



The Role of Ethics in Promoting Science, Technology and Innovation in Kenya

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Presentation outline

- Brief introduction
- Challenges in ST&I
- Short preview on Principle of Good ethical Practice
- The role of NCST in promoting good ethical practice
- Ongoing ST&I research programs under NCST
- Way forward and Conclusion

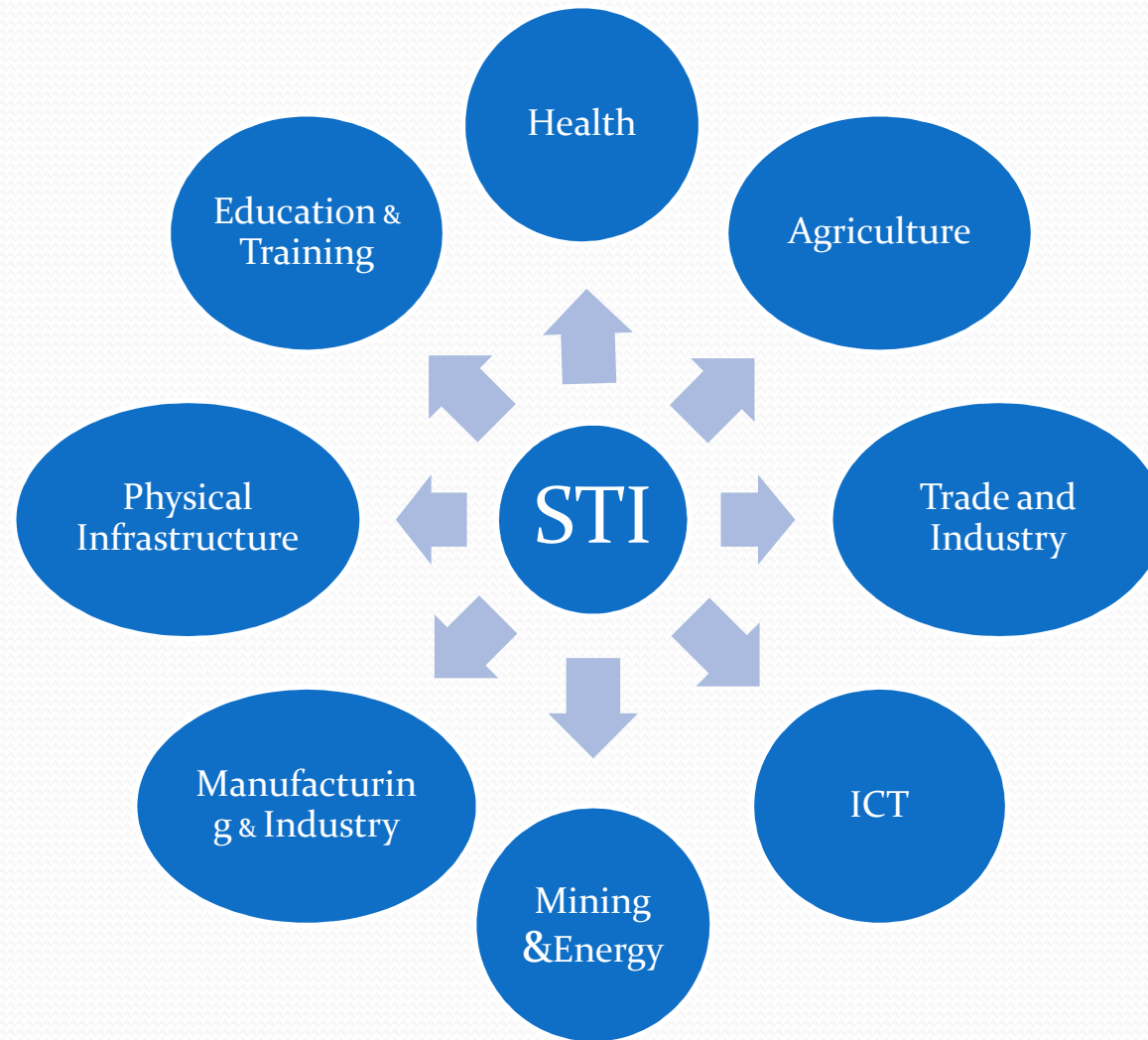


Introduction

- Science , Technology and Innovation(ST&I) are critical drivers of national economic development.
- Kenya's long terms development strategy; The Vision 2030 envisions an *economically competitive, prosperous and a middle level industrialized nation*.
- The V2030 clearly indentifies ST&I as major foundation component on which other sectors will build to effectively achieve the targets of the social, economic and political pillars of the Vision.



