Bridging the Digital Divide and Building Knowledge Societies

6 April 2006, Baltic IT&T 2006, Riga, Leopold Reif
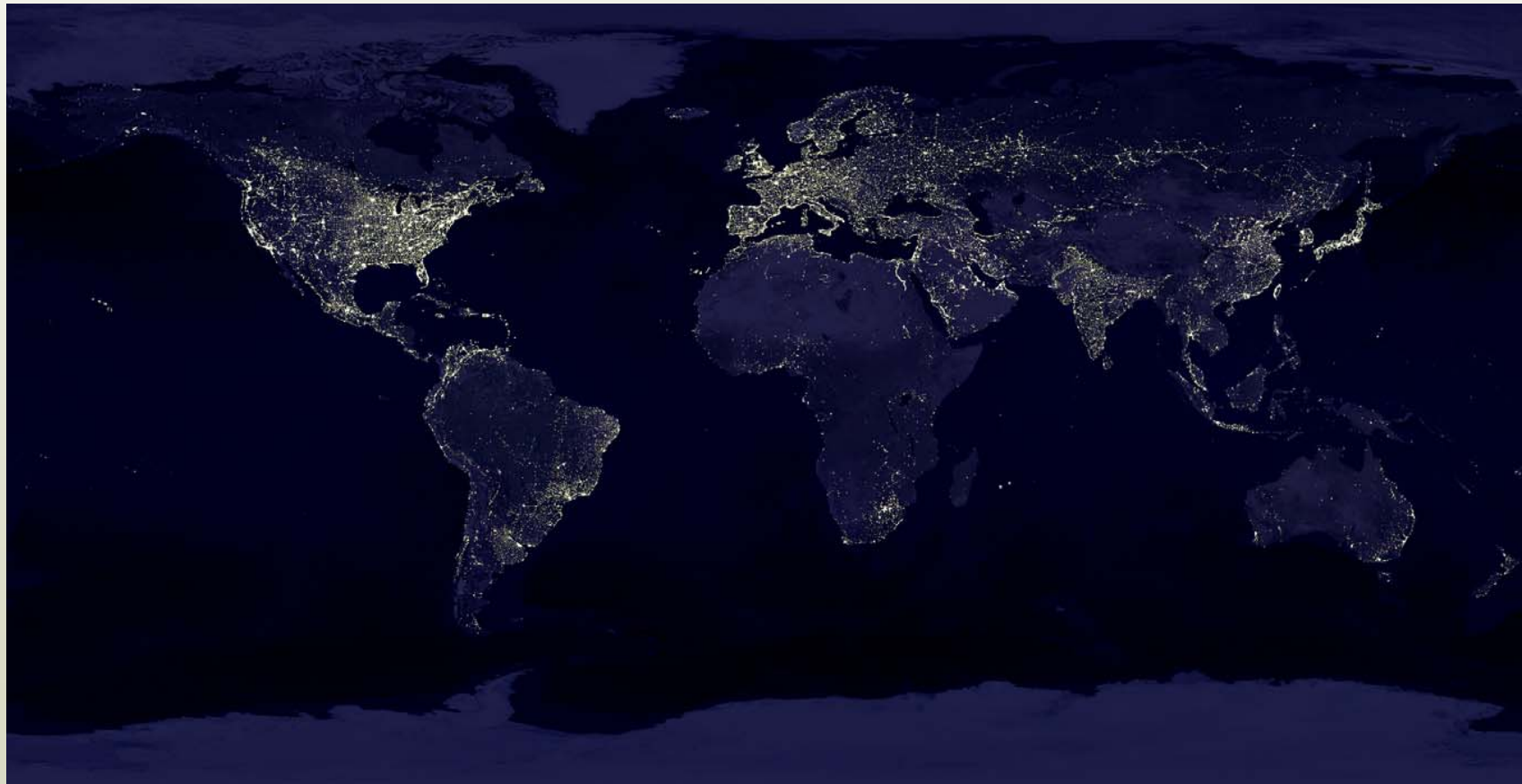

Foto: http://earthobservatory.nasa.gov/Study/Lights
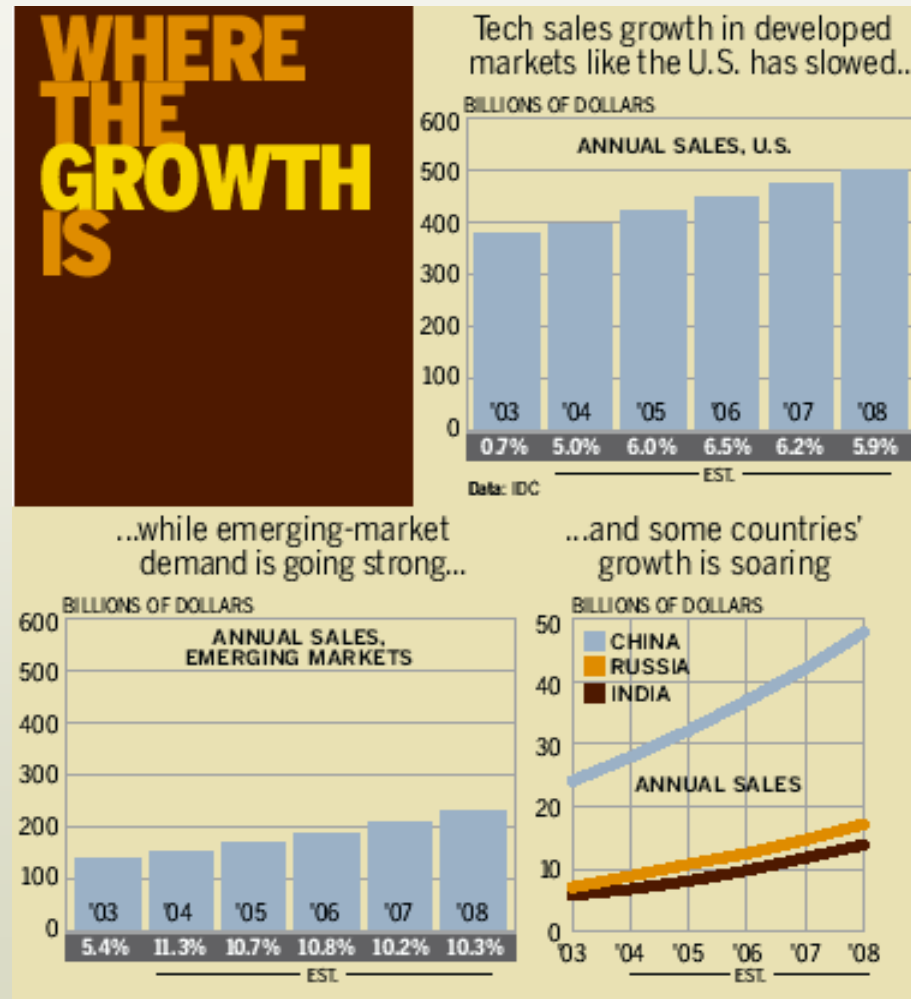
Overview

- Reality check, trends and new markets

- The „ICT for Development" actors: Australia, Japan, the World Bank, USAID

- The Ethiopian case: The ICT infrastructure is being constructed

- The challenges: politics, policies and integrated strategies

- A conceptual framework for building enabled eUniversities in Ethiopia

Reality Check: Development and ICT

- „Development Cooperation" - a multi billion Euro competitive market place with a growing ICT component for accelerating development processes

- The key players in „ICT for Development" since 1995 have been the Governments of Japan, the USA, Australia, and the World Bank

- In 2005 the European Commission has initiated a new „EU Strategy for Africa" that will address the Digital Divide through an „EU-Africa Partnership for Infrastructure" that includes the interconnecting of R&D networks and the opening of EU R&D programmes for African partners.

