THE UNITED NATIONS COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT

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Geneva

Contribution by

United States Agency for International Development,
Ghana Investment Fund for Electronic Communication,
COMPARTEL, and
Universal Service Fund Company

Extending Rural Access, Universal Service
& Rural Build Out - V2.0

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Extending Rural Access, Universal Service & Rural Build Out – V2.0

23 May 2012

Perhaps better stated….

…Plus =

THE FINAL BILLION +

- **+ 1B Voice**
- **+ 4-4.5B Broadband**
- **+ Affordability**
- **+ Sustainability**
- **+ Adding Value Beyond Access**

Broadband Commission Targets for 2015

Target 1: **Making broadband policy universal**
...national BB plan or BB included in USAF

Target 2: **Making broadband affordable**
...less than 5% average income

Target 3: **Connecting homes to broadband**
...40% households in developing countries
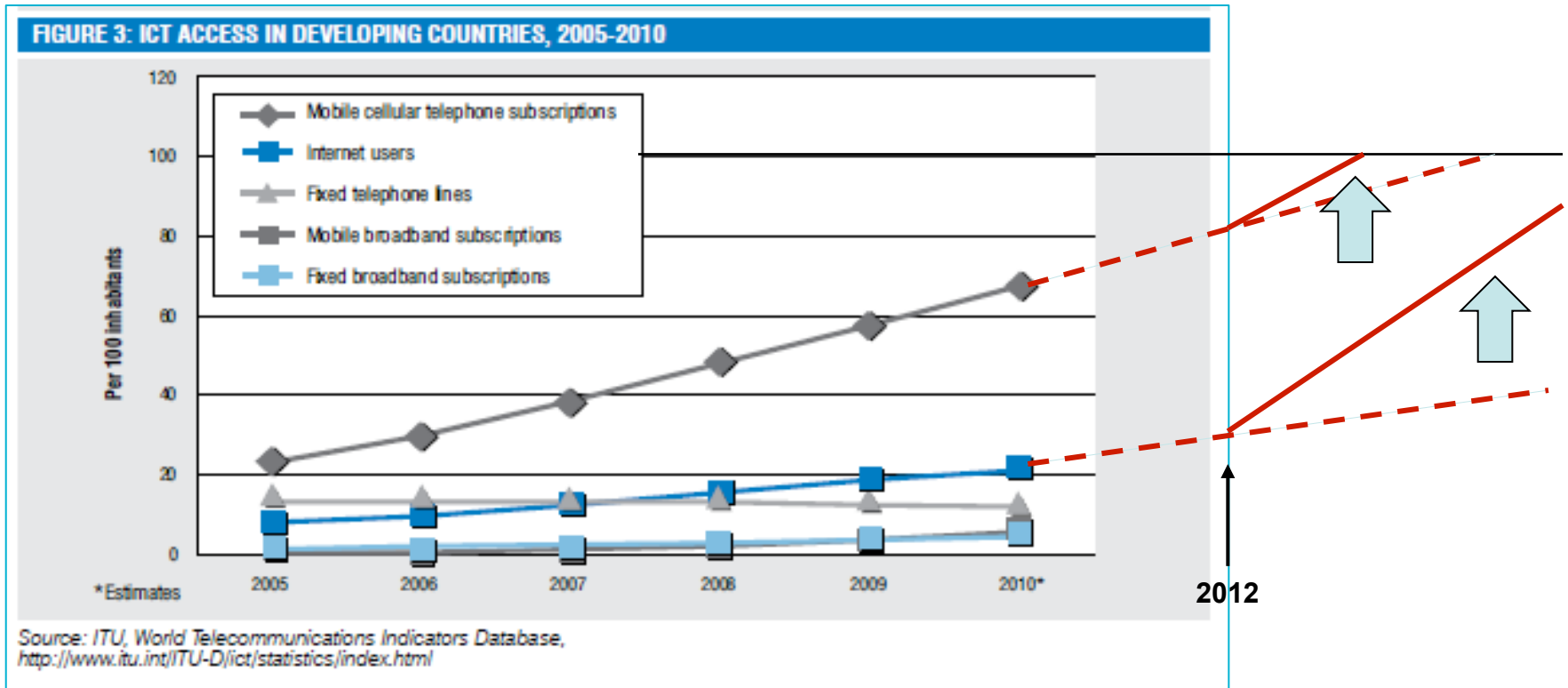
Target 4: **Getting people online**
...60% world wide; 50% developing; 15% LDCs
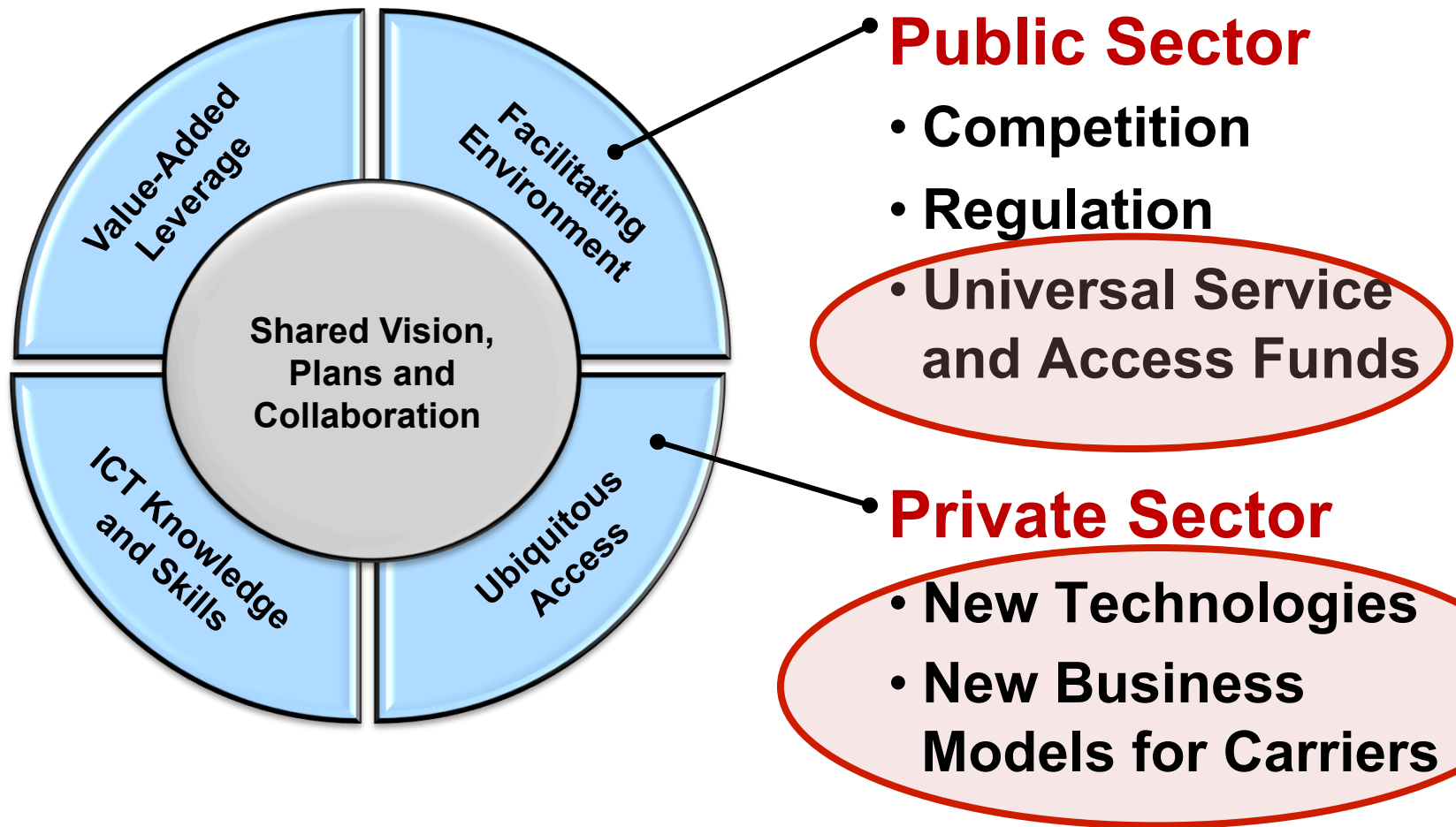
WSIS Targets for 2015

