

Resource\_Mobilization\_Policy

Staff\_Promotion\_Policy

Startup\_Policy

Staff\_Promotion

Publication\_Policy

Career\_Progression\_Policy

Entrepreneurship\_Policy Incubation\_Policy

Commercialization\_Policy

Income\_Generating\_Unit\_Policy

Research\_and\_Innovation\_Policy

Extention\_and\_Outreach\_Policy

Interllectual\_Property\_Policy

Consultancy\_Policy

## Developing & Reviewing Policies for Research Commercialization

# | A Guidebook |

September 2024

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GUIDEBOOK FOR THE DEVELOPMENT  
AND REVIEW OF POLICIES RELATING TO  
RESEARCH TO COMMERCIALIZATION

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# Introduction

The Kenya National Innovation Agency (KeNIA), in partnership with Viktoria Ventures, supported by the RISA fund, has been implementing the Research to Commercialization (R2C) program to support innovative researchers and strengthen institutional frameworks for research commercialization. In addition to supporting individual researchers, the program enhances the overall R2C success by developing and updating policies and structures within universities that facilitate research commercialization. As part of this initiative, 10 universities in Kenya participated in the program to review their R2C policies. The goal of the review was to ensure that the policies are not only up to date but also effective in fostering innovation, supporting startups, and promoting entrepreneurship within the university. The review process also outlined the key policies, infrastructure, and best practices to advancing research, innovation, and commercialization.

This process underscored the need for clear guidelines to help universities develop and review their R2C-related policies. The guidebook outlines key principles and concepts essential for policy development, providing step-by-step guidance for both creating and reviewing effective R2C policies.

## Purpose

This guidebook is based on a review of 10 research-to-commercialization policies from universities across Kenya and provides step-by-step guidance for developing and reviewing such policies. It serves as a valuable reference alongside international tools like those from the World Intellectual Property Office “guidelines for customization of the WIPO Intellectual Property Policy template for universities and research institutions” and national resources such as the OACPS (2023) “guidelines on research-to-commercialization”. The guidebook equips individuals and institutions responsible for policy development and review with a foundational understanding of research commercialization, offering continued support and direction.

## Targets

The guidebook is designed for policymakers at universities, private institutions, and industries interested in advancing R2C agenda by developing policy tools that promote entrepreneurship. It may also be valuable for key stakeholders involved in related discussions, as well as for a broader audience looking to support the R2C agenda.

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# CHAPTER 1

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# Introduction

The Institutional Support (IS) Program implemented by the Kenya National Innovation Agency (KeNIA) was initiated in 2020 with support from the Foreign Commonwealth Development Office. At the initial stages the program aimed to map and document key gaps (both internal and external) that existed in research to commercialization in universities and research institutions. The analysis laid the foundation to support the systemic challenges that limit commercialization efforts in the institutions by proposing a number of interventions.

In 2023, KeNIA together with the African Centre for Technology Studies with support from the Africa

Technology and Innovation Partnerships (ATIP) program launched the IS Phase I, to roll out interventions proposed at the mapping phase. Five institutions (2 research institutions and 3 universities) were selected competitively to participate in IS phase I. The two research institutions and three universities successfully developed their commercialization master plans- roadmaps to guide their commercialization and innovation efforts in the next 3-5 years. Building on this momentum, the IS program expanded its scope, welcoming new partnerships and broadening its reach.

The Kenya National Innovation Agency in partnership with Viktoria Ventures, supported by the RISA fund through the IS program, has been intervening at the individual level supporting researchers to commercialize their innovations. To further enhance the overall success of R2C, the program recognizes the need to intervene at the institutional level where these researchers are based. come from by strengthening institutional frameworks for research commercialization. As a result, the program is supporting universities in developing and updating policies and structures that facilitate research commercialization, thereby strengthening institutional frameworks for innovation.

As part of this initiative, 10 universities in Kenya participated in the program to review their R2C policies. The goal of the review was to ensure that the policies are not only up to date but are also effective in fostering innovation, supporting startups, and promoting entrepreneurship within the university. The review process also outlined the key policies, infrastructure, and best practices to advancing research, innovation, and commercialization. This process led to the development of a framework that informed policies and strategies that can support or are needed in the development of policies supporting research to commercialization.

University and generally institutions need to review their processes and structures on research commercialization to ensure to ensure that all individuals have equal opportunities in accessing and getting support for their ideas, irrespective of age, gender, ethnic identity and other individual characteristics.



