

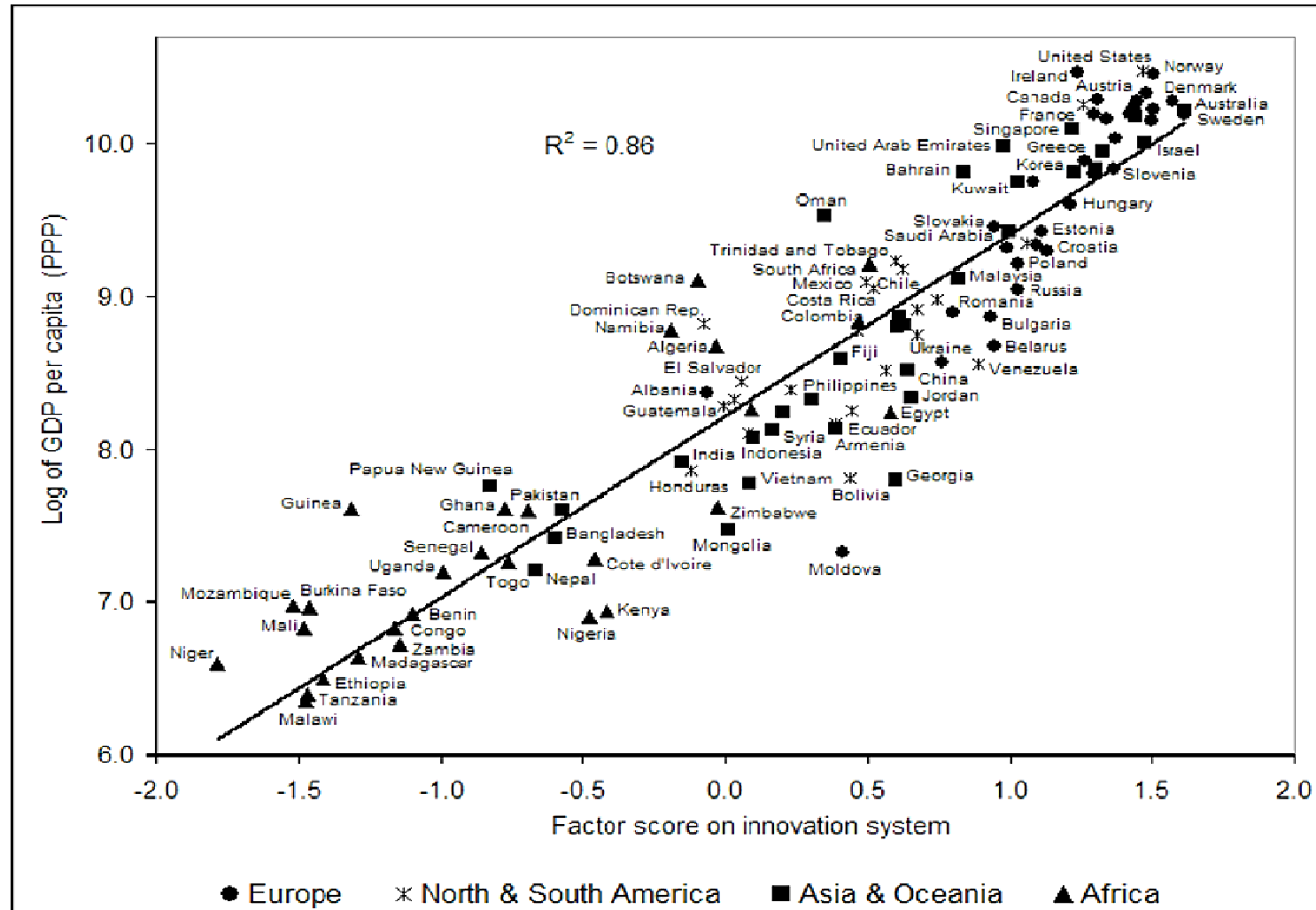
The Kenyan innovation system: driving the economic transformation of the nation?