1. **Connect** villages
2. **Connect** universities, colleges, secondary schools and primary school
3. **Connect** scientific and research centers
4. **Connect** public libraries, cultural centers, museums, post offices and archives
5. **Connect** health centers and hospitals
6. **Connect** all local and central government and websites and e-mail addresses
7. Primary and secondary school curricula
8. Access to television and radio services
9. Development of content in all world languages on the Internet
10. Half the world's inhabitants have **access to ICTs**

The Final Billion +

FIGURE 3: ICT ACCESS IN DEVELOPING COUNTRIES, 2005-2010

Legend:
- Mobile cellular telephone subscriptions
- Internet users
- Fixed telephone lines
- Mobile broadband subscriptions
- Fixed broadband subscriptions

Y-axis: Per 100 inhabitants

X-axis: 2005, 2006, 2007, 2008, 2009, 2010*, 2012

*Estimates

Source: ITU, World Telecommunications Indicators Database,
http://www.itu.int/ITU-D/ict/statistics/index.html

...Ecosystem for Change

Public Sector
- **Competition**
- **Regulation**
- **Universal Service and Access Funds**

Private Sector
- **New Technologies**
- **New Business Models for Carriers**

Diagram center: **Shared Vision, Plans and Collaboration**

Surrounding segments: Value-Added Leverage · Facilitating Environment · ICT Knowledge and Skills · Ubiquitous Access
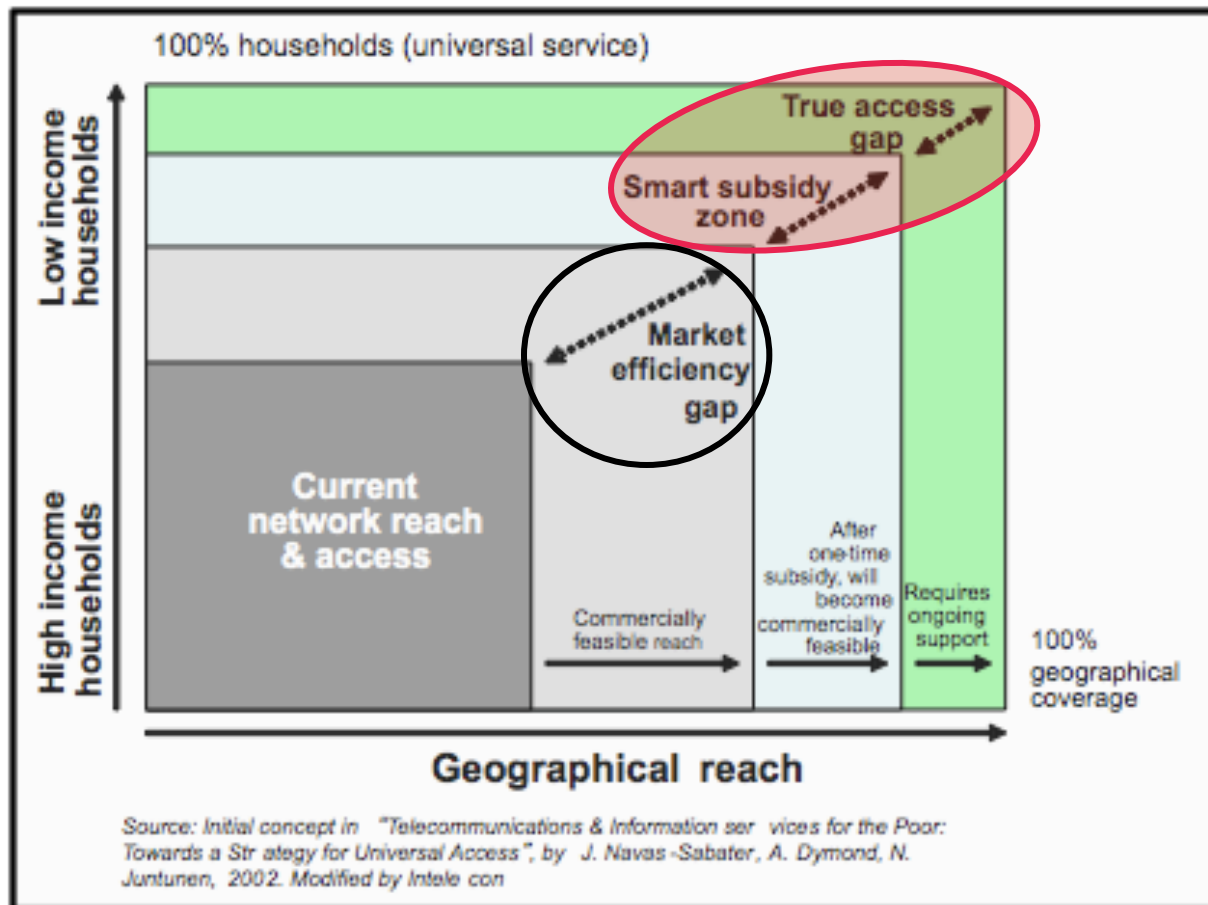
Today's Session:

✓ **Setting the Stage**

❖ **Universal Service and Access Funds**

   ❖ **Ghana – *Kofi Attor***

   ❖ **Colombia – *Guillermo Cruz***

   ❖ **Pakistan – *Parvez Iftikhar***

   ❖ **Recap & V2.0 – *David Townsend***

❖ **New Tech & Build Out – *Darrell Owen***

❖ **Group Discussion – All of Us**

Universal Service and Access Fund

Source: Initial concept in "Telecommunications & Information services for the Poor: Towards a Strategy for Universal Access", by J. Navas-Sabater, A. Dymond, N. Juntunen, 2002. Modified by Intelecon

Kofi Attor

Ghana USF: GIFEC

1. **Overview of USF Projects: 2009 to Date**
2. **Public Private People's Participation (P4)**
3. **Specific Project Accomplishments**
4. **What is Ongoing**
5. **Adding Value to Projects by Providing Content**
6. **Challenges to Ownership & Sustainability**
7. **The Way Forward for USF in Ghana**