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## CHAPTER 2

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# Insights from the review of existing policies supporting research to commercialization across 9 Universities in Kenya

Ten (10) institutional policies across nine (9) universities in Kenya, which include a mix of both public and private universities indicated a mix of various policies. As illustrated in Figure 1, the majority of these universities had research and innovation related policies and an Intellectual Property Rights Policy (IPR). Very few institutions had established explicit commercialization or entrepreneurship policies.

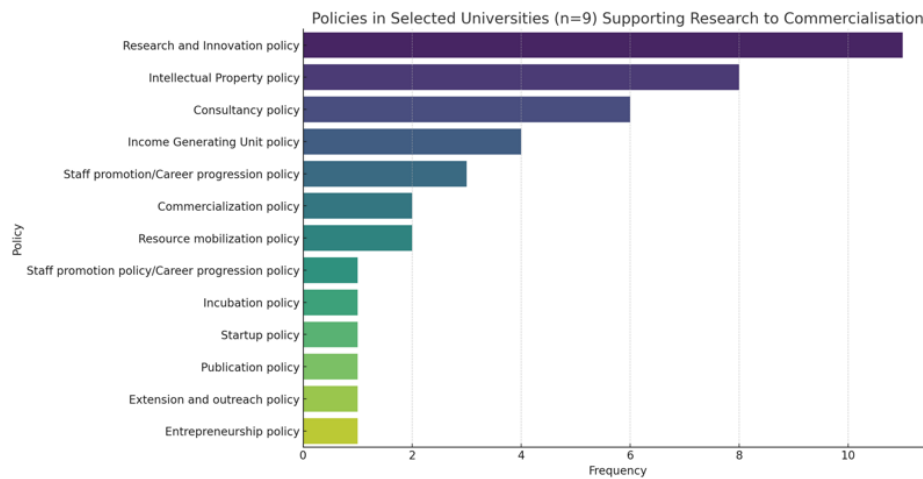


Figure 1: Policies existing in selected universities in Kenya supporting research to commercialization

The review of policies in universities in Kenya focused on several key areas to enhance their effectiveness in supporting research to commercialization. The review looked into the following areas, policy objectives, scope of the policy, responsibility in the implementation of the policy, processes involved in generating IP products, with the aim of making these processes more conducive to the research to commercialization agenda, incentivization and revenue sharing. The review also delved into the structure and management of university research funds, coordination of research activities, collaboration in research and innovation while analyzing entire policy framework to ensure alignment with R2C aspirations.

Below we detail each of the universities that participated in the program and the policies available in each of the university.

Organization	Research (and innovation) Policy	IPR Policy	Consultancy Policy	Income Generating Unit Policy	Recognition & Rewards Policy	Commercialization policy	Incubation Policy	Start-up Policy	Resource mobilization policy	Extension & outreach policy	Publication policy	Partnerships & collaboration	Staff promotion/Career progression
University of Kabianga	✓	✓	✓	✓	•				✓	✓	✓	✓	✓
KCA University	✓	✓		✓		✓	✓					✓	✓
Rongo University	✓	✓	✓										
Egerton University	✓	✓			✓								
JOUST	✓	✓				✓							
Riara University	✓	✓	✓						✓				
South Eastern Kenya University	✓	✓				✓		✓					✓
University of Embu			✓			✓	✓	✓					✓
Meru University of Science and technology	✓	✓	✓	✓									✓

Figure 2: Various policies existing across the universities and indicating those that were reviewed

Although we were unable to review all the policies, those that were reviewed are highlighted in yellow in Figure 2. From this review, we developed a framework for consideration, identifying three critical steps in the research-to-commercialization process. Policies that address these three areas, where available, will be crucial in supporting the R2C agenda.

Critical Step	Critical Step
<b>Research</b>	Research produces new insights, knowledge, and solutions that can be translated into marketable innovations. In most cases, it serves as an ingredient (input) to the innovation process and as a result of this process, technological inventions may emerge with commercialisable potential.
<b>Intellectual Property Protection</b>	Prioritizing the protecting of intellectual property (through patents, copyrights, or trademarks) is key in safeguarding the innovations of researchers and innovators in order to ensure they not only derive benefits financially from their work but also have a competitive edge in the market.
<b>Research</b>	Commercialization is an important step in taking research outputs and innovations to the markets. Commercialization facilitates access to IP created through various processes such as prototype development, market testing, and scaling efforts.

Table 1: Critical steps required to support R2C

The background is a dark red color with a faint, stylized illustration of a library or study area. In the center, a person stands holding a large, glowing lightbulb. To the left, a person is seated at a desk, writing. To the right, a person is seated on a bench, reading a book. The scene is composed of simple, flat shapes and lines, creating a modern, minimalist aesthetic. The text 'CHAPTER 3' is centered in the middle of the page, flanked by two horizontal lines.