STI central to achieving Vision 2030 targets





Challenges facing ST&I

- Major challenges that constrain effective use of ST&I to drive the socio-economic agenda include
 - Lack of clear national ST&I policy
 - Inadequate funding and STI capacity,
 - A supply rather than demand-driven research
 - Weak linkages between the ST&I players
 - Lack of well grounded ethical norms within the ST&I sector
- Good Ethical norms are however at the centre of a robust ST&I sector



Principles of Good ethical practice

- Given the wide application of ST&I across different sectors i.e; agriculture, health, engineering, environment, social science, policy and management among others
- Strong and effective ethical guidelines are required if ST&I is to create the required transformation
- The central tenets of good ethical practice
 - Respect
 - Beneficence
 - Justice



- **Respect for persons**

Incorporates two fundamental ethical considerations

- Respect for autonomy
- Protection of persons with impaired or diminished autonomy

- **Beneficence**

- Ethical obligation to maximize benefits and to minimize harms
- Minimize risks in research
- Proscribes deliberate infliction of harm



• **Justice**

- Also referred to as distributive justice
- Advocates for moral and right treatment of all involved in research
- Requires that there is equal distribution of both burdens and benefits of participation in research



Role of NCST in development of Good ethical practice



• Advise



• Promotion



• Coordination



The National Ethics Review System,

- The Science and Technology Act, provides for the establishment of committees to assist in operationalization of NCST activities.
- One such committee is The National Bioethics Committee (NBC)
- NBC facilitates the establishment of a system for ethics review in which there is Fairness, creativity, responsibility and openness are expected and demanded of the ST&I sector.



Functions of the committee



- Providing national policy directions on research ethics to institutions undertaking research
- Development and review of ethical guidelines
- Popularization and promotion of good ethical practice
- Accreditation of IERBs
- Provides ethical advice in the development of documents for adoption as public policy with a bearing on human life and the environment.



Ethical requirements for ST&I sector

- All Institutions undertaking research and universities are required to establish ethics review committees.
- Currently there are 13 accredited committees based at universities and research institutes.
- The research authorization process of the NCST relies on these committees for ethical review before issuance of a research permit.



ST&I Grant Programs at NCST



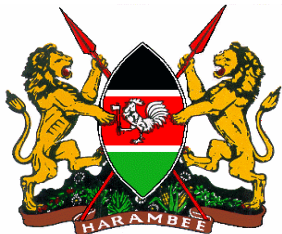
- ST&I Research grant
- Postgraduate grant
 - Msc.
 - PhD,
 - Postdoctoral
- Women research grant
- Innovation grant
- Support for conferences and symposia
- Support of research equipment



