



# 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

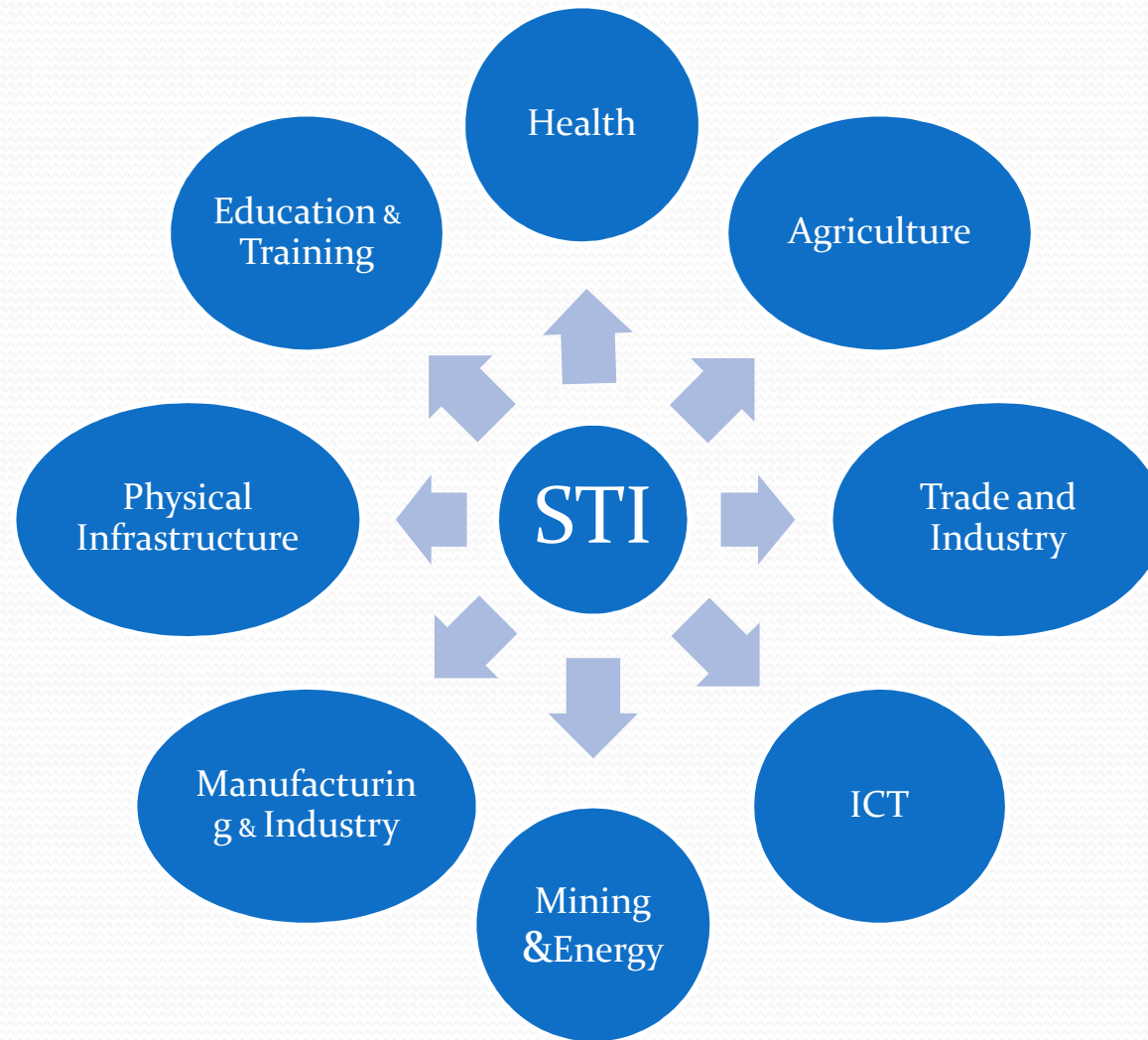


# Introduction

- 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



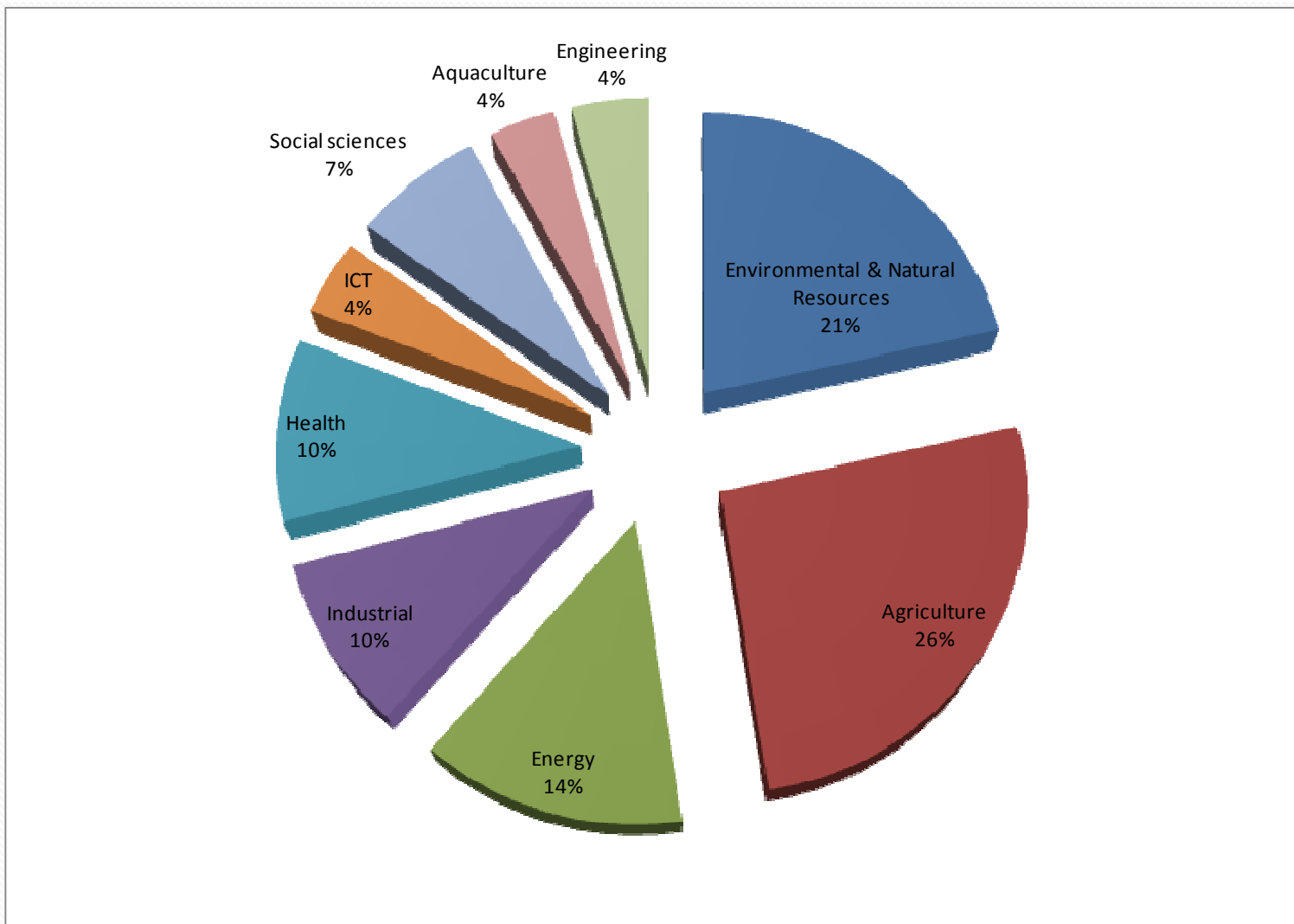
# Summary of ST&I grant funded projects



Category	1 <sup>st</sup> Call	2 <sup>nd</sup> Call	3 <sup>rd</sup> Call	4 <sup>th</sup> Call	5 <sup>th</sup> 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
<b>Total</b>						<b>894</b>