Reality Check:
The new markets

„Tech companies are scrambling to cash in on what they hope will be the next great growth wave. Led by China, India, Russia, and Brazil, emerging markets are expected to see tech sales surge 11% per year over the next half decade, to $230 billion, according to IDC. What makes these markets so appealing is not just the poor, but also the growing ranks of the middle-class consumers. Already, there are 60 million in China and 200 million in India, and their numbers are growing fast." (1)

(1) Quote and graphic: Business Week, September 27, 2004 http://www.businessweek.com/magazine/content/04_39/b3901013.htm

Reality Check: the infrastructure is being set up in Africa

All photos 2004 in Nigeria: Jigawa State, eGovernment Programm; Benin City University, Campus Internet Centers; Ile Ife, nurses.

Reality Check: ICT capacity building in Egypt, Ethiopia, Nigeria, South Africa and Uganda

Photos: GTZ eLearning workshops, eNigeria 2004 Conference in Abuja, eHealth Project Nigeria.

Trends

- There is a broad acknowledgement that ICTs for the development of Knowledge Societies in developing countries are highly relevant;

- Large scale infrastructure programs network universities und schools in order to increase the reach of education and training through already established institutions;

- Teacher educators and teachers are trained to develop content and services for the new networked institutions;

- One important precondition for sustainability will be the development of a service infrastructure;

- The new EU strategy will need to complement the infrastructure programmes with the support of service development.

The „ICT for Development" actors: World Bank

- Budget of US$ 20 billion p.a.;
- ICTs are a cross-cutting tool for all projects;
- US$ 1 - 2 billion p.a. are spent on ICTs within the sectoral programs; US$ 4 billion are spent on educational programs, ca US$ 400 millions on ICT enhanced education and training (1);
- The development of knowledge societies is seen as a core element in the fight against poverty;
- ICT is seen as a key for allowing access to education and training;
- Further activities: the Development Gateway, the Global Development Learning Network with 84 centers, the Virtual Colombo Plan, the African Virtual University.

(1) See the estimations of InfoDev in 2001:

http://www.infodev.org/library/WorkingPapers/dalywp.pdf

The „ICT for Development" actors: Australia

The "Virtual Colombo Plan" – a joint program of the World Bank and the Australian government with a budget of US$ 750 million.

Focus: ICT supported education through helping already established programs such as the African Virtual University. Australian IT companies and Australian universities provide the services.

The „ICT for Development" actors: Japan 2000 - 2005

During the G8 Summit in July 2000 in Okinawa, Japan announced the "Comprehensive Development Package" with a budget of US$ 15 billion devoted for "ICT for Development" in education and training".

This 5 year program had four aims:

1.) Raising awareness and contributing intellectually to policy and institution building;

2.) Developing and training of human resources;

3.) Building IT infrastructure and providing assistance for network establishment;

4.) Promoting the use of IT in development assistance.

The „ICT for Development" actors: Japan 2005 - 2010

What's next? The Asia Broadband Program.

The "Asia Broadband Program" is an action program initiated by the Japanese government to promote deployment and use of broadband in Asia.

The aim: Ensure broadband access for all people in Asia. Transforming Asia into a leading information hub.

eGovernment and eLearning are key applications.

The „ICT for Development" actors: USAID

- For USAID ICT is a "cross-cutting tool" and integrated in all programs;

- In 2003 about 90% of all 82 USAID Missions had ICT components, comprising 351 separate ICT for Development activities worldwide;

- In the fiscal year 2002/2003 the total spending on these ICT project components was US$ 440 million, with US$ 200 million from USAID funds and US$ 240 million from outside contributors;

- About 30% of the activities focus on ICT as a sector and 70% on ICT as a development tool;

- Education is one key sector in which USAID applies ICT.