Guillermo Cruz

Colombia USF: Compartel

1. **Started in 1999; Approach: PPP, Top-Down**
2. **Voice-to-Broadband: 25,000 School-Libraries and 2,700 Telecenters**
3. **Backbone Projects: Fiber to Island and 4 States; Failed Satellite Project**
4. **Lessons 1990-2010: Budget execution, Scale, Visibility, Private Participation**
5. **But: Some inefficiencies, Low Use, Inflexibility, and Sustainability issues**

Colombia USF: Compartel

6. **Now: Vive Digital Plan (VDP) 2010-2014: National Fiber Project**
7. **VDP Access Projects: Areas with/without Fiber Backbone – Goal 99% Population**
8. **VDP Mobile 3G-4G Infrastructure Expansion Project**
9. **Challenge 1 – Articulation: VDP Projects National/Regional Initiatives**
10. **Challenge 2 – Sustainability: Efficiency, Demand, Empowering Communities**

Parvez Iftikhar

Pakistan USF:

1. **The First 4 ½ Years**

The First 4 ½ Years

Program	Served	Total Un-served
Rural Telephone	**3,500** Villages	10,000
Optic Fibers	**58** Sub-district HQs + **11** Towns (4,000 kms of OFCs)	115
Broadband	**284** Towns (~ **350**k subs)	450
For Education	**1,042** HSSs, Colleges & Libraries	2,000
For Communities	**291** "Broadband Centers"	700
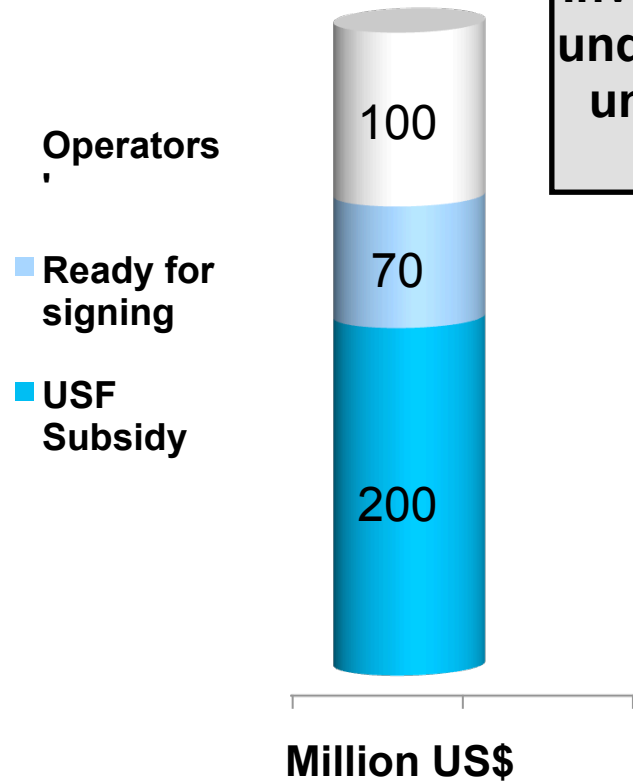
Pakistan USF:
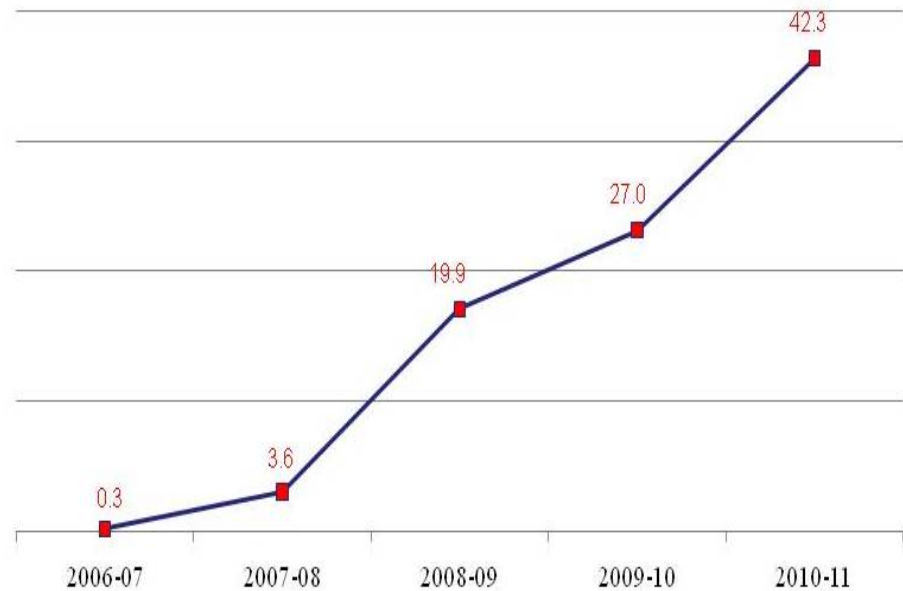
1. **The First 4 ½ Years**
2. **What's Been Accomplished**