**Chris Green,
Chief Executive, SQW Group**

Context

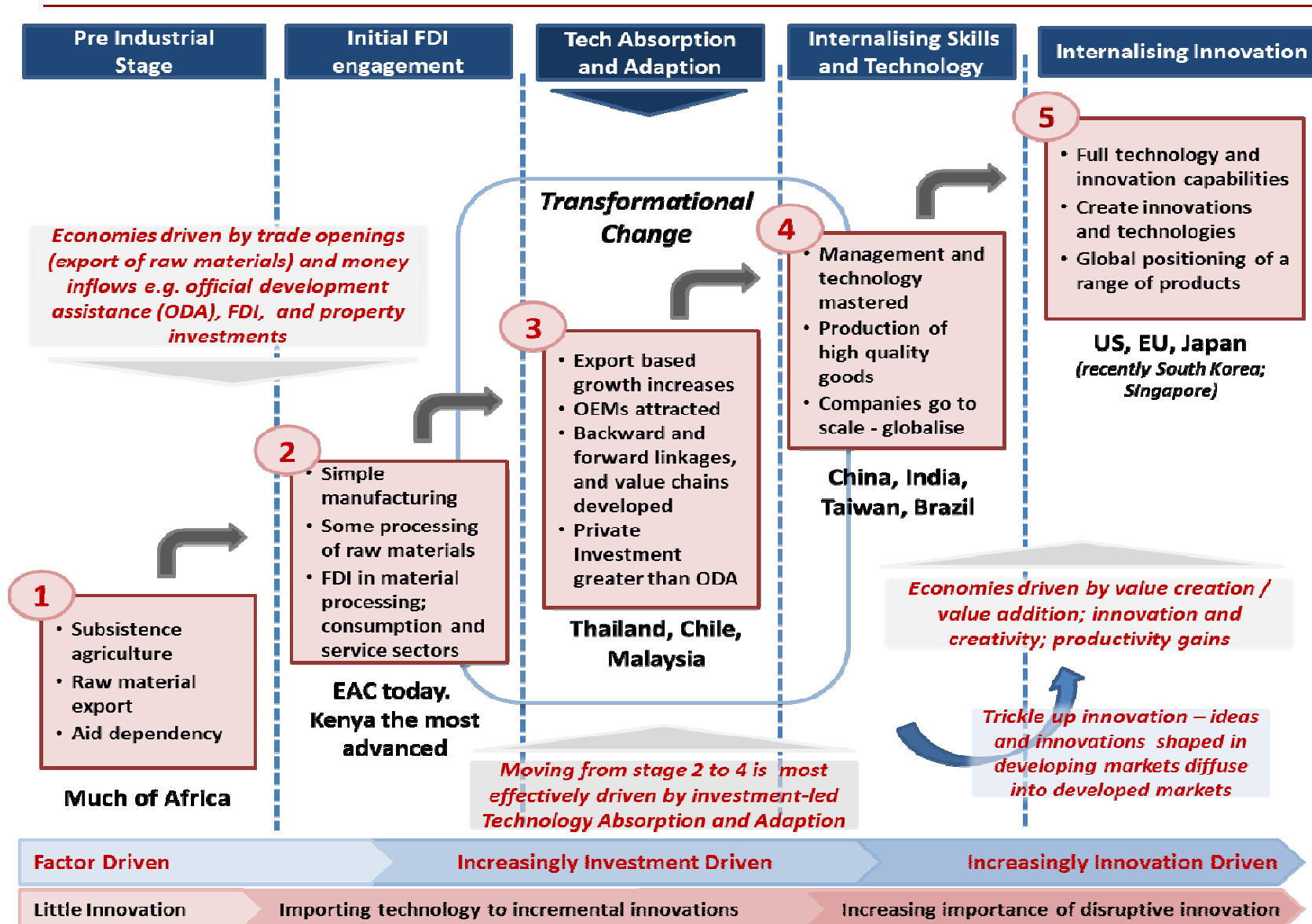
- The role of innovation systems in economic development
- The Kenyan innovation system
 - Role of Government
 - Role of the higher education sector
 - Role of private sector
- Conclusions – challenges, problems and opportunities

The evidence is robust - a well-developed innovation system is essential for countries that wish to succeed in 'catch up'.



Source: Fagerberg, J. and Srholec, M (2007) National innovation systems, capabilities and economic development. University of Oslo TIK Working Paper on Innovation Studies Ref Number: 20071024

Technology absorption and adaption are required to make a 'transformational change' and move up the development ladder

