POLICY BRIEF

September 2023

Transformative Innovation Policy (TIP): Significance of TIP approaches in shaping policy practices across Africa

Introduction

In September 2023, the University of Sussex, Africa Centre for Technology Studies (ACTS), University of Johannesburg (UJ), and Transformative Innovation Africa Hub (TIAH) at the Kenya School of Monetary Studies (KSMS) organized a workshop titled "Introduction to TIP & Practice." This workshop aimed to showcase the significance of Technology and Innovation Policy (TIP) approaches in shaping policy practices across Africa, provide hands-on experience using the TIP radar tool, and delve into discussions on transformational and systemic transdisciplinarity within climate innovation ecosystems.

This collaborative effort brought together three key initiatives: Transformative Innovation Africa Hub (TIAH), Trilateral Research Chair in Transformative Innovation - 4th Industrial Revolution & Sustainable Development (TRCTI), and Transforming Climate Innovation Ecosystems through Inclusive Transdisciplinarity (TransCIIT 3). These unique initiatives center on concepts such as transformational change, stakeholder diversity in innovating processes resulting from co-creation knowledge leading towards learning experiences. Various organizations fund these initiatives including UK aid & British Council.

Key Findings

1. **Significance of TIP**: TIP approaches play a crucial role in shaping policy practices across Africa, emphasizing knowledge generation, policy experimentation, and engagement with stakeholders.
2. **TIP Radar Tool**: The Transformative Innovation Policy Resource Lab offers a comprehensive platform containing case studies, tools, and resources related to TIP, enabling users to explore different aspects of TIP and translate theory into practice.
3. **Theory of Change (TOC)**: The TOC approach in TIP aims to affect a transition from existing socio-technical regimes to more sustainable alternatives, utilizing niches as experimental spaces for learning and innovation.
4. **Policy Experiments**: Case studies and policy experiments from Kenya, South Africa, Latin America, and Europe demonstrate the application of TIP in various contexts, showcasing its potential to address complex societal challenges

Trilateral Chair and Transformative Innovation Policy Research Agenda

Dr. Chux Daniels from SPRU, UK, highlighted key points about TIPC, a global consortium driving R&D towards transformation. Regional hubs in Europe, Latin America, and Africa, coordinate projects across Ghana, Kenya, and Senegal among other countries. The Africa hub, now based in South Africa, emphasizes knowledge generation, policy experimentation, and engagement with stakeholders. Dr. Maryann Pasha, a postdoc on the TIP Africa hub, discussed their project on STI policy for transformative change. Ongoing initiatives involve research on innovation policy agendas in Kenya, capacity development activities, and a broader goal of advancing transformative research for impactful development across Africa.

In the discussion session, Dr. Kevit Desai - Entrepreneur and Former Principal Secretary (PS) in the State Department of East Africa Community (EAC) emphasized the importance of cooperation between institutions for transformative innovation in Africa. He discussed Kenya's new national policy on science, technology, and innovation to coordinate various actors for inclusive research and highlighted the development of a national policy on research commercialization to transition research into sustainable commercial applications, urging focus on skill-building, speed, synergy, community-led, and market-driven approaches to address challenges like food security and employment.

Prof. Erika Mbula stressed thinking about social-technical systems and functions rather than individual sectors to address fragmentation and engage necessary stakeholders. Dr. Chux Daniels' emphasized open accessibility of resources and knowledge, highlighting the involvement of both policymakers and grassroots innovators, with a focus on practical application and continuity.

Transformative Innovation Policy (TIP) Radar Tool

The Transformative Innovation Policy Resource Lab is an online platform that contains case studies, tools, and other resources related to Transformative Innovation Policy (TIP). The lab was developed over 6 years through co-creation between members and partners of TIPC. It aims to make transformative innovation policy concepts operational and showcase examples through case studies, tools, reflections, and other resources. The lab has 5 components that take users through different aspects of TIP: systems thinking, theory of change, experimentation, evaluation, and capabilities. It uses a framework to bring coherence to the diverse learning materials and translate theory into practice. Users can search and filter resources by keyword, region, collection, etc.