Pakistan USF:

1. **The First 4 ½ Years**
2. **What's Been Accomplished**
3. **What's On Going: New Projects**
4. **Challenges**

Challenges for Pakistan USF

Chachro
Umerkot

- Reluctant Cellcos - Areas have low revenues & high costs
- War-like situation in some "USF Areas"
- Reluctant smaller operators avoiding "getting in the hassle"
- Perception - since it involves hundreds of millions, there must be wrong-doing!
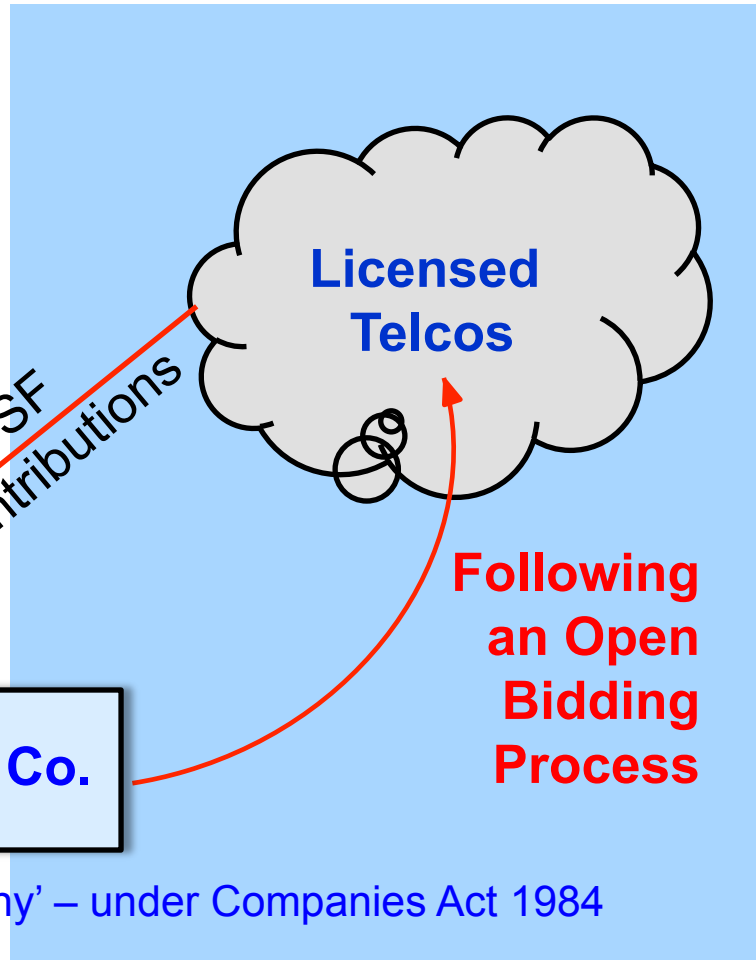- Fear - Government will take the funds away!
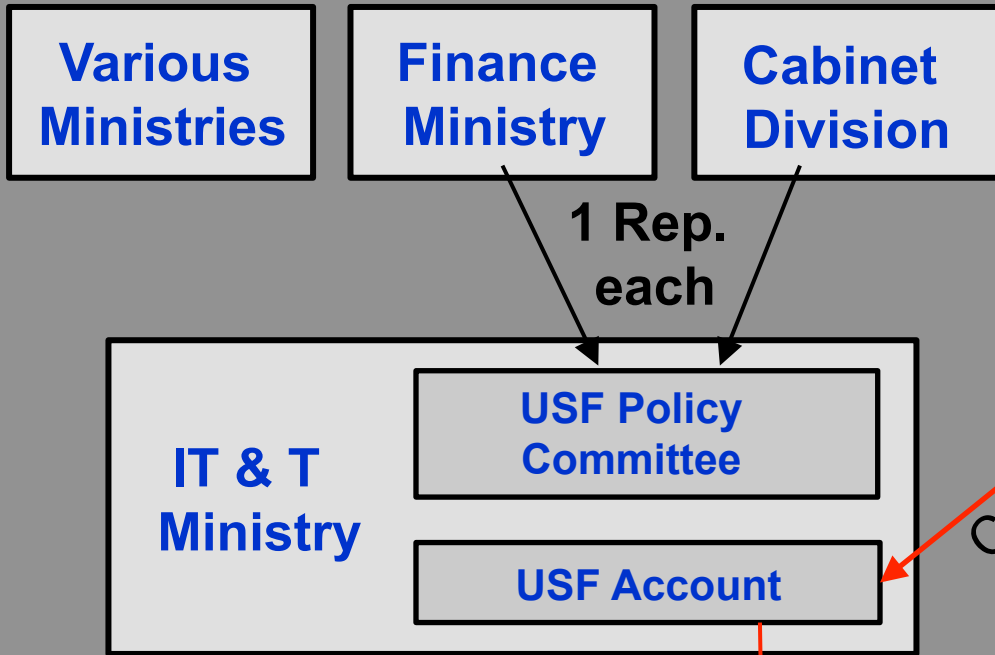
Pakistan USF:

1. **The First 4 ½ Years**
2. **What's Been Accomplished**
3. **What's On Going: New Projects**
4. **Challenges**
5. **Secrets to Success: The Model**

The Model: How it Works

Public Side

Private Side

Various Ministries	Finance Ministry	Cabinet Division

1 Rep. each

IT & T Ministry

- USF Policy Committee
- USF Account

Licensed Telcos

USF Contributions

Following an Open Bidding Process

USF Co.