## CHAPTER 3

# Framework and policies needed for R2C

We introduce a framework shown in Figure 3, which outlines three key building blocks (representing a simplified) R2C process to guide institutions in identifying the essential policies needed to support the R2C process. These building blocks are crucial at each stage of the R2C journey, serving as inputs that drive progress. We have simplified these blocks and will later discuss the specific policies relevant to each one.

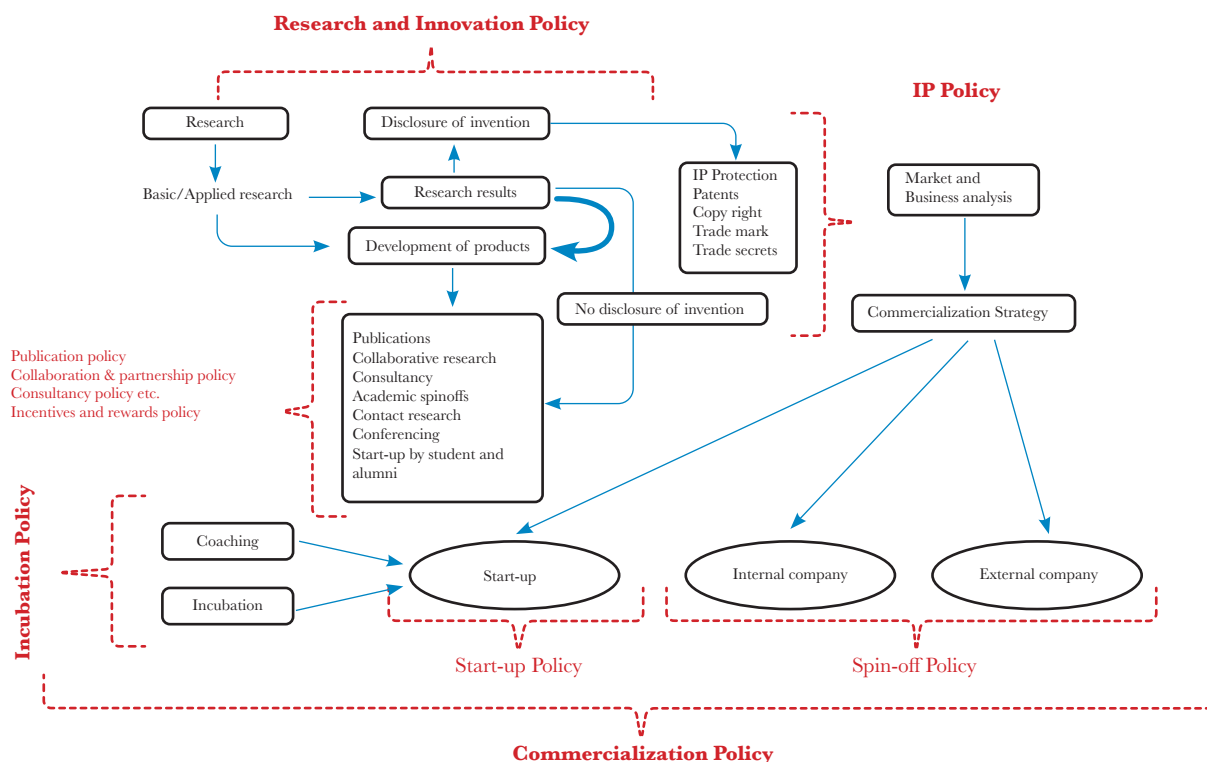


Figure 3: Research to commercialization (simplified) and policies required

At the input stage, a clear and comprehensive research and innovation policy is essential. Eight of the nine institutions reviewed had either an explicit research and innovation policy or a policy outlining support for research. However, a key gap identified was that these policies often lacked clarity on the types of research prioritized and supported. Additionally, many policies did not adequately create an enabling environment, such as establishing dedicated research funds to drive innovation.

Another issue identified was that the definition of what constitutes “research” and what is supported is often unclear. Some of the institutions with explicit research policies included elements such as publication, collaboration, consultancies, and rewards within their policies, while others addressed these areas through separate policies or guidelines. In our review, although these aspects may be separated, we recommend that they all fall under one critical category—research and innovation—and should be treated as part of a cohesive strategy to ensure effective research commercialization.