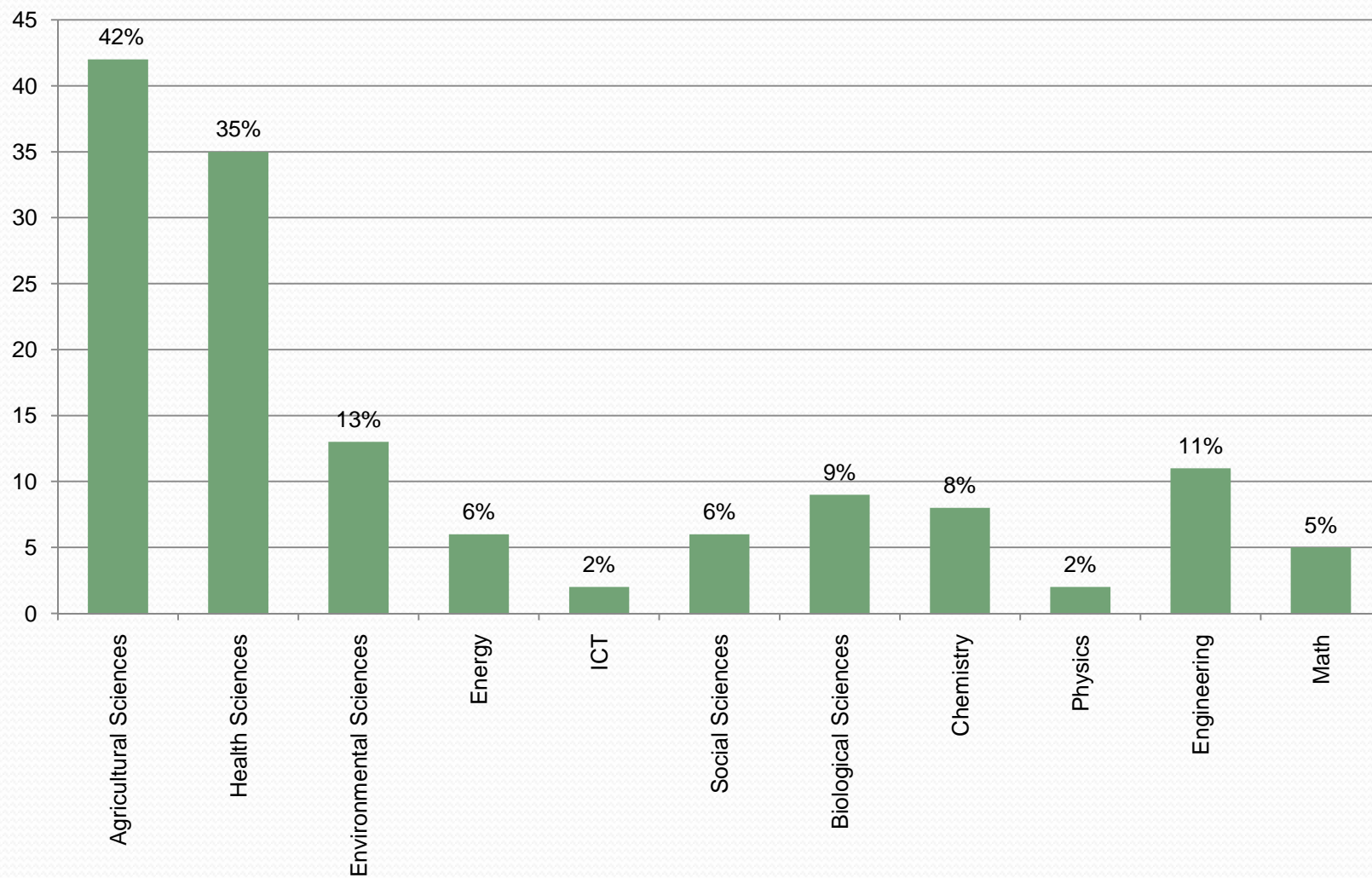


# Research funded-disciplines (2009-2012)