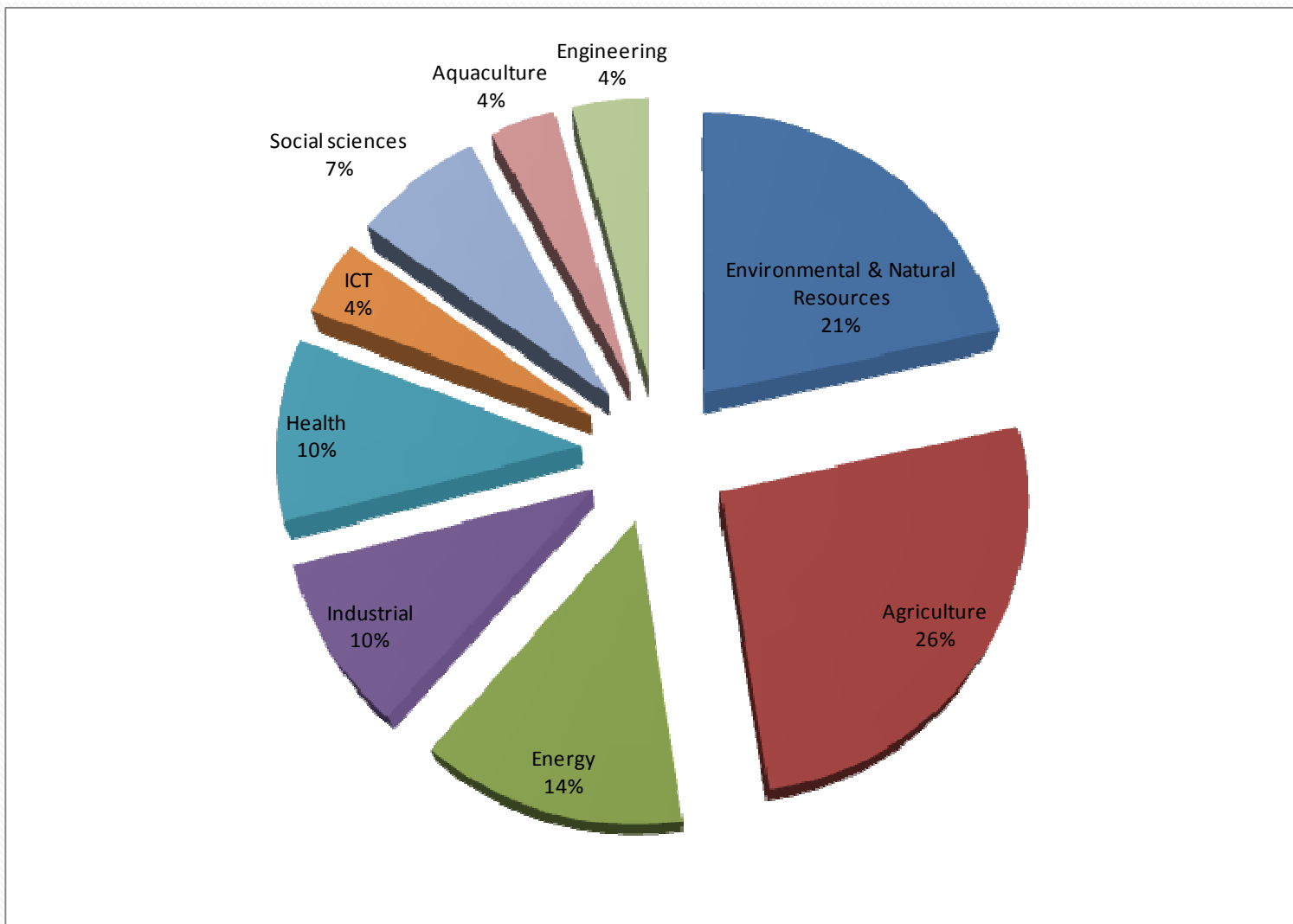
Summary of ST&I grant funded projects



Category	1 st Call	2 nd Call	3 rd Call	4 th Call	5 th Call	Total
Research	92	31	28	17	(21)	189
Women scientists	14	32	27	(18)		91
Innovations	14	8	19	(33)		74
PhD	22	41	78	(100)		241
MSc/MA	22	24	48	(100)		194
Post-Doc	19	(17)				36
Facilities	4	4				8
Conferences	30	31				61
Total						894