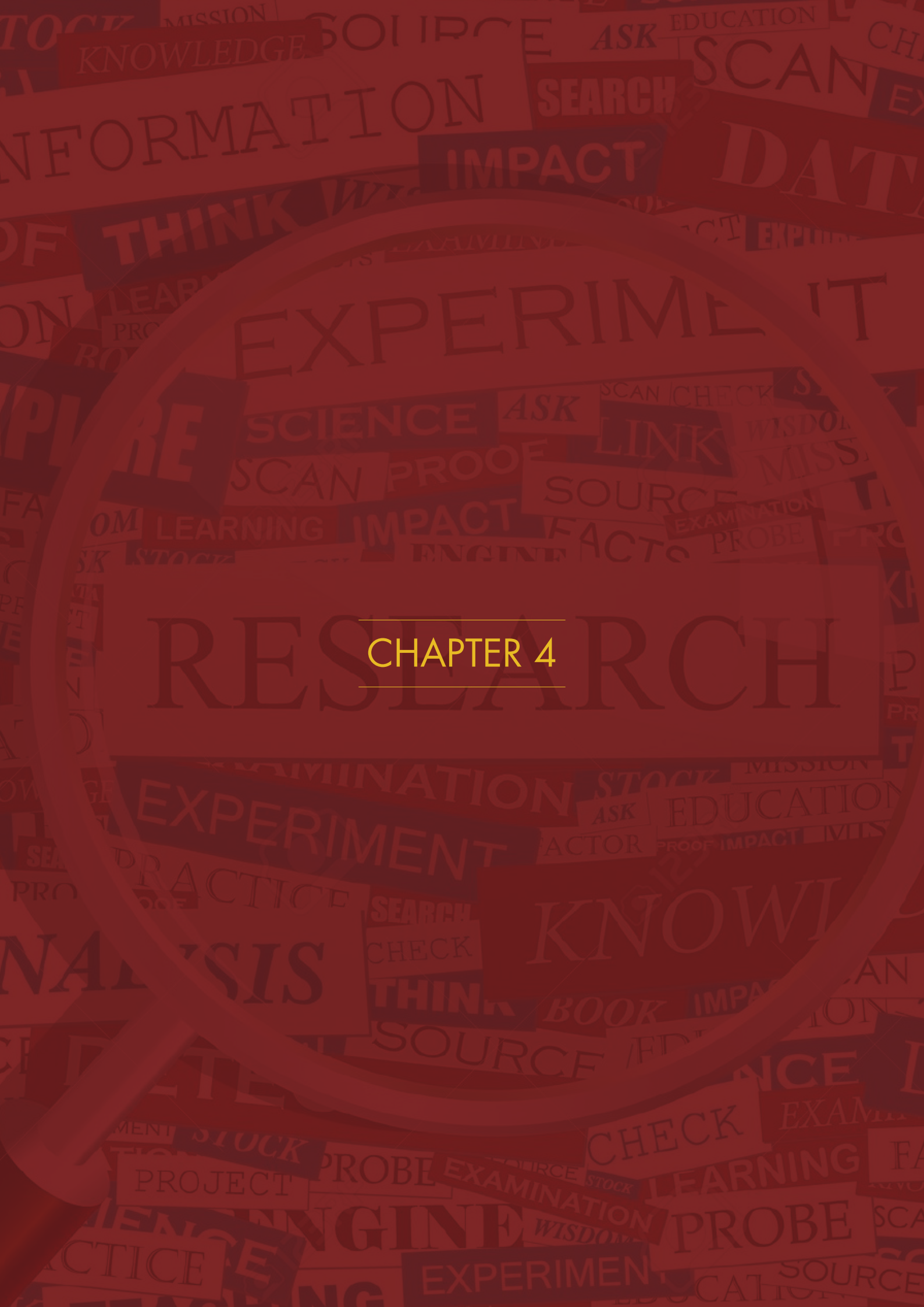
Once research outputs are generated and inventions disclosed, the next crucial steps involve invention disclosure, IP protection and the development of commercialization strategies. A robust IP policy with a clear benefit-sharing mechanism is essential, along with a well-defined commercialization strategy to leverage any IP. Whether through establishing a start-up or collaborating with internal or external companies, a comprehensive commercialization policy is critical to guide the process.

Throughout this journey, additional policies may play a supportive role, such as those related to coaching, incubation, or start-up development. For instance, a start-up or spin-off policy may be required to further commercialize the research. This guidebook therefore emphasizes that a combination of a Research and Innovation Policy, an IP Policy, and a Commercialization Policy are fundamental to effectively support the R2C process.

Table 2 provides a summary of the policies in the various critical steps and their objectives.