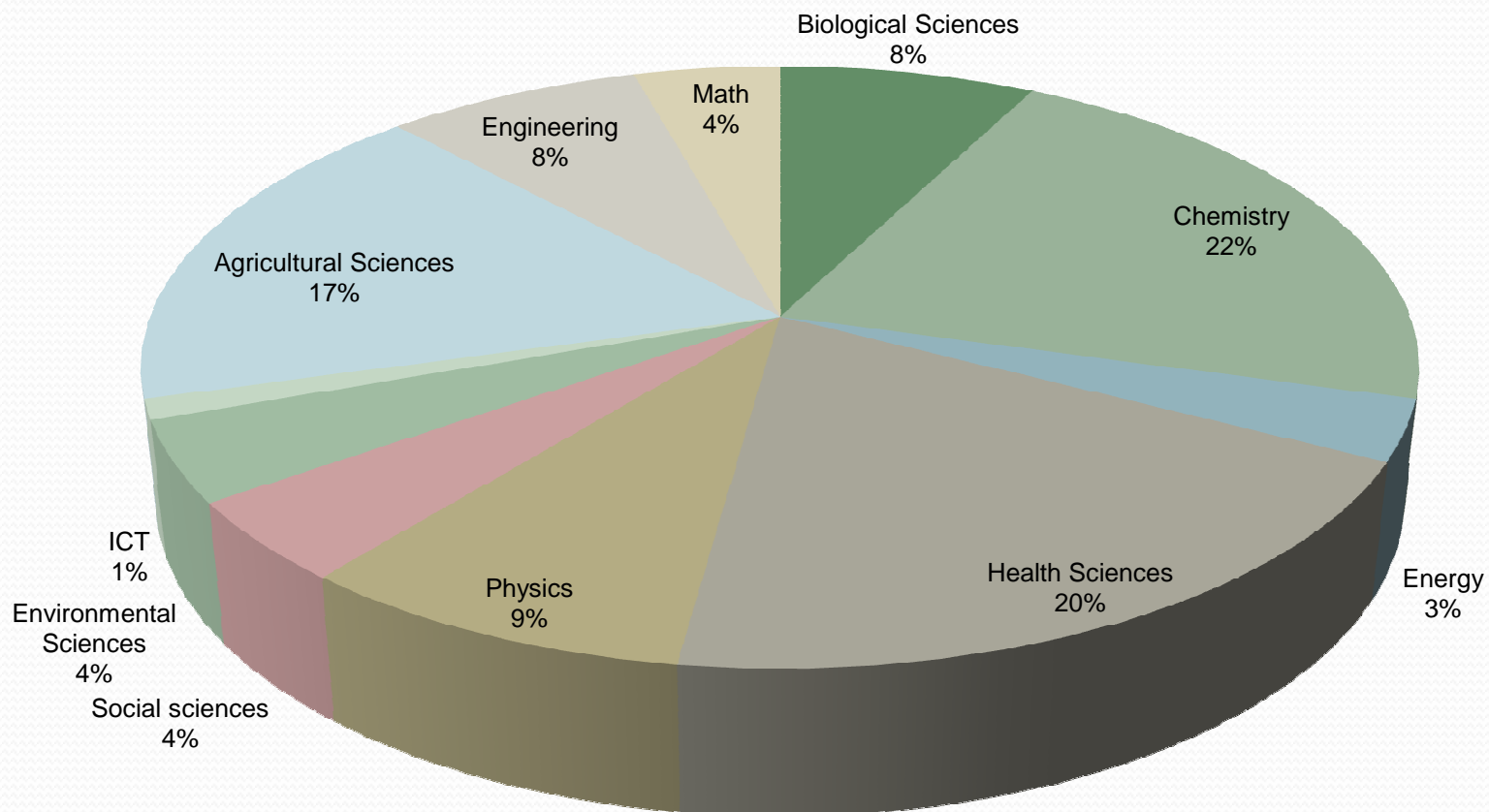
# Funded areas in PhD (2010-2012)