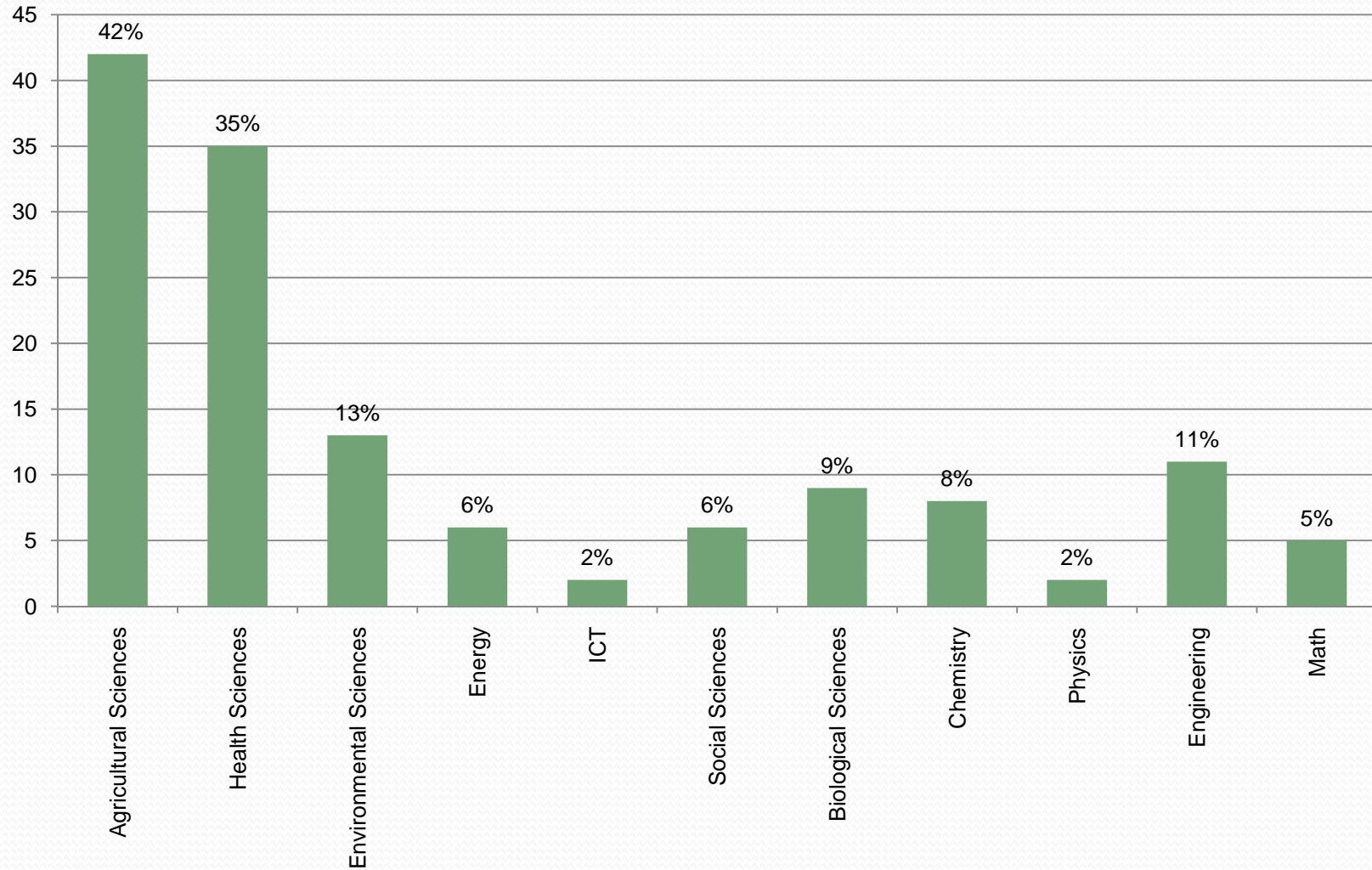


Research funded-disciplines (2009-2012)