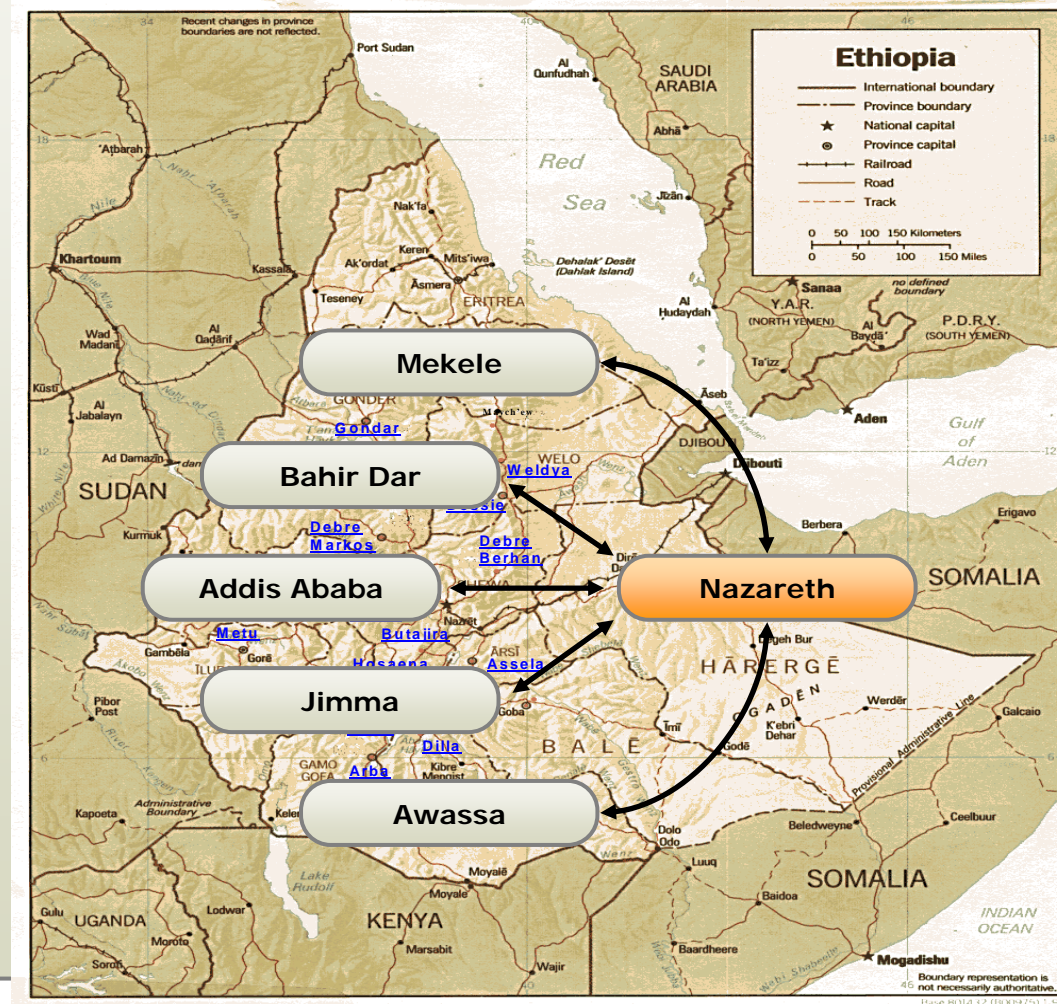## The Ethiopian Case: the infrastructure is being constructed

- WoredaNet: 600 local government and administration units (Woredas) are networked and equipped with videoconferencing facilities;

- SchoolNet: 500 secondary schools (including TVET schools) are networked and equipped with learning centers;

- AgriNet: 30 agricultural centers are networked by the end of 2005;

- HealthNet: it is planned to network all regional hospitals and to introduce tele-medicine applications;

- In 2005/2006 Cisco and Ethiopian partners are building the national Internet infrastructure with a 10.000 km optic fibre cable backbone, becoming the basis for the WoredaNet, SchoolNET, AgriNet and HealthNet.

The challenge is now to build the necessary human resources so that the technical infrastructure and applications can be maintained and used.

