



Working Group on Access (connectivity) and Affordability

By
R.S. Sharma
Chairman , TRAI

8th June, 2017



Work on activities so far!!



- **ToR Finalised**
- **Conference call on WG on Partnerships on May 18, 2017**
- **Conference call of m-Powering WG on Access and Affordability on June 1, 2017**
 - Participants
 - **Mr Bocar Ba, CEO, Samena Telecommunications Council**
 - **Mr Tim Unwin, Professor, University of London**
 - **Mr Andrew Beard, COO, Vanu, Inc.**
 - **Ms Elizabeth Oluoch, Policy Advisor, Internet Society.**



Activities



1. Identify **KEY STAKEHOLDERS** and new players,
2. Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access
3. Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,
4. **RESEARCH INNOVATIVE INCENTIVE MECHANISMS** to extend access, connectivity and uptake
5. Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.),
6. Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population,
7. Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group,
8. Draft a **WORK PLAN** for concrete actions,
9. Carry out the activities that will support the implementation of the Initiative work plan.



1. Identify **KEY STAKEHOLDERS** and new players

- Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access
- Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,
- **RESEARCH INNOVATIVE INCENTIVE MECHANISMS** to extend access, connectivity and uptake
- Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.),
- Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population,
- Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group,
- Draft a **WORK PLAN** for concrete actions,
- Carry out the activities that will support the implementation of the Initiative work plan.



1. Key Stakeholders and New Players



- **Federal Government** – for universal access planning and implementation, incentives to encourage use of digital services,
- **Local Government** – for right of way permissions, and faster execution
- **Sector Regulator** – for enabling environment, ease of doing business, and making available spectrum at affordable rates
- **Competition Regulator** – to promote fair and free competition
- **Private Sector** – for open competition, investment in infrastructure, and expansion of coverage of services
- **Local Operators** – for extending the reach of services to rural and remote areas
- **Financial Institutions** – for long term investment in the networks, and credit to low income populace to increase revenue generation potential for them
- **Startups** – for digital applications to generate demand for broadband, and innovative ways to improve affordability
- **Consumer Advocacy Groups** – for raising consumer awareness and protecting their rights



- Identify **KEY STAKEHOLDERS** and new players,

2. Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access

- Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,
- **RESEARCH INNOVATIVE INCENTIVE MECHANISMS** to extend access, connectivity and uptake
- Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.),
- Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population,
- Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group,
- Draft a **WORK PLAN** for concrete actions,
- Carry out the activities that will support the implementation of the Initiative work plan.



2. Technologies and Mobile Devices for Affordable Access



- **Wireless Cellular Networks**
 - WCDMA
 - LTE
- **Wi-fi**
- **Unlicensed Spectrum** for research and innovation
- **TV white space spectrum** for backhaul links
- **Low cost Mobile Devices** for Internet Telephony and VoIP call
- **Low cost Access Points**



1. Identify **KEY STAKEHOLDERS** and new players,
2. Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access
3. Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,
4. **RESEARCH INNOVATIVE INCENTIVE MECHANISMS** to extend access, connectivity and uptake
5. Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.),
6. Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population,
7. Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group,
8. Draft a **WORK PLAN** for concrete actions,
9. Carry out the activities that will support the implementation of the Initiative work plan.



3. Technical, Regulatory and Commercial barriers



- **Access to international gateways** at competitive prices for internet access
- **Lack of reliable and affordable access** to a backbone network
- **High investment** and operation costs
- **Compliance cost** of license and regulations terms and conditions
- **Low purchasing power**, low usage, and seasonal income
- **Lack of grid** in many areas for battery recharge



1. Identify **KEY STAKEHOLDERS** and new players,
2. Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access
3. Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,

4. .RESEARCH INNOVATIVE INCENTIVE MECHANISMS to extend access, connectivity and uptake

5. Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.),
6. Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population,
7. Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group,
8. Draft a **WORK PLAN** for concrete actions,
9. Carry out the activities that will support the implementation of the Initiative work plan.