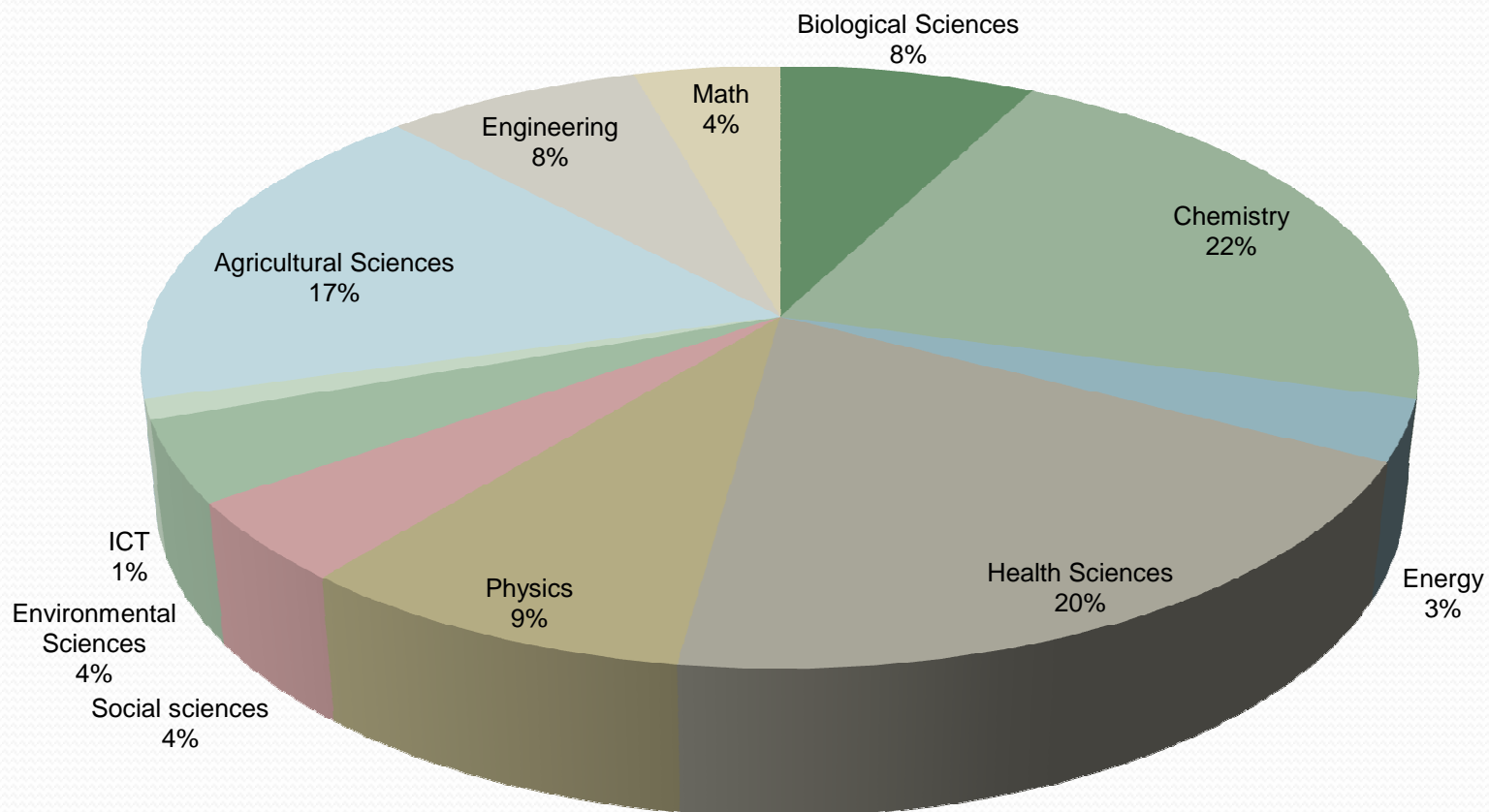


Funded areas in PhD (2010-2012)