The Ethiopian Case: A National University Network

In Ethiopia all universities, 500 schools and 600 local authorities are networked and equipped with eLearning and communication centers. New vocational training programs are established in order to provide a qualified workforce for the maintenance and support of the new infrastructures.

The challenge: development of human resources in the educational institutions so that the new ICT infrastructure can be used efficiently.

Need for consensus building, coordination and a common strategy

eLearning for the Ethiopian Banking and Insurance Sector

eLearning for the Ethiopian Telecom

The Dutch "ICT-development Higher Education Institut" Project

GTZ-IS: Building 12 new Universities

100 Cisco Academies and Cisco ICT projects

ECBP: GTZ, defining the role of eLearning in Higher Education

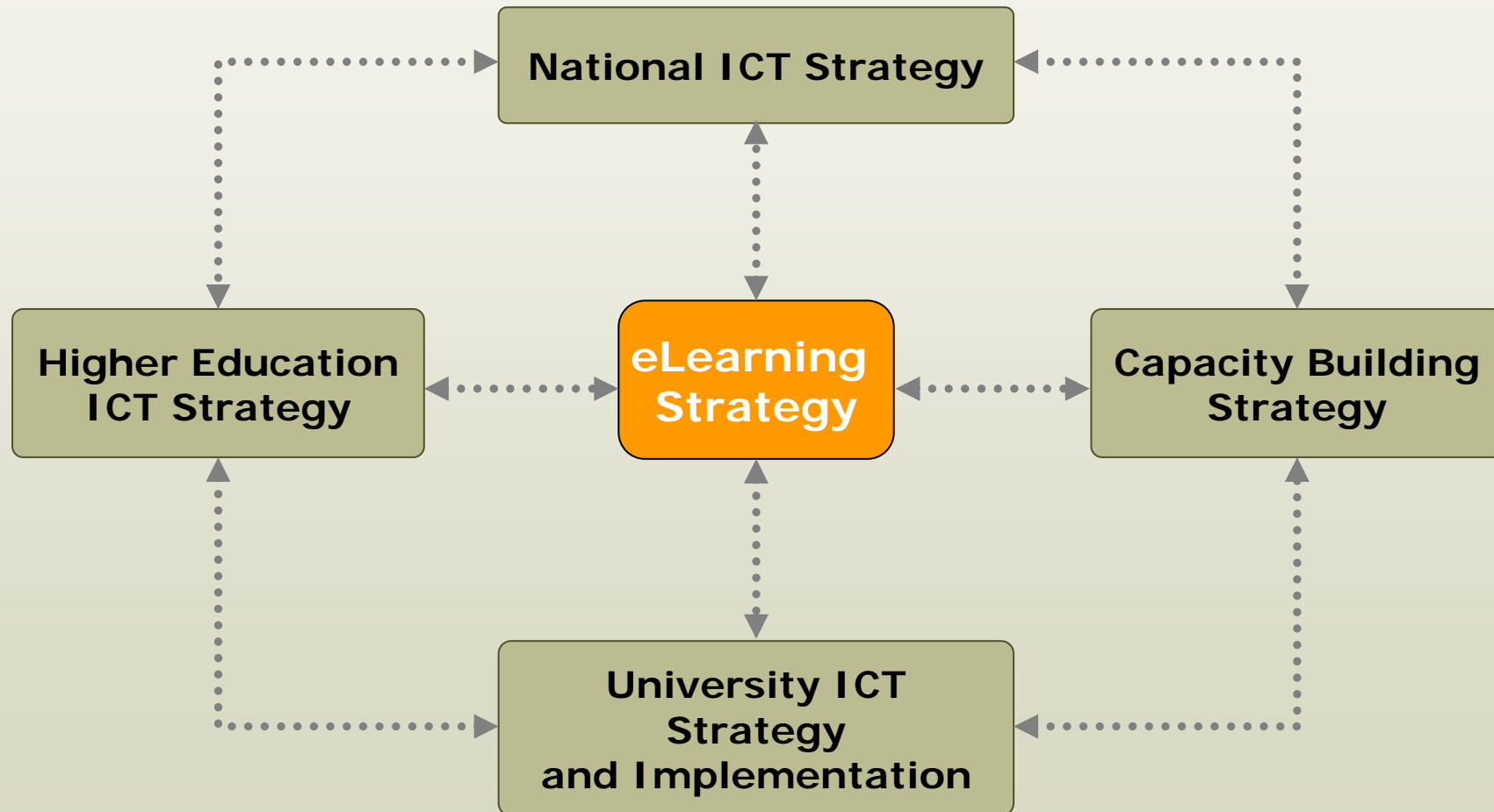ICT-AD: a World Bank programme with a strong DED engagement