Critical Step	Type of policy	Objective
Research and innovation	<b>Research and innovation policy</b>	Supports research efforts in the institutions and their transition from basic or applied research to tangible research outputs and innovations. The policy also outlines how the disclosure of inventions will be done ensuring research results can be protected and commercialized. Policy equally outlines how product development will be conducted based on research findings.
	<b>Publication policy</b>	Facilitates knowledge dissemination through publications, conferences, and collaborative research.
	<b>Collaboration and partnership policy</b>	Supports academic spin-offs and start-ups by encouraging partnerships between academia, industry, and other stakeholders.
	<b>Consultancy and incentives policy</b>	Encourages consultancy work and incentivizes researchers for their contributions to innovations. Consultancy policy supports contract research and provides rewards for successful commercialization efforts.
<b>Intellectual property protection</b>	<b>Intellectual property policy</b>	Protects the research outputs through patents, copyrights, trademarks, and trade secrets as well as guiding the process of securing intellectual property rights to safeguard inventions.
Commercialization	<b>Incubation policy</b>	Offers support for start-ups through coaching and incubation programs to nurture early-stage ventures. The policy further outlines how resources and mentorship will be provided to help start-ups transition from research outputs to viable businesses.
	<b>Start-up policy</b>	Outlines the support, creation and growth of start-ups in the institutions based on research results.
	<b>Spin-off policy</b>	Supports the creation of spin-off companies from academic institutions to bring innovations to market.
	<b>Commercialization policy:</b>	Guides the overall commercialization strategy, whether through the creation of start-ups, internal companies, or external partnership ensuring that research innovations are effectively brought to market through appropriate business models.

Table 2: Types of policies and their objectives in the various critical steps



## CHAPTER 4

# RESEARCH

# Expounding critical areas of the framework

## 1. Research and innovation

As an input, research needs to be positioned as essential to generating intellectual property and advancing innovations aimed at securing intellectual property rights. To this end, the type of research to be pursued needs to be clearly outlined in the research and innovation policy.

What is Research? For purposes of this guidebook and in the context of commercialization, research refers to the systematic investigation and development of new knowledge, technologies, or innovations with the potential to generate practical applications and marketable products or services. It encompasses both basic and applied research, with a focus on transforming findings into tangible solutions that address societal needs or create economic value.

### Types of research prioritized with innovation and commercialisable potential

Institutional policies could outline the type of research supported emphasizing both basic and applied research. As depicted in Figure 4, these types of research could both lead to different products with commercialisable potential.

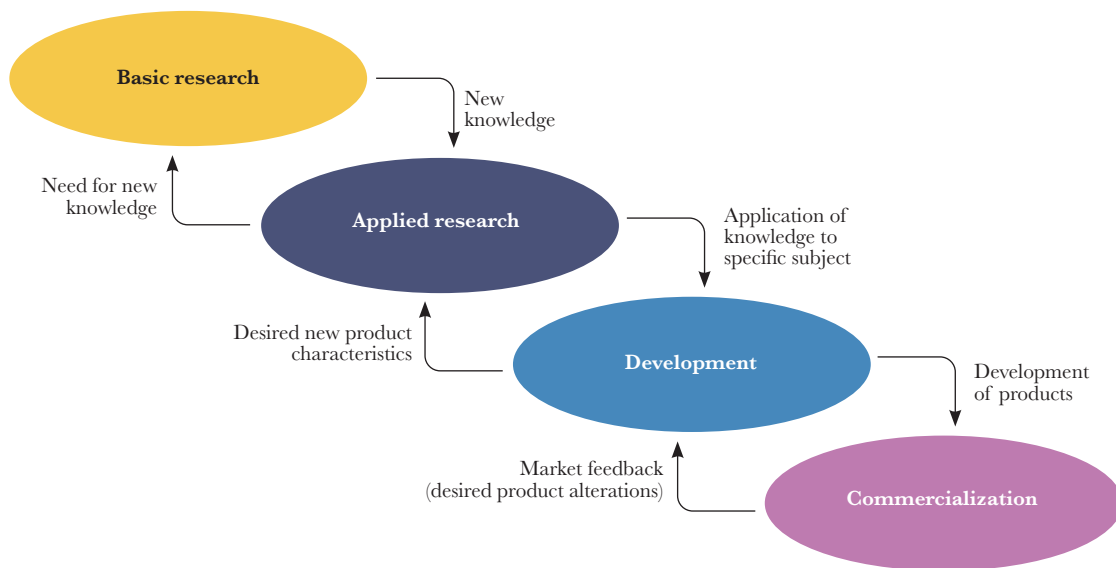


Figure 4: Types of research supported with potential for generating IP and commercialization

### Research fund to support research

There needs to be dedicated resources available in the university to support research, product development and more generally commercialization. A research policy therefore needs to clearly institutionalize a “research fund” and clearly define its purpose. In some of the research policies we reviewed, the total percentage allocation against the university’s operational budget was specified. Specifying research funds allocation ensures transparency and accountability in financial planning for research activities.