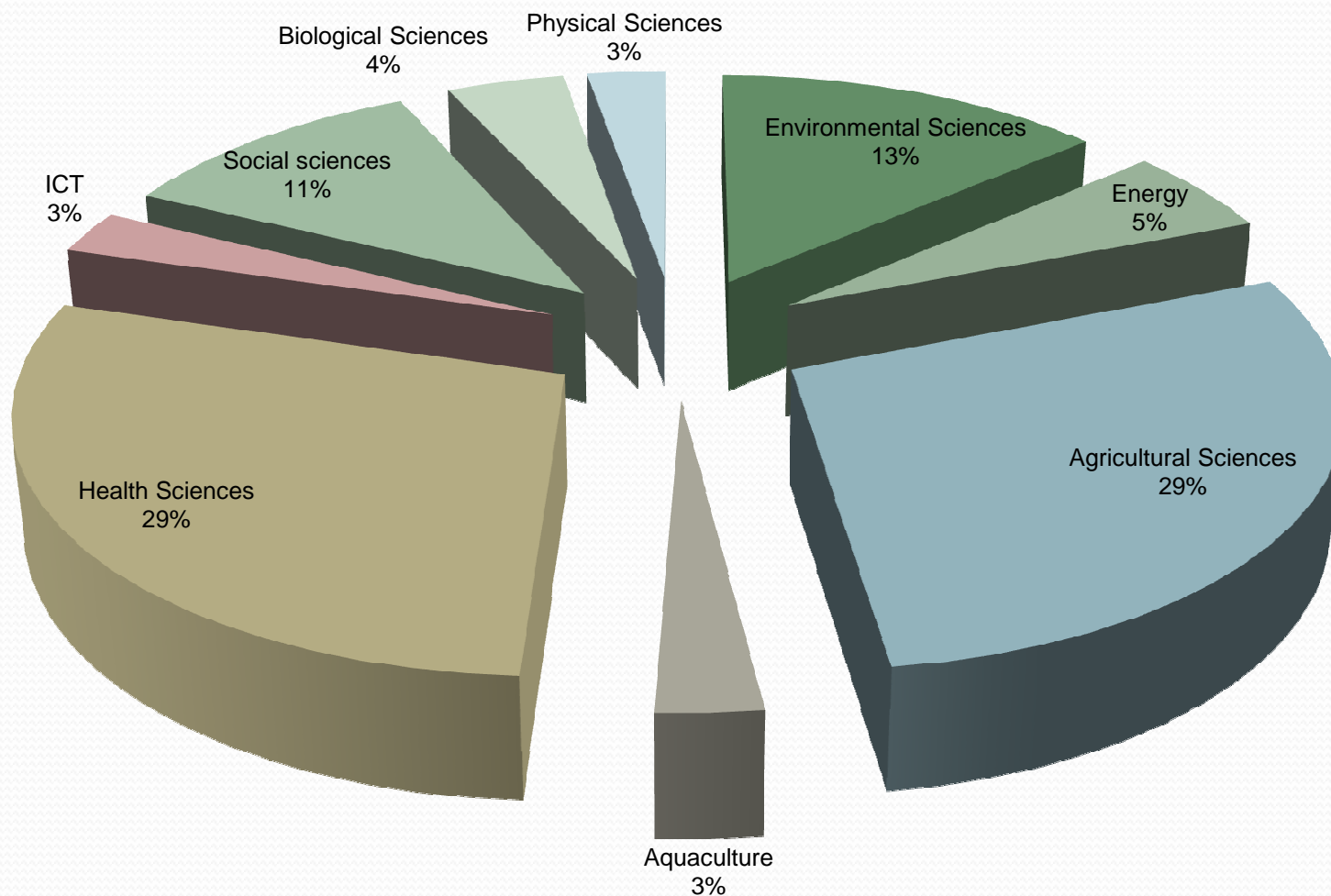


Msc. funded areas (2010-2012)





Funded projects under Women Call(2010-2012)





ST&I grant - Collaborative Programmes

- Kenya/S. Africa joint research projects (26)
- NCST/ Japan Society for Promotion of Sciences (4)
- Kenya/DAAD (27)
- Kenya/IAEA partnership (49)
- NCST/Nuclear electricity project (15)