A 'Company' – under Companies Act 1984

Funds come from Operators ….and go back to them! Government acts as a trustee!

A Balanced Board: With ALL Stakeholders

PUBLIC

PRIVATE

USF Company Board of Directors

PUBLIC	PRIVATE
Minister of IT	Nominee Cellular SPs
Federal Secretary IT	Nom. Fixed-Line SPs
Member Telecom MoIT	Nominee ISPs
Chairman PTA	Nom. Consumer Groups

CEO USF

Minister of IT	*Political Leadership*
Federal Secretary IT	*Bureaucrat*
Member Telecom MoIT	*Technocrat*
Chairman PTA	*Telecom Regulator*
Nominee of Cellular Telcos	*Nominee: Cellular Mobile Operators*
Nominee of Fixed Line Telcos	*Nominee: Fixed Line Operators*
Nom. of Internet Service Providers	*Nominee: Internet Service Providers*
Nominee of Consumer Interests	*Nominee: Consumer Interest Groups*

Pakistan USF

1. **The First 4 ½ Years**
2. **What's Been Accomplished**
3. **What's On Going: New Projects**
4. **Challenges**
5. **Secrets to Success: The Model**
6. **Secrets to Success: The Implementation**

The Implementation: Key Principles & Policies

Open, Transparent Auctions

Technology Neutral

Infrastructure Sharing - No local Monopolies

Performance Guarantees

Lien on Equipment

Cap on total accumulated Subsidies

Retail Tariffs same as in rest of the country

Six-monthly Audits for USFCo.

David Townsend

USF: Version 2.0

1. **Market Gap vs. True Access Gap**
2. **Universal Broadband?**
3. **Sustainability: The New Imperative**
4. **Fostering local full-service networks**
5. **Linking schools, e-government, e-health**
6. **Rethinking the role of Telecenters**
7. **Demand-side stimulation: capacity and awareness building**
8. **Subsidies for ICT devices**
9. **Applications and Content support via USF**
10. **USF as Venture Capital / Investment Fund**
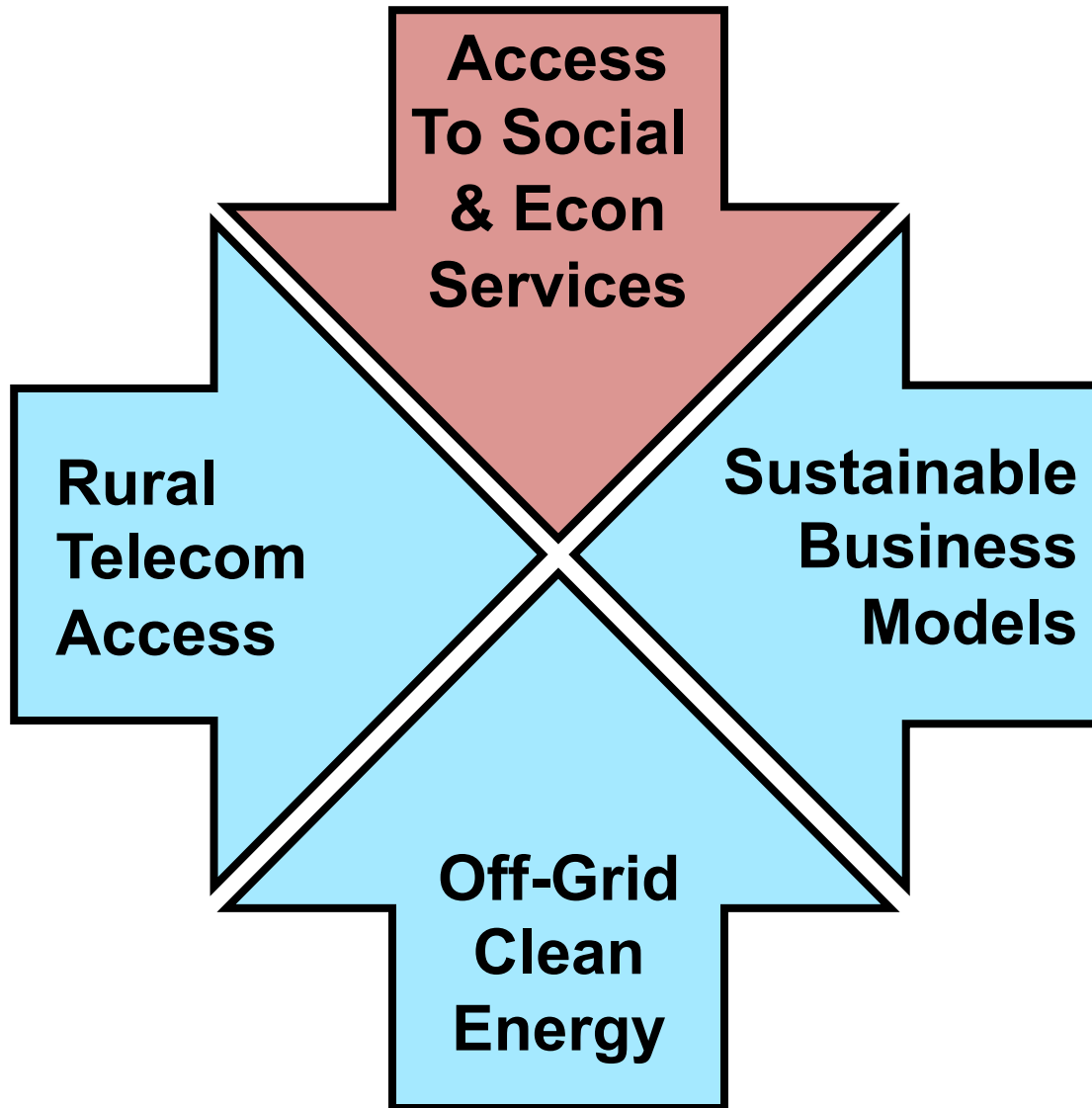
Darrell Owen

