

# Kenya's Industrialization & Economic Diversification Strategies in the Context of Vision 2030

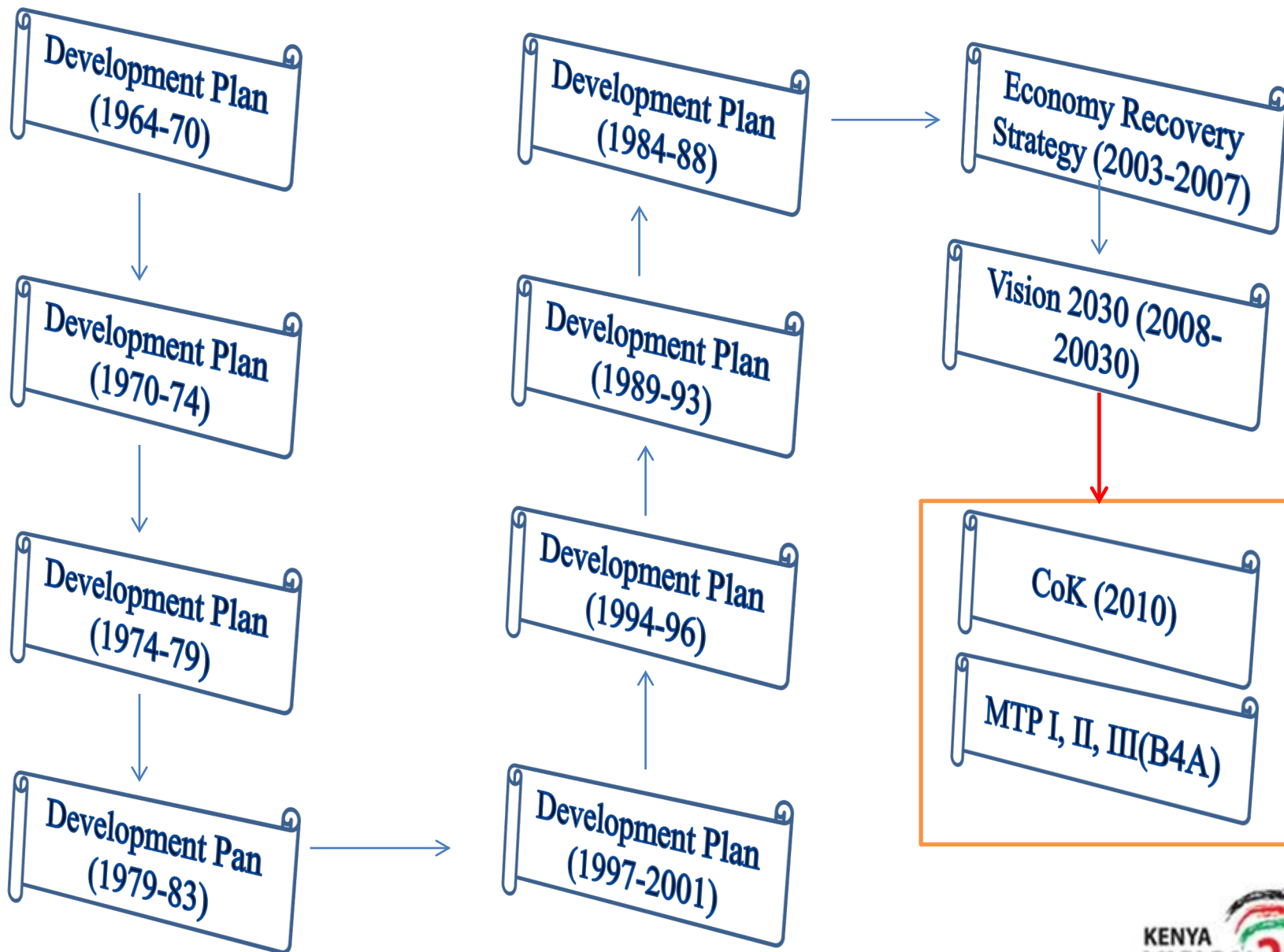
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# National Development Plans History