Way forward

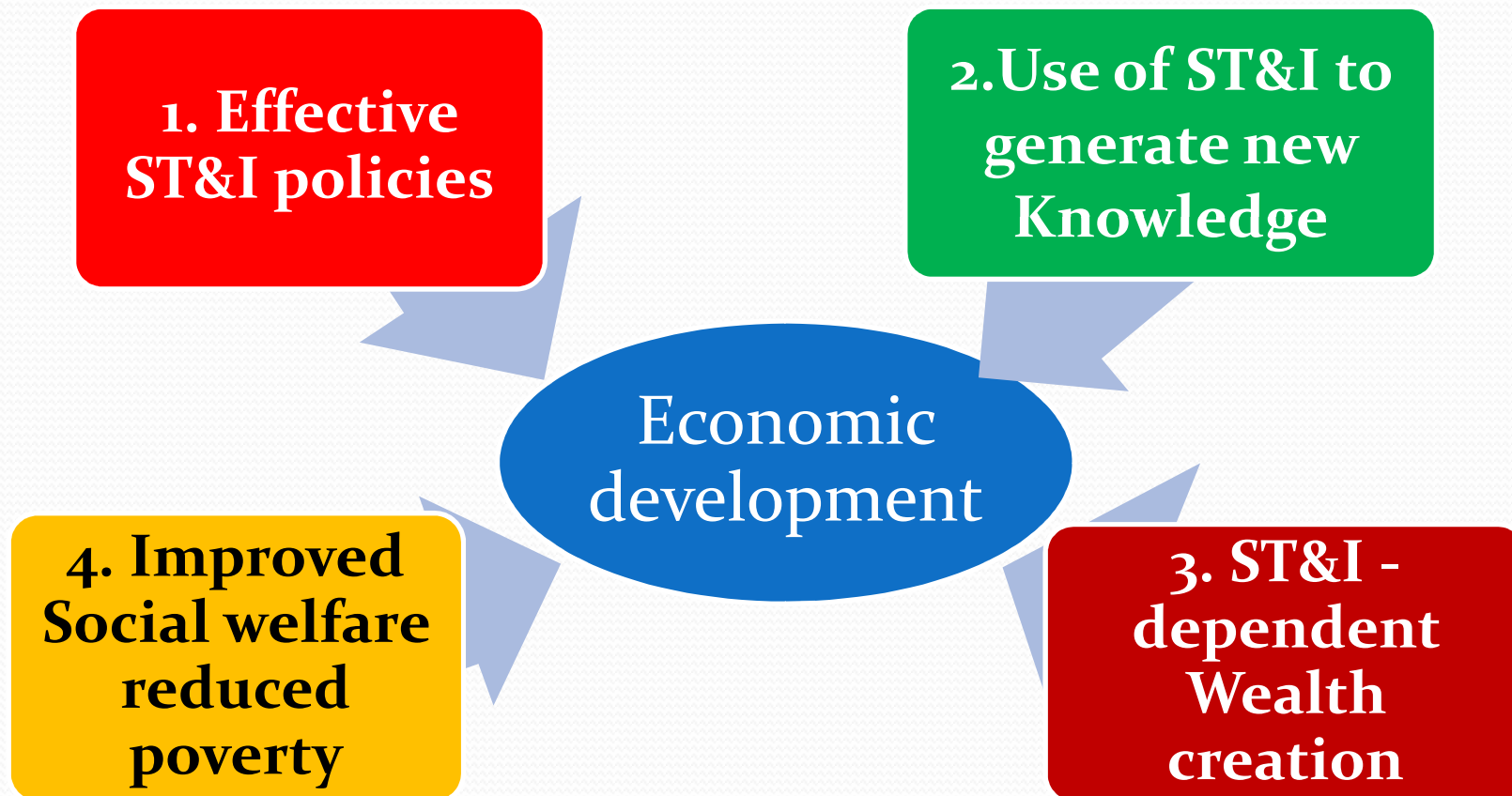
- Strengthen Ethics in the management of science technology and innovation
- Promote training in Research ethics
- Accredite more IERBs
- Always uphold basic tenets of good ethical practice in STI and Research; Respect, beneficence and justice



In Conclusion



- Good ethical practice in ST&I will impact;





Thank you

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<http://www.ncst.go.ke>