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New Tech & Build Out

1. **Backhaul** (supporting convergence)**:**
   - ❖ *Shared Fiber Backbone*
   - ❖ *Unlicensed Wireless Terrestrial Backhaul*
   - ❖ *Ku and Ka Band Satellites*
2. **Small Cells** – *Low Cost & Low Power Demand*
3. **Off-Grid Clean Energy Solutions**
4. **Base Stations as Anchor Tenants for Clean Community Electricity**
5. **Smart Devices and Cloud Services**
6. **Innovative Business Models:**
   - ❖ *MicroTelco Franchise Model*
   - ❖ *Shared Distribution Networks*
   - ❖ *Build-Own-Operate, Build-Own-Transfer*

Today's Session:
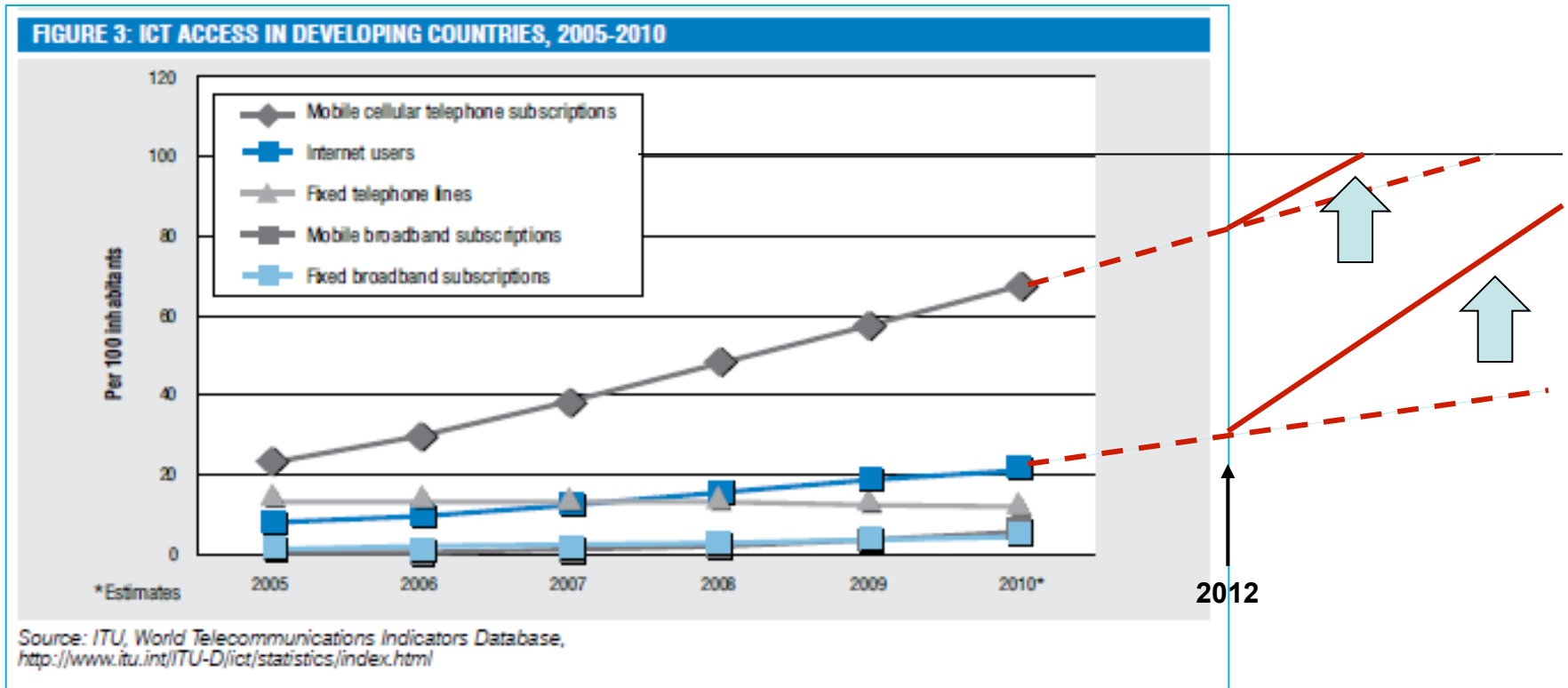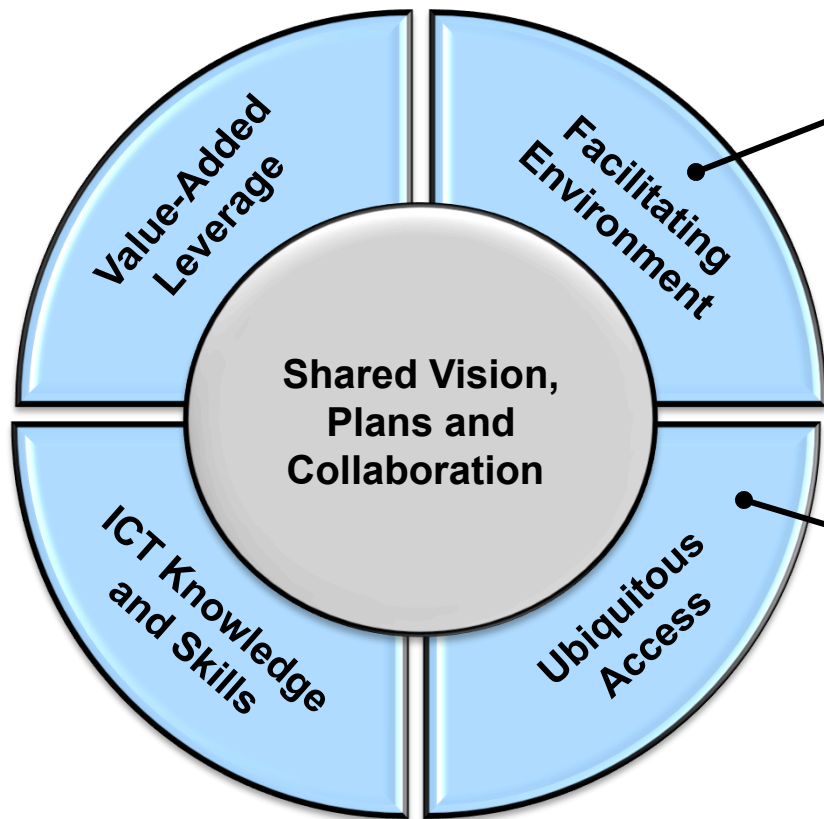
✓   **Setting the Stage**

✓ **Universal Service Programs**

   ✓   **Ghana –** *Kofi Attor*

   ✓   **Colombia –** *Guillermo Cruz*

   ✓   **Pakistan –** *Parvez Iftikhar*

   ✓   **Recap & V2.0 –** *David Townsend*

✓ **New Tech & Build Out –** *Darrell Owen*

❖ **Group Discussion – All of Us**

Can We Bend the Trend?

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Per 100 inhabitants

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- Internet users
- Fixed telephone lines
- Mobile broadband subscriptions
- Fixed broadband subscriptions

*Estimates

2005 2006 2007 2008 2009 2010*

2012

Source: ITU, World Telecommunications Indicators Database,
http://www.itu.int/ITU-D/ict/statistics/index.html

What Else Is Needed?

Diagram (circular, four quadrants around center):
- Value-Added Leverage
- Facilitating Environment
- ICT Knowledge and Skills
- Ubiquitous Access
- Center: **Shared Vision, Plans and Collaboration**

Public Sector
- **Competition**
- **Regulation**
- **Universal Service and Access Funds**

Private Sector
- **New Technologies**
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Conversation!!

THANKS!!

- ❖ *UNCTAD/CSTD*
- ❖ *Kofi Attor*
- ❖ *Guillermo Cruz*
- ❖ *Parvez Ishtikar*
- ❖ *David Townsend*
- ❖ *Audience*