“Research fund allocated in some universities was 2-5% of the total university operational budget”

In detailing the research fund, the policy should define its scope, outlining the specific areas of research that will be supported by the fund, key priority areas, eligibility criteria for accessing the research fund and who can access the fund. The fund needs to also detail the types of researcher/activities-for example whether the fund will support early-stage researchers, applied research, and commercialization activities aligning with the goal of fostering innovation and an entrepreneurial university. Additionally, the policy could outline a long-term strategy for sustaining and growing the research fund. This may include seeking external partnerships, industry collaboration, or government support to supplement the university’s financial commitment to research commercialization.

## Application of research outputs

Policies that advance R2C should provide clear guidelines on how they will stimulate the application of research beyond traditional publications. This includes assessing research publications and determining which types of research outputs are suitable for commercialization. Ensuring such as process helps in ensuring that valuable innovations are identified early and moved toward practical application.

In addressing the retention and access to research data/output, the policy need to clearly define the scope, definition, and applicability of research outputs. It should outline the processes for collecting and retaining research outputs, and clearly state ownership rules. Additionally, it is important to include provisions for the transfer of research outputs in cases where a researcher leaves the university. This ensures continuity and access to research data.

The policy should include a section that details the approaches to commercialization. This should cover the process for deciding when a researcher should pursue commercialization of their innovations, as well as the available routes and procedures for doing so. By outlining these steps, the policy will ensure a structured and supportive path for researchers aiming to bring their innovations to market.

Other areas research and innovation policies could cover in relation to commercialization include.

Other research related policies useful to be presented	
<b>Optimizing research conduct</b>	Ensure that policies are structured to facilitate efficient and ethical research, including defining research ethics, responsible conduct, and compliance with other available standards.
<b>Collaborative research</b>	It will be important to outline how collaborative research and grants will be handled particularly leading to IP generation. What will be the procedures when it comes to this and other types of research for example contract research? How will these aspects be handled at the university level?
<b>Grants management</b>	Develop clear guidelines for managing grants, both public and private, with a focus on grant negotiations and ensuring compliance with funding agency requirements.
<b>Conflict of interest management</b>	Include specific clauses in the policy to handle potential conflicts of interest, particularly regarding collaborations and intellectual property.
<b>Management structure</b>	For clarity and effective implementation, it is advisable to include the structure and functioning of the various offices as well as related committee within the university, detailing their roles and responsibilities in R2C.
<b>Reward mechanisms in research (fundraising, publications etc.)</b>	Provide guidelines/policy related statements on incentives and reward mechanisms in recognition for the researchers supporting R2C in relation to IP generation, resources mobilization, engagement in contract research etc.



## 2. Intellectual Property (IP) Protection

Intellectual property protection is a critical aspect of advancing research toward successful commercialization, and a well-defined policy plays a pivotal role in this process. One of the key mechanisms for achieving commercial outcomes from research is through patent protection. Patents serve as a tool to disseminate new scientific and technological knowledge to researchers, both within the university and across the country. By obtaining a patent, inventors are required to disclose sufficient scientific and technical information about their invention. This process, which involves registration and a thorough search at the Kenya Industrial Property Institute (KIPI), ensures that the patented information becomes publicly accessible, encouraging knowledge sharing and collaboration.

Universities and institutions therefore need to not only safeguard their intellectual property but create opportunities for knowledge transfer, innovation, and the commercialization of research outputs. This is possible by the incorporation of IP protection into their policy frameworks.

### What is Intellectual Property?

Intellectual Property refers to legally protected creation such as inventions, designs, or brands that hold commercial value. IP grants exclusive rights to creators, ensuring control over how their innovations are used or sold, encouraging further innovation. Key forms of IP may include patents, copyrights, trademarks, and trade secrets. Commercialization leverages the IP created through licensing, assignment, or spin-offs, allowing research outputs to be transformed into marketable products or services. These may generate value to the products bringing about both economic returns and wider benefits in the society.

