic moderators** of the Child-Professor of STS designation underscores the necessity of university partnerships. Higher education institutions, often gatekeepers of specialized knowledge, must break from their ivory tower model to engage directly with pre-university learners. CADP offers such a bridge: professors bring academic rigor, while child-authors bring imaginative freshness and civic urgency. University collaboration could extend into several domains:

- 1. **Curriculum Co-Design** ensuring CADP modules meet both academic and civic competency benchmarks.
- 2. **Mentorship Networks** connecting child-authors with researchers in relevant STEM and social science fields.
- 3. **Joint Research Outputs** producing co-authored papers or public reports on African Science Fiction as a civic tool, thereby situating CADP within global STS scholarship.

These collaborations would not only legitimize CADP academically but also help reposition African universities as **active co-creators of civic-technological identity** rather than passive transmitters of imported knowledge systems (Mkandawire, 2005).

#### **Expansion through Public and Private Sponsorship**

Just as Civic Education is publicly funded in most African countries, CADP requires structured, sustainable funding mechanisms to thrive. The concept of *reward slots* – financial awards per published story – democratizes participation by signaling that intellectual contribution is a recognized form of national service (Nwosu, 2025a).

Potential funding avenues include:

- 1. **Old Students Associations**: leveraging alumni networks to sponsor stories from their alma maters, thus creating a legacy link between past and future generations.
- 2. **Corporate Sponsorships**: positioning CADP sponsorship as part of corporate social responsibility, particularly for firms in ICT, publishing, and media sectors.
- 3. **Government Grants**: integrating CADP into national youth development funds, ensuring participation is not limited to elite schools or urban centers.

The funding structure itself sends a profound civic message, namely knowledge work is productive work. Just as physical infrastructure is built by engineers and financed by public funds, **cultural and intellectual infrastructure**, in this case the technological imagination of Africa, must be equally resourced.

#### Civic Import and Societal Value of the CHILD-AUTHOR DEVELOPMENT PROGRAMME (CADP)

While the CHILD-AUTHOR DEVELOPMENT PROGRAMME (CADP) commands attention as an unprecedented state-branding mechanism, its deeper potency lies in its function as a *civic institution* – a public architecture of thought, imagination, and generational responsibility.

In nurturing the intellectual creativity of African children and anchoring their development in the challenges and triumphs of Africa's technological destiny, the CADP performs the critical work of nation-building through civic cultivation. It reframes the child beyond being a dependent recipient of future governance, to being a conscious participant in the current civic conversation, equipped with narrative tools to shape the society they inherit. The following notions then become salient within this narrative:

#### A Civic School of the Future Citizen

The CADP is effectively a *civic preparatory institute*, cultivating children for academic success and, more potently, for active citizenship. Each story written by a child is an exercise in public reasoning, moral imagination, and societal projection. In this way, the child-author becomes a proto-citizen, a thinker in training, learning how to govern through fiction.





#### **Democratization of the Intellectual Sphere**

Through extending the invitation to write and think deeply to children from diverse regions, faith communities, and socioeconomic contexts, the CADP contributes to *civic equity*. It decentralizes the space of high-concept discourse, permitting children in rural and urban Nigeria, and eventually across Africa, to speak into the public imagination on equal terms. This is a revolution in participatory civic literacy.

#### Strengthening Civil Society through Narrative Mobilization

The program operationalizes a form of grassroots civic infrastructure – old students' associations, churches, families, local educators, and scholars become stakeholders in a shared intellectual mission. This narrative-centered model unites civil society around the common task of future-building, transforming support for the child-author into a broader ethos of intergenerational solidarity.

# **Cultivating Ethical Consciousness through Storytelling**

Many stories developed within the CADP are not only futuristic – they are also ethical. CADP stories are ethical laboratories. Children grapple with themes of justice, environment, power, equity, and scientific responsibility. This nurtures what might be called a civic ethics of technology – a literacy of conscience that is rare even in adult policymaking circles. In this sense, the CADP is building a moral reservoir for the future of African public life.

# Civic Nationalism Anchored in Technological Identity

The CADP promotes a new kind of civic nationalism – one rooted in a shared aspiration for African technological sovereignty and not only in exclusionary identity. In situating the African child as the protagonist of scientific progress, the programme invites children and adults alike to take up national belonging as a civic project, and not only as a constitutional status.

In sum, the CADP is a complex development initiative – it is a civic renaissance, quietly restoring the role of imagination, community, and ethical agency in the construction of society. It offers a model of civic engagement that is non-adversarial, non-violent, non-polemical, but radically transformational. Through story, the CADP renders possible a civic future in which Africa's children inherit nations the design of which they participated in. The CADP thus projects Africa's children as capable of designing the continent's scientific and technological future if given the chance, a feat which challenges the adult generation.

#### The CADP as Societal Investment in the Scientific and Technological Imagination of the Next Generation

At its most visionary height, the CHILD-AUTHOR DEVELOPMENT PROGRAMME (CADP) represents a strategic societal investment in what may be called imaginative capital – the capacity of a people to envision, narrate, and innovate their own future. Through child-authored stories rooted in science fiction and technological possibilities, the CADP initiates a generational shift: it prepares African societies to think forward, dream scientifically, and act technologically.

This is beyond investment in literature or education; it is a cultural investment in the very infrastructure of thought – in how young Africans learn to perceive the world and imagine their agency within it. Here, the following implications become visible:

# Constructing a Generation of Thinkers, Not Only Workers

The CADP departs radically from traditional educational investments that emphasize rote productivity. Instead, it stakes value on *the creative foresight of children* – their capacity to imagine African solutions to African problems through narrative simulations. This is how the next generation of inventors, climate scientists, cybernetic ethicists, and policy engineers is spiritually and intellectually born. In allowing, say, a child in Aba or Minna to imagine a quantum satellite that prevents drought in Sahelian nations, society declares: "Your mind matters."