The Ethiopian Case: Many ICT projects and many projects with ICT components, but lack of a common strategy.

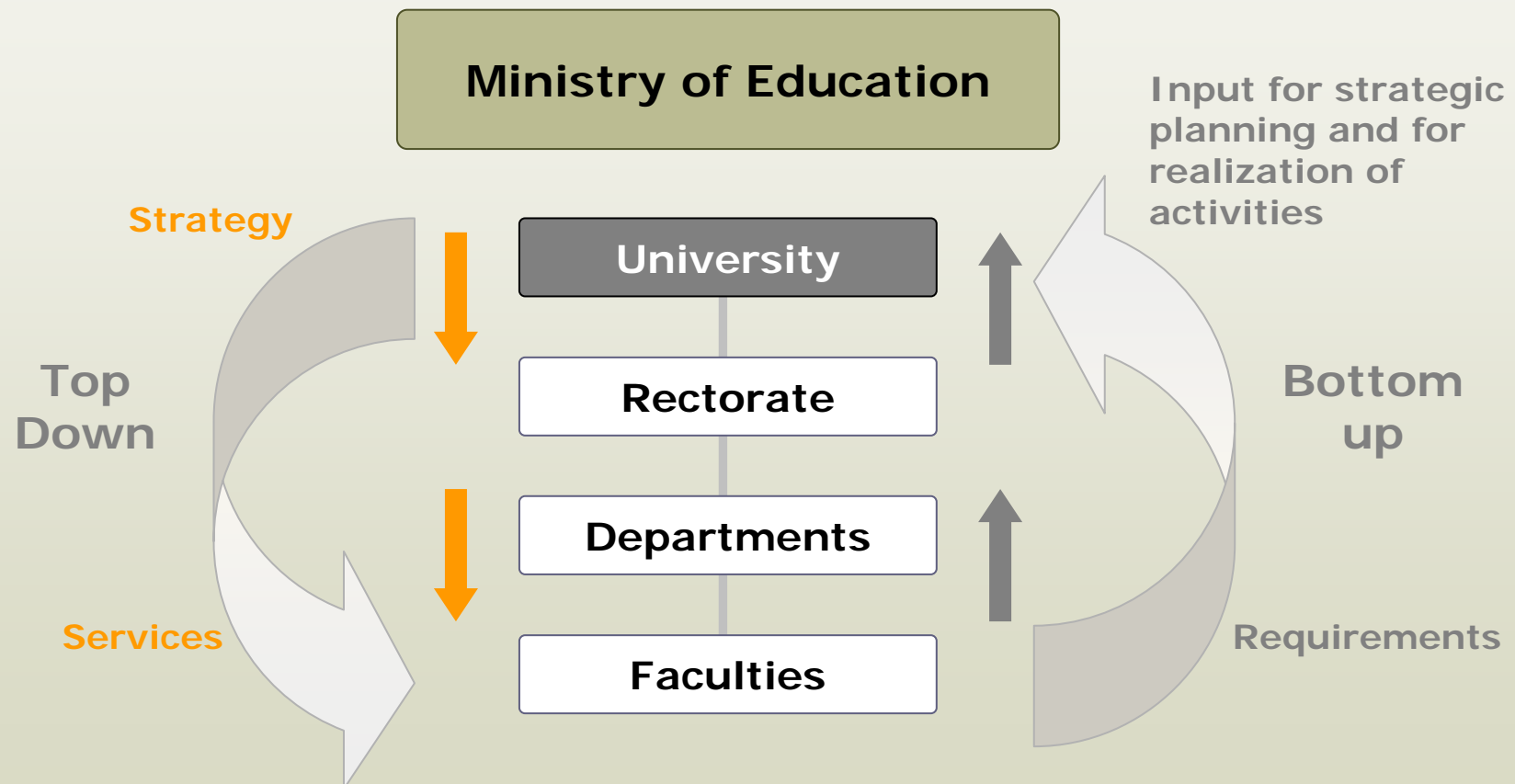# The Challenge: Building an eLearning service framework