# Basis of National Development Agenda



Exploitation of local resources

Equitable distribution of the benefits of prosperity

Development of rural areas

Creation of employment opportunities

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**'poverty, ignorance and disease' were the challenges Kenyans faced during independence**

**KENYA @ 50**  
 By KAMAU MUTUNGA | Dec 25th 2013 | 3 min read

**B**y KAMAU MUTUNGA

**KENYA:** The three key challenges that faced Kenya as an infant nation were 'poverty, ignorance and disease.' While the first two have had their fair share of pros and cons, disease has been an



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**OPINION**  
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# National Development Plans -60s

*Sessional Paper No. 10 of 1965 on African Socialism and its Application to Planning in Kenya.* Recognize the need **borrow advanced technological knowledge, modern methods of industrial organization and economic techniques of control and guidance from more advanced countries** provides the **opportunity to leap over many of the hurdles that have restrained development** in these modern societies in the past. I.



# National Development Plans -70s

- **Integration of scientific research** into national socio-economic development
- Established **National Research and Scientific Council** to **encourage the application of science and technology to socio-economic development**
- In 1979, the *Science and Technology Act (Cap 250)* established NCST and 5 research institutions (KARI, KEMRI, KETRI, KEFRI & KIRDI).
- NCST, mandate was to **determine national scientific and technological priorities**



# National Development Plans - 80s/1

- *Sessional Paper No. 5 of 1982 on Science and Technology for Development* - Highlighted the **weak research capacity in industry and recognised MSEs as the cornerstones of innovation and technology development** in the country.
- **Intensification of R&D activities in all major sectors of the economy and development of appropriate technologies**
- Encouraged both the **public and private sectors to participate** more in research activities



# National Development Plans - 80s/2

*Sessional Paper No 1 of 1986 on Economic Management for Renewed Growth*, ushered in **market-oriented reforms** in line with **Structural Adjustment Programmes** that were advocated by the IMF and the WB.

Government (facilitator) anticipated **increased import competition** and sought to **cushion local industry** by making **provision for preferential tendering in favour of MSEs**, encouraging **formation of cooperatives**, **develop simple goods and production techniques** (to replace imports) and **disseminate information on new products and production techniques**.



# National Development Plans - 90s/1

- *Sessional Paper No 2 of 1992 on Small enterprises and Jua Kali Development in Kenya* was **first comprehensive policy framework for MSEs** and recognised them as playing a key in innovation and technology development.
- Government committed to **strengthen industrial research activities in order to identify the potential uses of these resources, develop indigenous talents and technologies** and assist in the ' **acquisition, adoption and assimilation of foreign technologies**.
- **Promotion of basic and applied research** in areas of economic priorities.





# National Development Plans - 90s/2

- *Sessional Paper No 2 of 1996* - Placed **emphasis on research, extension services and technology transfer**
- Proposed **R&D expenditure as a tax-deductible item, zero rating importation of R&D equipment and consumables, and special work permit exemptions** for R&D personnel, approved scientific research associations, universities, colleges or any other approved research institutions.
- *Sessional Paper No 2 of 1997 on Industrial transformation* **identified technology extension services and Technology Development Grant System as being pivotal in linking R&D institutions with jua kali enterprises.**



# National Development Plans – Early 2000s

- The *Economic Recovery Strategy for Wealth and Employment Creation* singled out **business incubation** as key to linkages in the sector.
- *Sessional Paper No. 1 of 2005 on Policy Framework for Education, Training and Research* **recognized the important role of human resource development in technology acquisition and transfer.**
- *Sessional Paper No 2 of 2005 on Development of MSEs for Employment Creation for Poverty Reduction* highlighted four main intervention areas. First, **adapting and adopting new technology.** Second, **enhancing budgetary support to technology support institutions.** Third, **providing more technology information.** Finally, **building technology skills.**



# Kenya's Vision 2030 (2008-2030)/1

- Aim at transforming the country into an upper middle-income industrialised country offering a high quality of life to its citizens in a clean and secure environment by the year 2030.
- It identifies **knowledge-driven economic** growth as part of the country's technology vision.