#### The Valences: Strong Cognitive and Emotional Attractions

The CADP exerts cognitive and emotional magnetism on society at multiple levels:

- 1. **For Families**: It evokes pride, reshaping family identity around the intellectual promise of their child. The child-author becomes a totem of familial contribution to national destiny.
- 2. **For Educators**: It revitalizes teaching purpose. Teachers and moderators are invited into a higher calling, being to guide minds that will shape new worlds.
- 3. **For Civil Society**: The programme becomes a *moral attraction point*, inviting NGOs, religious communities, and alumni bodies to sponsor children, and therein the *scientific soul of the nation*.
- 4. **For the State**: It offers a narrative of hope and soft power a generational story of national ascent through brains, not borders.

These valences bind multiple sectors of society in a common magnetic field of purpose.

# **Long-Term Civic Outcomes**

The societal returns on this investment are not speculative – they are structural and include the following:

**Civic Rationality**: Children trained to tell technologically grounded stories become adults who reason about society not only politically or emotionally, but *technically*. This cultivates a rational citizenry that can hold future governments accountable with nuance and insight.

**Innovation Readiness**: A society saturated with scientific imagination becomes culturally open to technological adaptation. The CADP thus lays the narrative groundwork for future tech-driven industries, education reforms, and policymaking.

**Inclusive Aspirations**: By raising the intellectual status of children across economic divides, the programme engineers hope equity – a deep civic good. It tells every child: "You are permitted to imagine."

**Narrative Continuity and Legacy**: The CADP builds an intellectual ancestry. Future generations will read these early child-authored texts as foundational civic literature – documents that anticipated Africa's rise from the mouths of its children.

To invest in the CADP is to seed the intellectual and technological future of Africa with dignity and intention. It is to say, without apology or hesitation, that African minds, even young ones, are capable of shaping planetary futures.

#### **CONCLUSION**

In conceptualizing CADP as a missing component of African Civic Education, this paper has argued that the civic curriculum in Africa must expand beyond political rights and governance to incorporate technological nationalism, scientific storytelling, and STS advocacy as foundational pillars. CADP does not displace traditional Civic Education; rather, it elevates it, transforming Civic Education from a political-literacy project into a technological literacy and citizenship project.

In embedding African Technological Nationalism into the civic fabric, CADP cultivates a generation for whom technological independence is not an abstract ideal but a lived responsibility. Through the scientistic personae model, children engage with African scientific heritage as an indelible historical fact and more potently as active narrative material for reimagining Africa's place in the technological world order. Through financial incentives and academic recognition, CADP reframes civic participation as both intellectually rewarding and materially valuable (Sen, 1999). Therefore, institutionalizing CADP within national curricula would have several cascading effects, some of which include:

- 1. **Science-Literate Citizenry** ensuring that technological debates are not confined to experts but are accessible to all citizens as a matter of civic concern.
- 2. **Policy-Conscious Youth** raising a generation capable of articulating and defending the right to technological alternatives.
- 3. **Cultural Ownership of Technology** (Mazrui, 1986) rooting Africa's scientific and technological ambitions in its own narratives, values, and developmental priorities.





In sum, the CADP is more than a pedagogical innovation; it is a civic necessity for Africa's 21st-century survival and prosperity. The task before policymakers, educators, and civic leaders is not whether CADP should be integrated into African Civic Education, but how urgently it can be done before the technological gap between Africa and the rest of the world becomes unbridgeable (Schwab, 2017).

#### **Final Intellectual Position**

If Civic Education has historically been the seedbed of political nationalism, then CADP is its technological counterpart, a civic project designed to cultivate citizens who can demand just governance and also fight for a just technological order. This dual literacy (political and technological) will determine whether Africa remains a passive consumer of global technological currents or becomes a sovereign architect of its own scientific future.

In that sense, CADP as a technological-nationalism curriculum translating into a social movement on African Technological Nationalism becomes the "missing element" in African Civic Education; it is the *keystone* without which the entire civic project risks collapse under the pressures of technological dependence.

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#### **APPENDIX**

Cadp Civic Education Conceptual Papers Being Conceptual Papers for Integrating the CADP Curriculum into African Civic Education Programmes

- 1. Conceptualizing the CHILD-AUTHOR DEVELOPMENT PROGRAMME as the Missing Element in African Civic Education Programmes. (CADP Civic Education Conceptual Papers: No. 1.)
- 2. Civic Education for Technological Takeoff: The Child-Author Development Programme as the Reimagination of African Technological Citizenship. (CADP Civic Education Conceptual Papers: No. 2.)
- 3. The African Child as a Technological Citizen (CADP Civic Education Conceptual Papers: No. 3.)
- 4. Redefining Civic Responsibility as Scientific Leadership: the CADP Civic Education Model. (CADP Civic Education Conceptual Papers: No. 4.)
- 5. CADP Stories as Informal Civic Science Education Tools. (CADP Civic Education Conceptual Papers: No. 5.)
- 6. Immortalizing African Inventors: The Function of CADP in Recovering the Erased Civic Memory of African Scientific Agency. (CADP Civic Education Conceptual Papers: No. 6.)
- 7. Building the Personality-Type of the Technological Nationalist: the CADP-Civic Education Model. (CADP Civic Education Conceptual Papers: No. 7.)



**KUMATOO** Valuing the African Genius