	Infrastructure	**Consulting**	**Training**
Learning: **Learning Centers**	• Computers • Media • Learning Material	• Procurement • Learning Software • Support of students	• Management of Learning Center • Advise and support
Teaching: **Faculty**	• Computers • Media • Teaching Material	• Pedagogy • Concepts • Production • Implementation	• Pedagogy • Concepts • Production • Implementation
Media: **New Media Center**	• Video production • Multimedia production • MM-Software	• Production of MM-material • Media Technology	• Videoproduction • MM-Production (Web, Flash, Mpeg..) • Media Design
Technology: **Computer Center**	• Platforms • Servers (mail, Forum, Chat, Web) • Videoconferencing	• Technologies • Hard- and Software-procurement • Design of learning centers	• Applications • Standard Software • Internet • Platforms • Communication Tools

Adopted from a model of the University of Basel, Switzerland; Dr. Gudrun Bachmann
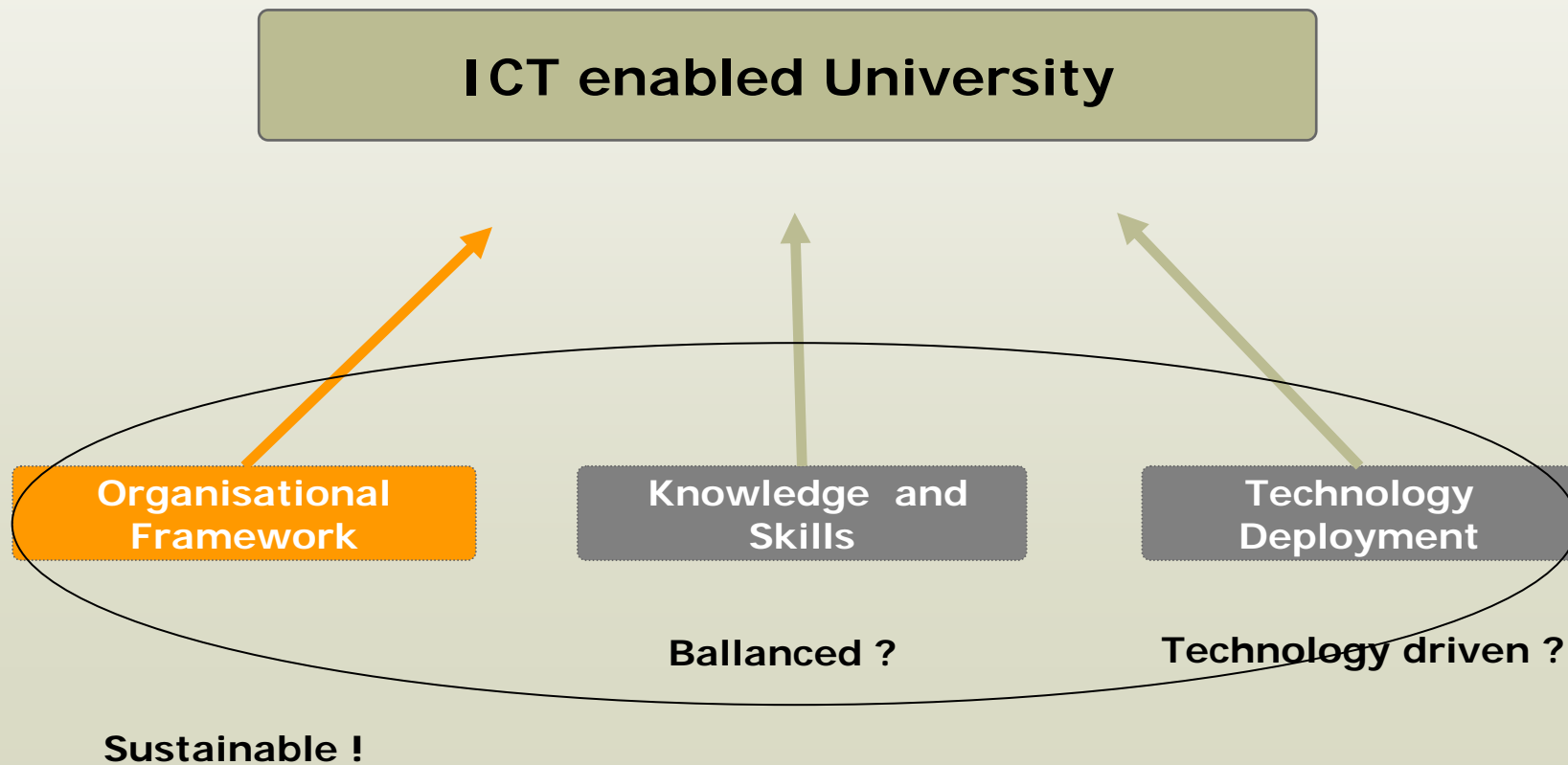
The big void in many developing countries:
no strategy integration