# Kenya's Vision 2030 (2008-2030)/2

Four elements are highlighted as instrumental in the exploitation of knowledge.

- i) **An economic and institutional regime that recognises incentives creation and uses of existing knowledge**
- ii) **Human capacity and competence that is capable of creating, disseminating and utilising knowledge efficiently.**
- iii) **An innovative information and communication infrastructure that can store, process and communication knowledge.**
- iv) **An innovation ecosystem with knowledge generators including research institutions, think tanks, universities, private enterprises and the community.**



# MTP I

- **Strengthen production capacity and local content of domestically-manufactured goods;**
- **Increase the generation and utilization of R&D results;**
- **Raise the share of Kenyan products in the regional market**
- **Develop niche products for existing and new markets.**
- **Product and market diversification and development programs;**
- **Research development and commercialization programs;**
- **Create an MSME research and development, risk and venture capital fund;**
- **Create a Business and Technology Incubation Programme to include**



# MTP II

- Expansion and diversification of produce of goods and services for domestic and export Markets
- Promotion of local entrepreneurship through SMEs;
- Promotion of rural and regional industrialization by exploiting comparative advantages of local resources
- Transformation of KIRDI into a world class research institution.



# Big Four Agenda & MTP III/1

## *Kenya's Big Four Agenda*

- **creation of SMEs in manufacturing** with access to affordable capital, skills and markets.
- acknowledges the role of **innovative technologies** in achieving affordable housing and enhancing food security

MTP III highlights include:

- **Investing in research, innovation and knowledge management to facilitate capability accumulation and technological upgrade**
- Finalize the Intellectual Property Rights (IPR) Policy
- Finalize development of the **incubation and sub-contracting policies.**



# Strategies/Policies/Changes in STI Sector /1

Enactment of the *STI Act No. 28 of 2013* which established key institutions aimed at facilitating knowledge creation and innovation.

- 1) National Research Fund – manage research of up to 2% of **GDP** and other sums of money provided by Parliament or in form of donations.
- 2) Kenya National Innovation Agency – **develop and maintain a database on innovation**; increasing awareness of intellectual property rights amongst innovators and **administering a *National Innovation Recognition Award*** where outstanding innovations in Kenya are recognised.





## Strategies/Policies/Changes in STI Sector /2

- 3) National Commission for Science, Technology and Innovation (NACOSTI) – **to regulate and assure quality in the science, technology and innovation sector**
- 4) Re-establishment of existing research institutions which were established by the 1979 *Science and Technology Act (Cap 250)* including KARLO, KEFRI, KIRDI, KMFRI, KEMRI, KETRI.
- 5) *Movable Property Security Rights Act 2017* which **provides for the use of intellectual property rights as collateral for credit facilities.**



# Strategies/Policies/Changes in STI Sector /3

6) *Kenya's Industrial Transformation Programme (2015)* aim to **accelerate the development of industries that will drive the country's economic growth.**

7) *The Protection of Traditional Knowledge and Cultural Expressions Act (No.33 of 2016)* was **enacted to protect and promote traditional knowledge.**

8) *The Startup Bill, 2020* provide a **legal framework for startups by facilitating the registration of startups and creating linkages for the startups to access capital from financial institutions and investors.**



## Conclusion/Challenges

- The **challenges facing Socio-economy development** are well understood and articulated
- **Science and technology** has been identified as important pillar in the country's social economic development
- **Fragmentation of research** due to research/knowledge institutions **working in silos.**
- **Weak academia-industry-government linkages**
- **Knowledge sharing and dissemination barriers**