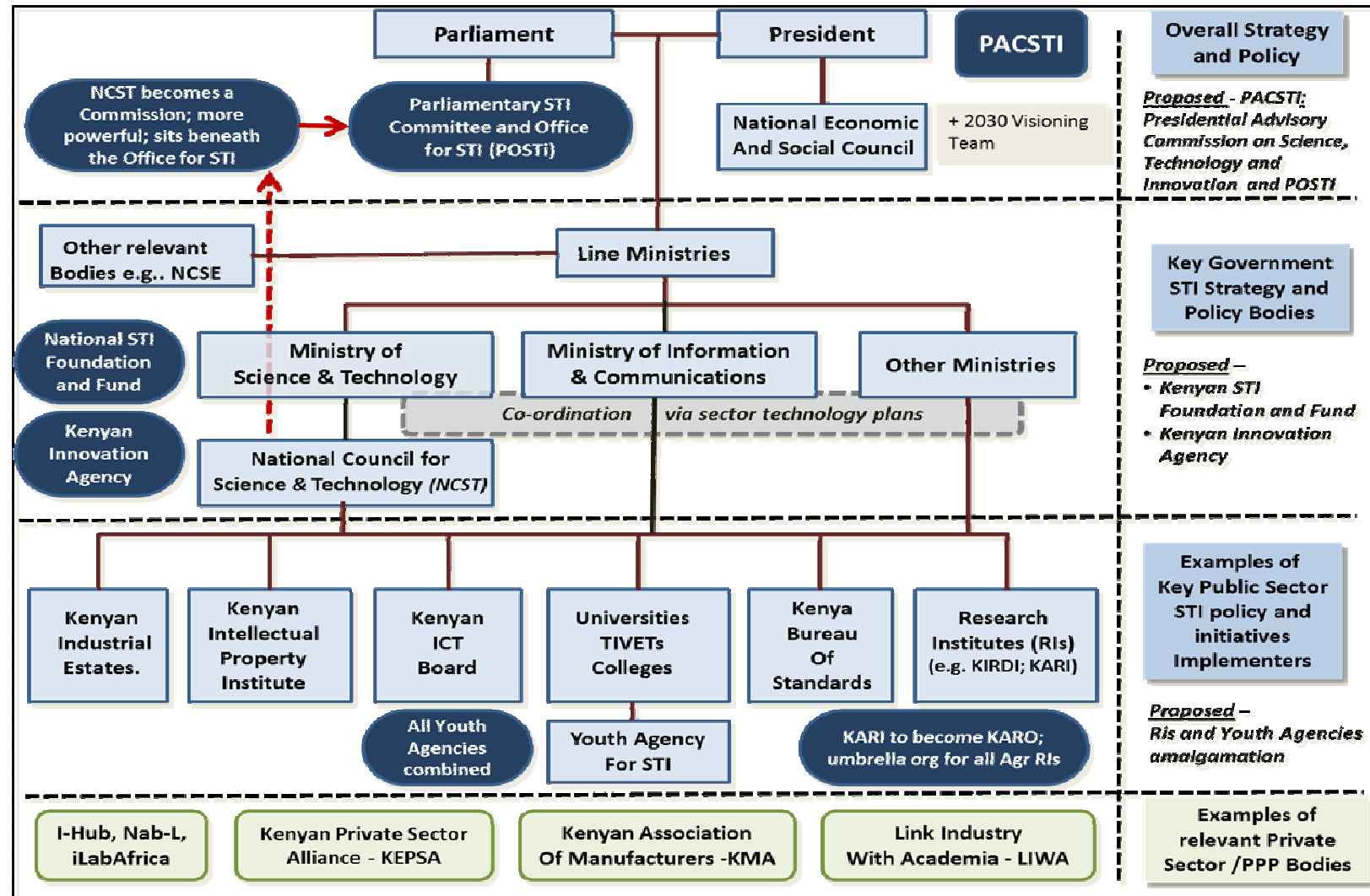


The time is right for Kenya to make the 'transformational change' - based on technology absorption and adaption

- The 'right' conditions are being created:
 - The Kenyan economy is maturing
 - SMEs are growing in number and importance
 - Business and technology skills are developing
 - Increasing evidence of entrepreneurial spirit and business dynamism
- Government is supportive and STI infrastructure is being built, but the innovation system needs to develop further to support transformational change



The Kenyan innovation system



Comprehensivebut disjointed; not collaborative; characterised by ‘budget fights’; and often ineffective

“ A more effective innovation ecosystem is needed... .. links with business are poor..... the university system is petrified.....and we’re not focused..... the NCST (*National Council for Science and Technology*) must change and a Commission with real punch is to be established.....we need to move from being reactive to being proactive.”

Kevit Desai, Chairman of LIWA (Linking Industry with Academia) for 19.06.2012 (interview with SQW)

- Kenyan Government very supportive of STI
 - Relatively ‘dense’ STI institutional landscape
 - Comprehensive policy framework (e.g. Vision 2030)
 - Success with ICT (*Encouraged by Ministry of Information and Communication, and the ICT Board. Mobile banking (M-PESA) and Equity Bank are local success stories*)
- But innovation system often dysfunctional:
 - Institutions act in isolation; rarely collaborate
 - Lack of focus to R&D / STI efforts (*NCST gives grants for a disparate range of research topics often not linked to key sector / cluster development initiatives*)
 - Poor R&D commercialisation track record
 - Lack of business involvement in innovation system
 - Lack of effective IP framework
 - Lack of Government capacities and capabilities (*“most Government Departments still remain clueless about STI”* Dr Julius Muia PS, NESC, 18.06.2012; interview with SQW)

The Kenya innovation system is set to change, but implementation of the proposals is uncertain

“ We (JKAUT), apart from teaching, focus on adaptive research;but we lack the ability to identify key technologies that could be adapted for use in Kenya.....We just don't really know what's out there.”