Several key cases and experiments have been conducted in different African countries, showcasing various aspects of the lab work and its impact on the continent. Some of these cases include:

1. **Kenya**: In Kenya, a project engaged value chain actors to address food system challenges. This initiative aimed to improve food security and sustainability in the country.
2. **Ghana**: A case study in Ghana focused on electronic waste and opportunities in a circular economy. This study explored the potential for recycling and reusing electronic waste to create value and reduce environmental impact.
3. **Senegal**: Research in Senegal examined agriculture, food systems, and transportation linkages. This experiment aimed to identify ways to improve food production, distribution, and consumption in the country.

4. **South Africa:** Projects in South Africa investigated issues like water management across sectors. These studies emphasized the importance of laboratories in facilitating cross-country and regional learning on applying TIP (Technology, Innovation, and Practice) concepts.

The Radar Tool explores the main points relating to different projects using six guiding principles:

1. Directionality: Evaluating initiatives based on problems addressed, environmental friendliness, and local entrepreneurship opportunities.
2. Societal change: Contributions to issues like education, employment, health, and the environment.
3. Systemic change: Changes enabled in areas like education access/quality, markets/users, values/beliefs.
4. Inclusion: Level of stakeholder representation, participation of marginalized groups, and inclusion in design.
5. Conflicts vs consensus: Recognition of perspectives, space for negotiation, and consensus building.
6. Learning: Opportunities for partners to learn and reflect on initiatives and challenge dominant approaches.

These principles are used to evaluate the quality, credibility, and relevance of any source of information, to innovate and create new solutions using radar technology, to develop a toolkit for rigorous household surveys for reproductive, maternal, newborn, and child health & nutrition indicators, and to think about an initiative as a Transformative Innovation Policy experiment.

The Concept of a Generic Theory of Change

A Generic Theory of Change (TOC) is a framework that helps make intended transformative outcomes clearer by focusing on conceptual work. It is designed to guide specific changes and remind us of the latest round of formative evaluation and practice-based approaches