# Conclusion/Challenges

- Academic institutions and industries operate independently, with **little or no coordination or collaboration**
- It has not been possible to **achieve the desired results in terms of R&D benefiting and supporting economic development.**
- **Commercialization of research results remains a pipe dream.**



# Recommendation/1

## 1. Commercialisation Legal Framework

- Develop policy or legislation framework for commercialisation of R&D output e.g. the Bayh-Dole Act of 1980 enables universities, non-profit research institutions and small businesses to **own, patent and commercialize inventions developed under federally funded research programs within their organizations.**
- Provide **tax incentives** – amend Income Tax Act (CAP 470) to allow private sector or industry that participate in R&D to benefit from exemption.
- Provide **R&D tax rebates** for business that commitment own resources on R&D activities.



# Recommendation/2

2. It is necessary to make **concerted efforts to recognize and/or reward research institutes or enterprises that conduct R&D and commercialize their findings.**
3. Need to introduce **performance based funding systems as one of the central mechanisms** through which to increase the effectiveness and performance of Public Sector Research funding.
4. Harmonize **research funding practices (both public and private) to ensure optimal research delivery and to avoid duplications**, for example, by establishing policies that encourage and support co-funding of research.



# Recommendation/3

**5. Develop policies that will increase the incentives to innovate, including: guaranteeing intellectual property rights, government assistance with the costs of research and development, and collaborative research partnerships between universities, research institutes, and businesses.**



# Kenya Industrial Research and Development Institute (KIRDI)

## Flagship Project of Vision 2030





# KIRDI Mandate

Undertake research and development in all industrial and allied technologies including *Civil Engineering, Mechanical Engineering, Textile Technology, Electrical Engineering, Mining, Power Resources, Chemical Engineering, Industrial Chemistry, Food Technology, Ceramics and Clay Technology*

- ✓ Disseminate research findings.



# Current KIRDI Programs

1. Value addition technologies for local materials
2. Modernise indigenous technologies and processes
3. Domestication of imported technologies
4. Clean energy and environmental management technologies
5. Agro/industrial waste management
6. Technology transfer and extension services



# SMEs Support Models

Pilot plants located in various parts of the country



**Ritoke- Kisii**



# SMEs Support Models

## Technology and Business Incubation



Udaku – Ceramic and Pottery



# SMEs Support Models

## Common manufacturing facilities/services to MSMEs



Nairobi – Honey Processing



# SMEs Support Models

## Industrial Technology training and capacity building services to MSME



## Garissa Camel Meat (Nyirinyiri)



# SMEs Support Models

## Consultancy

### Kibuyuni Seaweed Farmers CMF



- ✓ Machine Design and fabrication
- ✓ Installation and Commissioning
- ✓ Farmers training
- ✓ Product Development (Soaps and lotions)





# SMEs Support Models

## Machine fabrications & Advisory Services

Ewaso Ng'iro South Development Authority Leather Processing Plant



Advisory included:

- ✓ Factory design layout
- ✓ Equipment specification
- ✓ Inspection of equipment
- ✓ Installation & Commissioning
- ✓ Recruitment of technical staff
- ✓ Training of technical staff

- ✓ Annual processing capacity of 4,000 tons of hides and skins to finished leather
- ✓ Create 300 direct and over 5000 indirect employment opportunities





# Recent SMEs Supported by KIRDI

## Gajimare – Baba ndogo



## Sheth Naturals – Lungalunga





# KIRDI –Vision 2030 Flagship Project



**Transformation of KIRDI**

**KIRDI Bill 2020**





# Food for Thought

**Should public R&D complements or competes with private R&D?**

**If today a private company wants to commercialise IP owned by a public entity, which laws will apply?**

*PPDA or institutional IP policy?*



# KIRDI Offices



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# Kenya Industrial Management Board



**THANK YOU !**