4. Research, Innovation, Incentive mechanisms



- **Public Data Office:** for low end users, **Wi-fi Hotspots** in the vicinity on **pay as you use basis**
- **Broadband over cable TV networks:** **small local entrepreneurs** able to provide cable TV and broadband services to households within their communities
- **Voice over Wi-Fi:** both voice and data services can be availed using same account to **improve affordability,**
- Local applications for **dissemination of information** and providing access to markets to **increase real income**
- **Fiscal incentives** in the form of **lower rates of taxes for digital transactions**
- **Awards** for use of digital platforms through **lottery systems**
- Government **services at lower rates** when availed **online**



1. Identify **KEY STAKEHOLDERS** and new players,
 2. Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access
 3. Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,
 4. **.RESEARCH INNOVATIVE INCENTIVE MECHANISMS** to extend access, connectivity and uptake
5. Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.)
6. Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population,
 7. Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group,
 8. Draft a **WORK PLAN** for concrete actions,
 9. Carry out the activities that will support the implementation of the Initiative work plan.



5. Needs Analysis



- **Identify the local requirements**
 - **National Agriculture Market application for better price of local produce**
 - **Information about weather conditions**
 - **Direct Benefits Transfer in bank accounts** by the State
 - **Skill development applications in vernacular languages**
 - **Money transfer**
 - **P to P lending**
 - **Need for local contents for Social Occasions and Fairs**



1. Identify **KEY STAKEHOLDERS** and new players,
2. Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access
3. Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,
4. **RESEARCH INNOVATIVE INCENTIVE MECHANISMS** to extend access, connectivity and uptake
5. Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.),

6. Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population

7. Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group,
8. Draft a **WORK PLAN** for concrete actions,
9. Carry out the activities that will support the implementation of the Initiative work plan.



6. Potential of Unified Platforms



- Aggregating digital platforms for delivering **low cost broadband services** using unlicensed spectrum and local operators- WiFi application in India
- **Aadhar** – Unique ID platform for each person residing in India
- **Biometric authentication** reduces cost of acquisition of customers
- Unified Payment Interface (**UPI**)



1. Identify **KEY STAKEHOLDERS** and new players,
2. Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access
3. Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,
4. **RESEARCH INNOVATIVE INCENTIVE MECHANISMS** to extend access, connectivity and uptake
5. Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.),
6. Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population,

7. Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group

8. Draft a **WORK PLAN** for concrete actions,
9. Carry out the activities that will support the implementation of the Initiative work plan.



7. Innovative Business Models for Sustainable Connectivity



- **Infrastructure sharing** – incumbent operators to share their active and passive infrastructure with new entrants at a fair rate
- **Aggregation of small – small wi-fi networks**
- **De-licensing** of spectrum for rural/remote areas
- **USO funding** to boost accessibility and affordability



1. Identify **KEY STAKEHOLDERS** and new players,
2. Identify existing **TECHNOLOGIES & MOBILE DEVICES** that could enable affordable access
3. Identify potential **TECHNICAL, REGULATORY & COMMERCIAL BARRIERS** for the implementation of these technologies and devices,
4. **.RESEARCH INNOVATIVE INCENTIVE MECHANISMS** to extend access, connectivity and uptake
5. Carry out a **NEEDS ANALYSIS** by identifying and surfacing use cases (m-health, m-education, m-banking, m-agriculture, m-governance, etc.),
6. Examine the **POTENTIAL OF UNIFIED PLATFORMS**, providing for the integration of databases with application platform and transactional capability, in empowering the poorest and marginalized population,
7. Identify **INNOVATIVE BUSINESS MODELS FOR SUSTAINABLE CONNECTIVITY** taking into consideration affordability within the targeted group,

8. Draft a **WORK PLAN** for concrete actions,

9. Carry out the activities that will support the implementation of the Initiative work plan.



8. Work Plan



- **8 June 2017:** Present **WG Work plan** including key milestones and key deliverables to the Advisory Board Members.
- **October 2017:** At **WTDC in October 2017** in Buenos Aires, assess progress and discuss further activities of the Working Group
- **November 2017:** **Circulate first draft report** among Advisory Board Members
- **1st quarter of 2018:** **Conclude the work** of the Working Group on Access (connectivity) and affordability



Thanks