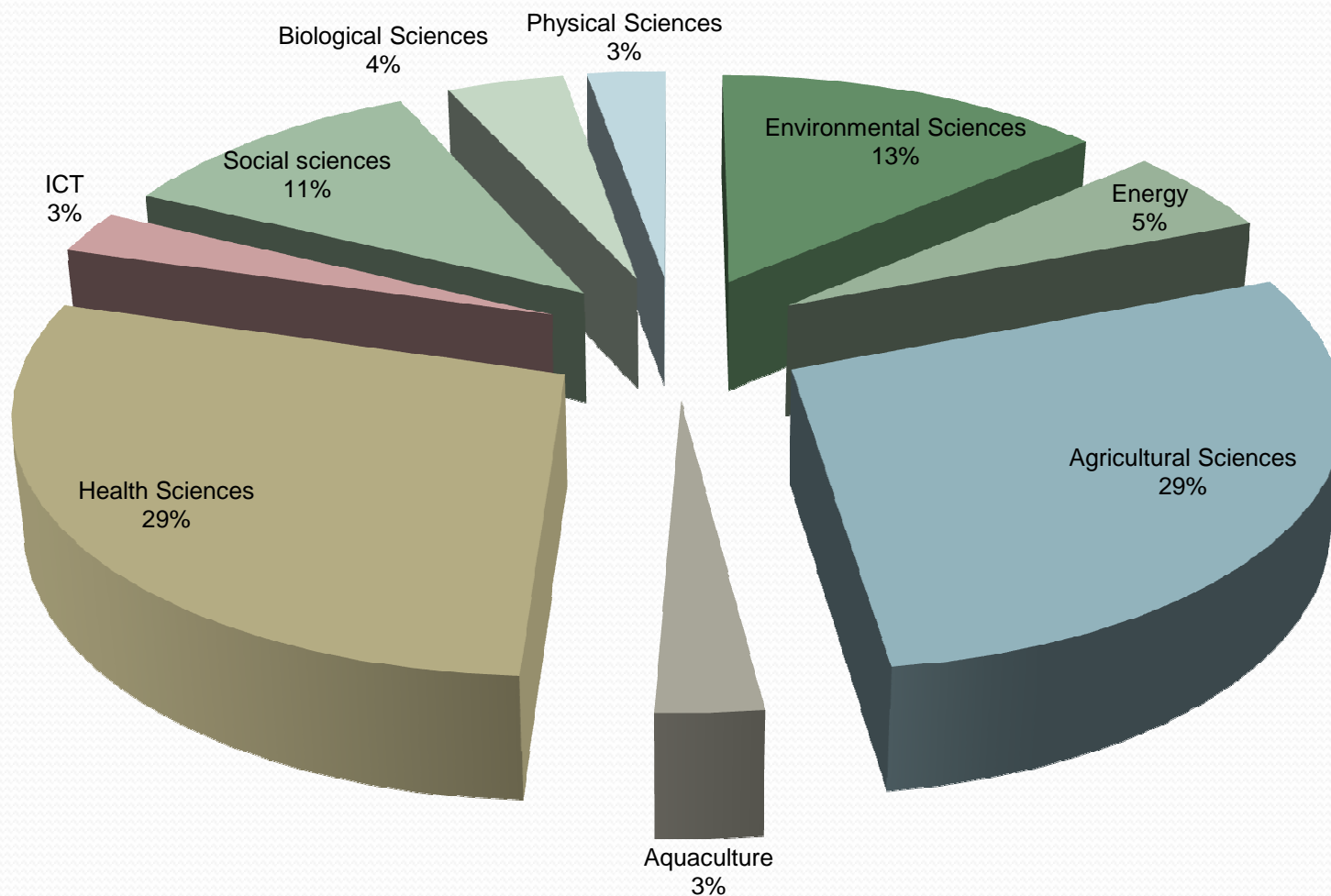


# Msc. funded areas (2010-2012)





# 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

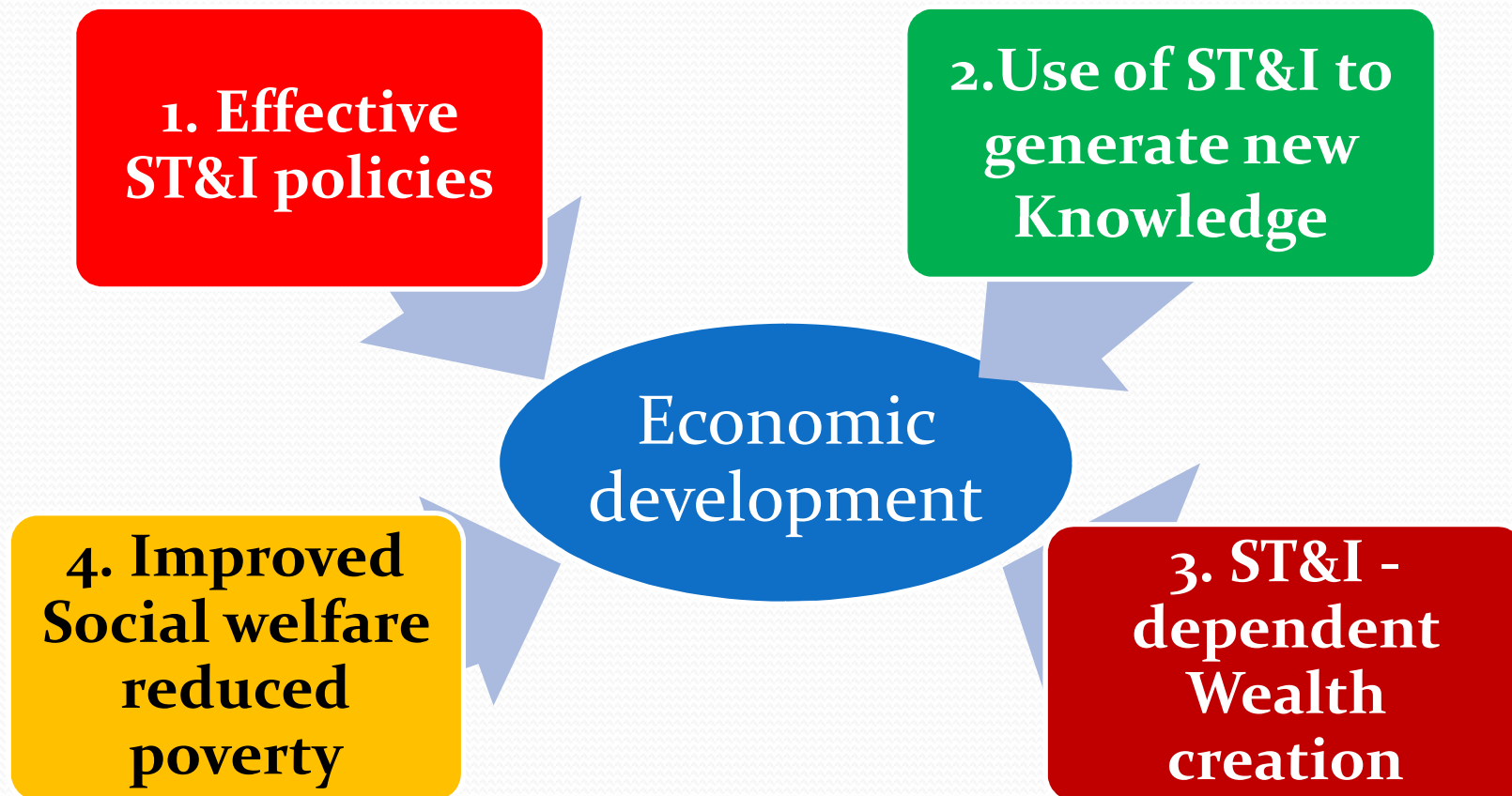
- Strengthen Ethics in the management of science technology and innovation
- Promote training in Research ethics
- Accredite more IERBs
- Always uphold basic tenets of good ethical practice in STI and Research; Respect, beneficence and justice



## In Conclusion



- Good ethical practice in ST&I will impact;





# Thank you

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