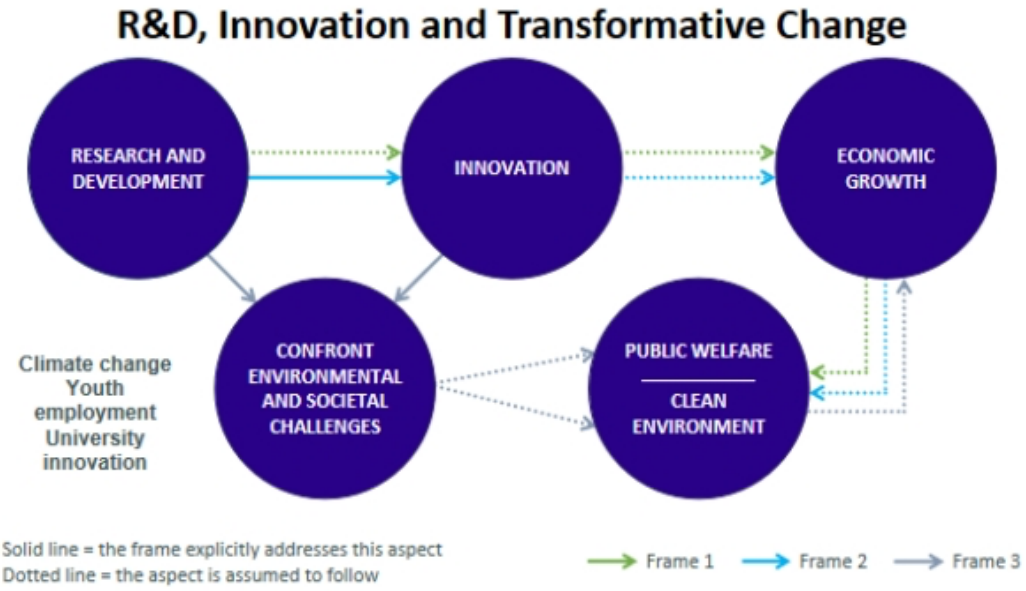

Figure1: A Generic Theory of Change (TOC) is a framework

The first frame (Research and Development Focus) of innovation policy focused on research and development (R&D) and regulation, with the assumption that R&D leads to innovation and economic growth. The second frame (National Innovation Systems) introduced national innovation systems, which aim to bring together R&D, innovation systems, and other approaches to harness them to tackle environmental challenges head-on. The third frame (Transformative Change), which the presentation focused on, is about transformative change to directly address challenges like climate change and biodiversity loss. It aims to bring together R&D, innovation systems, and other approaches to harness them to tackle environmental challenges head-on

Transformative Outcomes and Evaluating Projects and Policies
The intention is to contribute to system change through experimental policy engagements and policy experiments. The theory of change helps guide specific changes, reminding the group about the latest round of formative evaluation and their practice-based approach. The objectives outlined for this work include: Establishing narratives around innovation and policy thinking; Establishing a set of demonstrators on how to approach and evaluate innovation policy; Establishing a network of organizations working on these perspectives; Co-creating programs and working in three countries.

Theory of Change Approach in Transformative Innovation Policy (TIP)
The Theory of Change approach utilized in TIP aims to affect a transition from one socio-technical regime to another. These regimes represent stable existing systems such as energy or transport.

Niches and Regimes
The idea that niches are spaces where new innovations are experimented with and serve as an experimental space for learning to develop a stable alternative to the current regime. The landscape encompasses slow-changing external factors, including values, climate change, and major events that exert pressure on the regime.

Case Studies and Policy Experiments
Case studies and policy experiments were presented from Kenya, South Africa, Latin America, and Europe, showcasing the application of TIP in various contexts

Reflections and Future Prospects
The participants in the event shared their experiences and reflections on the TIP approach, emphasizing the need to institutionalize such programs to shift mindsets towards entrepreneurship and collaboration between universities and industry. The Generic Theory of Change is a powerful framework for guiding innovation policy and addressing complex societal challenges like climate change and biodiversity loss. By focusing on conceptual work and evaluating projects and policies through reflexivity, we can create more sustainable and inclusive futures.

Policy Implications
1. **Strengthening Collaboration**: There is a need for enhanced collaboration between institutions, policymakers, and stakeholders to drive transformative innovation in Africa. Initiatives like the TIAH, TRCTI, and TransCIIT 3 should continue fostering partnerships to facilitate knowledge exchange and capacity building.
2. **Policy Coherence and Integration**: Policymakers should adopt a systemic approach to policy development, considering the interconnectedness of social, economic, and

environmental factors. Integration of TIP principles into national innovation systems can facilitate the transition towards sustainable development pathways.

3. **Capacity Development**: Investing in capacity development activities is essential to equip stakeholders with the necessary skills and knowledge to implement transformative innovation policies effectively. Training programs should focus on fostering interdisciplinary collaboration, systems thinking, and policy experimentation.
4. **Inclusive Policy Design**: Policymakers must ensure that policy processes are inclusive and participatory, incorporating the perspectives of marginalized groups and diverse stakeholders. This approach can enhance the legitimacy and effectiveness of transformative innovation policies.

Conclusion

Transformative Innovation Policy (TIP) offers a promising framework for addressing complex societal challenges and advancing sustainable development in Africa. By embracing principles of collaboration, coherence, capacity development, and inclusivity, policymakers can harness the potential of TIP to catalyze positive change across the continent. Continued investment in TIP initiatives, coupled with strategic policy interventions, will be essential to realizing Africa's innovation potential and achieving inclusive and resilient development pathways.