

Innovation Systems & African Higher Education

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Presentation Format

- **Innovation systems properties**
- **New knowledge systems**
- **Higher education issues**
- **Types of reform**
- **Example [EARTH University]**
- **Other policy measures**

Innovation Systems

- **Schumpeterian Economics [NICs]**
- *Multiple knowledge sources **
- **Partnerships**
- **Networking**
- **Learning [Action Research]**
- **Client groupings**
- **Public policy**

Mode 1 Knowledge Pipeline

Specialist organisations

Academic disciplines

Peer review decisions

Little contact among disciplines

Organisational separation

Client sectors unimportant

Hierarchy

Mode 2 Systems Approach

- **Pure research limited**
- **Welfare agenda**
- **Interaction among disciplines**
- **Other knowledge sources**
- **Client-driven criteria**



Institutional change

Mode 2 Properties

- **Context of application**
- **Trans-disciplinarity**
- **Embodied in individual expertise**
- **Diversity of sites & types of K**
- **Reflexivity**
- **Culture of accountability**
- **New forms of quality control**

Mode 2 Contexts

- **Commercialisation of research**
- **Mass higher education**
- **Research accountability**
- **Globalisation**
- **Institutional change**
- **Knowledge management**
- **Changing research environment**

Issues

- 1. What has gone wrong?**
- 2. How can the situation be improved?**

HE Problems

- **Financial problems**
- **Isolation from economic production**
- **Inadequate infrastructure**
- **Poor S&T provision**
- **Extreme academic conservatism**



Mode 1

HE → Ultimate Goals

- **Science & technology literacy**
- **Practical skills**
- **Transferable skills**
- **Job generation [entrepreneurship]**
- **Service to the community**
- **Ethical standards**

Personal behaviour

Reform of Existing Bodies

- **Postgraduate level**
- **Schools of Study**
- **Sectoral focus**
- **Interdisciplinary programmes**
- **Guided research funding**
- **Overseas links**
- **Simpler degree programmes**

New Universities

- **Direct focus on local activities**
- **2+2 undergraduate programmes**
[diploma _____→degree]
- **Project activity**
- **Entrepreneurship**
- **Outreach activity**
- **Transferable skills**

Example “Earth” University

- **Agriculture/Environment**
Agricultural engineering BSc
- **Underdeveloped region**
- **Extensive fieldwork**
- **Entrepreneurship**
- **Environment**
- **Community involvement**

Privatisation

Other Policy Measures

- Colombo Plan
- Diaspora
- Capital formation projects
 - Incubators/science parks
- Industrial universities
- High technology clusters
- Special funding mechanisms

Institutional Change