Reflecting on IP policies reviewed, main considerations for intellectual property policies may include the following;

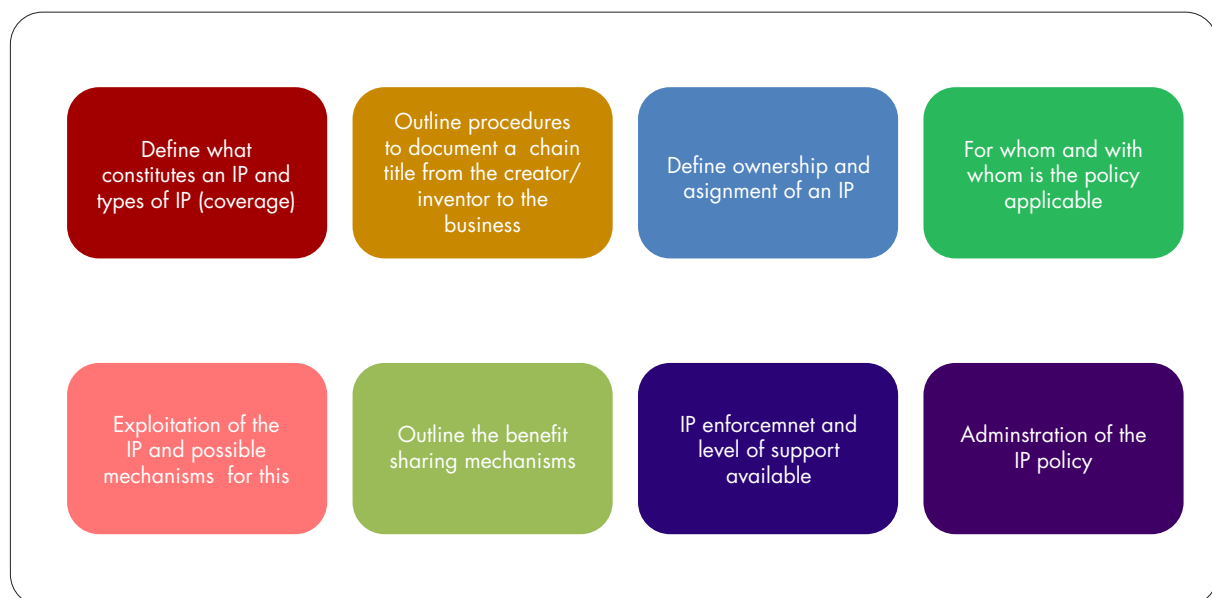


Figure 5: Areas an institutional IP policy could potentially address

## IP Ownership and management

Institutional policies need to clearly define the ownership of IP, including research outputs and inventions. It is essential to establish a legal assignment of rights, titles, and interests to the university. The policy could also potentially outline who may own any form of IP including the faculty, staff, and graduate students and also outline who may be exempted such as a student conducting their undergraduate coursework. In developing the policies, ensure that there is a disclosure requirement mandating all employees to report inventions. Faculty, staff, and students should be encouraged to file invention disclosures.

The policy should also establish a strategy for IP protection, including patents, trademarks, copyrights, and trade secrets. The policy should be able to outline the conditions under which each type of IP is/will be pursued and protected. For patentable IP, a process should be in place to assess the patentability of inventions and the university’s strategy for filing patents. For non-patentable IP, the policy should provide guidelines for protecting the intellectual assets through contracts like Non-Disclosure Agreements (NDAs) or Material Transfer Agreements (MTAs).

## Revenue sharing

The review process established that there lacks a clear revenue-sharing mechanism between the university and the inventors. Where available, we noted a 50-50 share that was deemed undesirable to both the innovator and the university. See university of Kabianga example

In this guideline, we recommend the policy to outline how income from IP (e.g., licensing revenue) could be allocated between the TTO overhead, inventor, and the institution (e.g., department or division).

In Figure 6, we proposed a revenue-sharing example that could be used as a model to show the distribution of licensing revenue, with equitable splits between the university and inventors. This sliding scale model for benefit sharing can better incentivize researchers/innovators as it ensures a fair distribution of benefits arising from the commercialization of research outputs.

The distribution and disbursement of net income (Gross Income minus IP Cost) may be shared among the following entities in the ratio as follows depending on net income obtained: This model shows that it is the intention of the university to encourage and reward research, innovation and creative activity within the university through fair sharing of royalties and other incomes, among all entities either in form of one lump sum or periodic payment, from the commercial exploitation of the IP rights of the Originator.

No.	Net Income	Level of effort by the university (>)		Level of effort by the university and researcher (=)	
		Researcher	University	Researchers	University
1.	First KES100,000.00	50%	50%	70%	30%
2.	From KES100,001 to KES1,000,000	60%	40%	65%	35%
3.	From KES1,000,001 to KES5,000,000	70%	30%	60%	40%
4.	From KES 5,000,000 to 10,000,000	80%	20%	50%	50%
5.	From KES 10, 000,000- and above	90%	10%	40%	60%

Figure 6: Proposed sliding scale model for revenue sharing

## Safeguarding IP during collaborations

Institutional policies need to clearly define the terms related to Background IP (developed prior to the collaboration), Foreground IP (developed during the collaboration independently), and Joint IP (developed jointly by both parties).