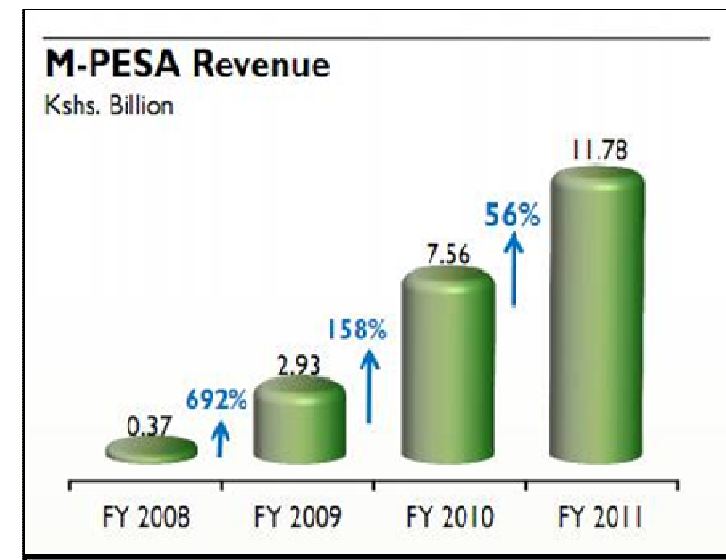
Professor Kahangi, Deputy VC of Jomo Kenyatta university for Agriculture and Technology. 19.06.2012 (interview with SQW)

- Gaps, redundancies and overlaps in innovation system recognised and action proposed, e.g.
 - NCST to focus on research themes, prioritise topics and involve the private sector in R&D selection
 - NCST to evolve into new powerful commission reporting to highest levels of government
 - New Kenyan Innovation Agency to be established
 - National Science Foundation to be established to direct funds into R&D programmes
 - Rationalisation of large number of research institutes (particularly those focused on agriculture)
- The importance of private sector driven STI tends to be overlooked
 - Innovation in the private sector – and particularly in mobile telephony – has had by far the biggest impact on economic development in recent years

Examples of private sector led innovations which have had sector wide impacts



- Money transfer by SMS, launched by Kenya's 'Safaricom' in 2007
- Available to anyone
 - no need for a bank account
 - no joining fee or monthly charges
 - no minimum balance
- Pay As You Go charging model
- Huge Growth - Over 17 million M-PESA accounts registered in Kenya by 2012
 - Covers 40%+ of economically active Kenyans
- Over \$5.4 Billion transacted since launch in 2007 – revenues significant
 - Over 75% of transactions less than \$10
- Currently the most developed mobile payment system in the emerging world



M-PESA derivatives are coming thick and fast

M-Farm is a mobile app targeted at small-scale farmers to enable them to

- get information about the retail price of their products
 - buy their farm inputs directly from manufacturers at favourable prices
 - find buyers for their produce.
- Built by AkiraChix, an all female ICT start-up, incubated in the Nairobi i-Hub

M-KOPA enables people to obtain solar powered electricity for lighting

- A solar kit is provided to the end user who buys credit to use it via M-PESA
- The mobile phone is then used to automatically start the solar batteries for a period of time – more credit buys more time
- The user eventually owns the equipment



Conclusions: challenges, problems and opportunities

- The institutional structures are in place, but many are embryonic and not very effective at present
- Funding is spread too thinly over too many institutions
- Linkages between institutions are limited, and often hindered by budget fights and politicisation
- Universities and Research Institutes are developing their capacity fast, but they suffer from
 - Inadequate (adaptive) R&D capacities
 - Mismatch between curriculum and industry needs
 - Poor commercialisation know how
 - Indifference to research; an administrative basis
 - Lack of connections to international sources of technology

Conclusions: challenges, problems and opportunities

- In the private sector there is hugely variable capacity to innovate
 - Mobile telephony is driving all sorts of innovation which is having a big impact on economic development, from the bottom of the pyramid upwards
 - But many other sectors are stuck with low productivity, inefficient supply chains and strong vested interests which block change
 - The availability of private equity is increasing rapidly, but there is a lack of deal flow and investors and banks are risk averse
- Many of the institutional problems are recognised, and there is an intention to cull and focus, but the outcome remains to be seen
- There are some excellent, highly motivated individuals in the Kenyan innovation system who are having an impact
- Kenya has an entrepreneurial culture, and is increasingly connected internationally, both of which are driving change and innovation
- Economic growth is impressive, and the domestic (EAC) market is large, growing and increasingly prosperous

Contact

Chris Green

Chief Executive

SQW Group

t. +44 (0)2073914100

e. cgreen@sqwgroup.com

w. www.sqw.co.uk