National ICT Strategy

Higher Education ICT Strategy

eLearning Strategy

Capacity Building Strategy

University ICT Strategy and Implementation

The big void … : A need for institutionalising processes and engaging all actors

Ministry of Education

Input for strategic planning and for realization of activities

Strategy

University

Top Down

Bottom up

Rectorate

Departments

Services

Requirements

Faculties

Three capacity building pillars for achieving ICT based Knowledge Building Institutions

ICT enabled University

Organisational Framework

Knowledge and Skills

Technology Deployment

Ballanced ?

Technology driven ?

Sustainable !

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Outlook: The „enabled" eUniversities in Ethiopia

National eLearning Competence Center

Experts/ Faculty

Experts/ Faculty

Experts/ Faculty

Courses

Platform

Students

Teaching Staff

Remote locations

Customers

People

Institutions

Individuals

Tools

Processes

Course production

Teaching and learning

Administration and Enrollment

Support and quality assurance

Financing of projects

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Sources and contact

The new EU strategy for Africa: http://europa-eu-un.org/articles/en/article_5453_en.htm

The World Bank: http://www.worldbank.org

The "Virtual Colombo Plan": http://www.ausaid.gov.au/hottopics/topic.cfm?Id=326_3216_5474_6437_2910

The "Global Development Learning Network": http://www.gdln.org

The Development Gateway: http://www.developmentgateway.org

The African Virtual University: http://www.avu.org

The Japanese "Comprehensive Cooperation Package": http://www.mofa.go.jp/policy/economy/it/oda/role0106.html

The Asia Broadband Program: http://www.dosite.jp

The German eLearning project Crystal: http://www.crystal-elearning.net

Hoffmann & Reif Consultants: http://www.hoffmann-reif.com

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Building Knowledge Societies - The Promises of eLearning

- Access for Learners
- Empowerment for Faculty and Researchers

Learners:

The Millenium Goal „Education for All" will only be achieved when
ICTs provide access and reach.
„Your're not going to train 15 million teachers just by adding a few
seats to a traditional teacher training facility." (Sir John Daniels)

Faculty, Researchers:

eLearning empowers local knowledge owners to represent their knowledge –
such as courses and research – directly and by themselves and to offer new
services.