When developing these policies, it is essential to address the risks of IP loss, particularly in consulting agreements and collaborative research, including industry-funded projects. Clear mechanisms for monitoring IP ownership throughout collaborations are crucial to safeguarding intellectual property.

The IP policy should also outline processes for technology transfer and commercialization, including licensing agreements and how the university will commit to marketing and licensing the IP.

Include provisions for equity ownership in startups, where the university holds an equity position in startups formed from research outputs, with clear guidelines on how equity is distributed.

### 3. Commercialization

Commercialization is an important element in bringing research innovations to market in order to maximize the impact of research. Economically, commercialization fosters growth by creating new companies or attracting investments, often through the development of innovation hubs that stimulate local economies. Commercialisation also drives industry partnerships through licensing agreements enhancing collaboration between academia and the private sector.

Commercialization is the process of transforming intellectual property assets, such as research outputs or innovations, into market-ready products, services, or technologies that generate both societal and commercial value. This process often requires additional research and development, product refinement, clinical trials, or scaling efforts to prepare innovations for market deployment. Commercialization can take various forms, including licensing, assignment, or the creation of spin-offs to bring IP to market.

While commercialization often begins with securing a patent, different pathways such as consultancy and licensing are key in bringing research innovations to market. Pursuing and addressing explicitly the aspects of commercialization in policy development or review is therefore imperative in unlocking the full potential of research.

The commercialization journey is diverse and may vary depending on the innovation and stakeholders involved. Experiences from the review of the university policies while indicated differing steps, the commercialization objective remained the same which was about “transforming research into market-ready, impactful solutions”.

Universities should therefore recognize various commercialization routes in their policies. They may include; licensing, spinout-related activities, start-up formation, outright sale of IP and joint venture companies etc. The policies need to outline modalities on how each of these routes work, procedures to pursue one route and the benefits for each of these routes including how proceeds resulting from these will be shared. Researchers should have a clear understanding of when and how to pursue commercialization of their innovations. It is essential to establish procedures that outline the various routes available for commercialization, such as licensing, consultancy, spinouts, or collaborative ventures with industry. The policy should provide clear criteria for selecting the appropriate commercialization route based on the maturity of the innovation, market demand, and available resources. When originators of the IP seek to collaborate or finalize agreements with third parties for commercial exploitation, clear steps must be outlined in the policy. Additionally, the policies should outline who to notify and engage within the university leadership structures at the specific stages of the commercialization process.

Given that these routes may not be the remit of most researchers, policies need to be structured to help researchers balance their academic roles with the demands of commercialization and spinout leadership. Support mechanisms such as sabbaticals or fellowships can be offered at critical stages to explore business viability and innovation potential, allowing researchers to focus on both research and commercialization while maintaining a healthy work-life balance.

Therefore, policies related to commercialization must address these elements to ensure the success of research products. The following section outlines key considerations for developing a commercialization policy.



Figure 7: key areas to cover and address when developing a commercialization policy



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## CHAPTER 5

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# Conclusion

Successful commercialization of research outputs hinges on robust policies that provide clear direction and create an enabling environment for innovation. This guidebook has outlined key principles and frameworks essential for institutions to develop and review policies that support the research-to-commercialization process. Effective R2C policies not only facilitate the generation and protection of intellectual property but also ensure that research outputs are transformed into practical, market-ready solutions with societal and economic impact.

Central to this process is the alignment of institutional policies with real-world challenges and market dynamics. This requires policies that integrate research, intellectual property protection, and commercialization efforts under a cohesive framework. Universities must adopt inclusive policies that encourage collaboration, support start-ups and spin-offs, and incentivize researchers through transparent benefit-sharing models.

Through this guidebook, we emphasize the importance of tailored policies that address the unique needs of institutions while fostering partnerships with industry and government. Such policies must also consider the balance between academic responsibilities and commercialization demands, offering researchers the support they need to explore innovative opportunities.

The path to successful research commercialization requires continuous refinement of policies to respond to evolving market conditions and technological advancements. By adopting the proposed framework and best practices outlined in this guidebook, institutions will be well-positioned to unlock the full potential of their research outputs, drive entrepreneurship, and contribute meaningfully to societal development.

This guidebook serves as a resource for policymakers, administrators, and stakeholders committed to advancing research commercialization. By fostering a culture of innovation, institutions can ensure that research leads not only to knowledge creation but also to tangible solutions that benefit society and stimulate economic growth.

