Feasibility Assessment for the Development of a Mobile Applications Sector in Afghanistan

Workshop 2 - 21st May 2013

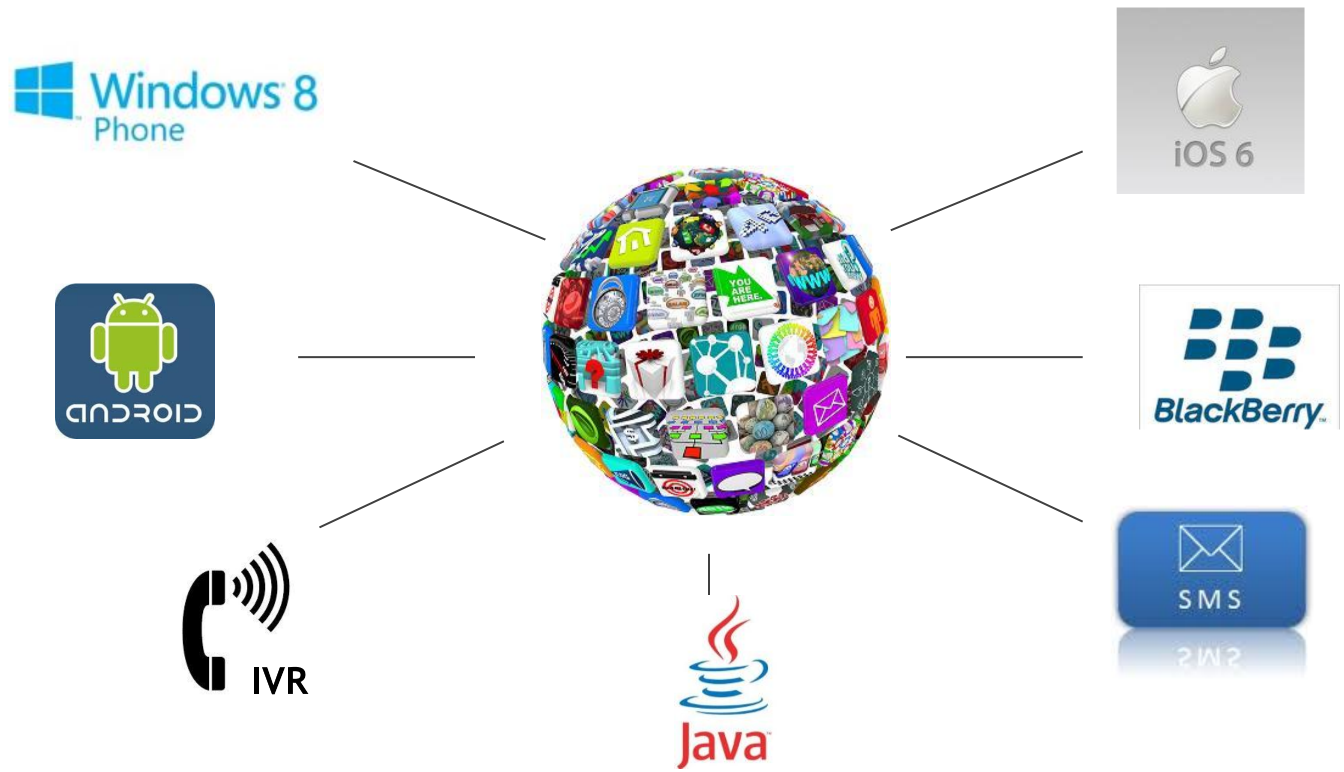
altai consulting

infoDev
Growing Innovation

Over the course of the project, reference will be made to the "mobile app economy" or the "mobile applications sector"

What is the mobile app economy?

- A range of economic activity, including enterprises, involved along the value chain of **creating, distributing and consuming digital content, services and transactions over mobile technology**
- Enterprises active in the app economy include app startups, device manufacturers, mobile operating system providers, network operators, software and content agencies, etc.



Several drivers contribute to make Afghanistan an attractive country to further develop mobile entrepreneurship

Afghanistan is a promising territory to spur the app economy

A dynamic mobile industry

- Afghanistan has a thriving mobile sector with 4 large mobile operators (including 2 telecom giants, Etisalat and MTN)
- Coverage is now satisfactory nationwide and prices have steadily decreased over the past few years

An increasingly affordable internet

- Etisalat, MTN and Roshan have launched 3G
- Smartphones start penetrating the market with decreasing entry prices
- Fixed internet prices have sharply declined since 2011 with the launch of the ADSL offer of Insta Telecom allowing some households to have a connection at home

A pioneering territory for mobile innovation

- Afghanistan was one of the first countries in the world to launch mobile money services with Roshan. Mobile money is now offered by Etisalat and other MNOs are planning to launch their own
- Other innovative initiatives include m-agriculture services like Malomat

A strong commitment from donors and GIRoA

- Donors have shown a strong commitment to support innovative approaches in the fields of health, education, agriculture, democracy & governance, etc.
- Previous initiatives on app development supported by USAID proved very popular
- The Afghan Government is committed to launch strong mGov initiatives

+ Major social issues open a window for creative approaches to address them, including tech-driven initiatives

Seven components of the ecosystem of SMEs in the ICT sector have been identified as essential and will be developed in this section

Technical Environment

- Exposure to technology, Afghan tech environment including Internet and data access

ICT Players

- Current scene of the ICT players in Afghanistan

Regulatory Environment

- Existing laws and regulatory frameworks that relate to ICT or other legal factors that would impact mobile app entrepreneurs

Human Capital

- Human resources, skills and knowledge that impact the mobile app economy in Afghanistan

Business Skills Enablers

- Set of programmes and organisations present in Afghanistan to enhance entrepreneurship

Financial Enablers

- Existing opportunities to access capital in Afghanistan be it via grants, loans or equity

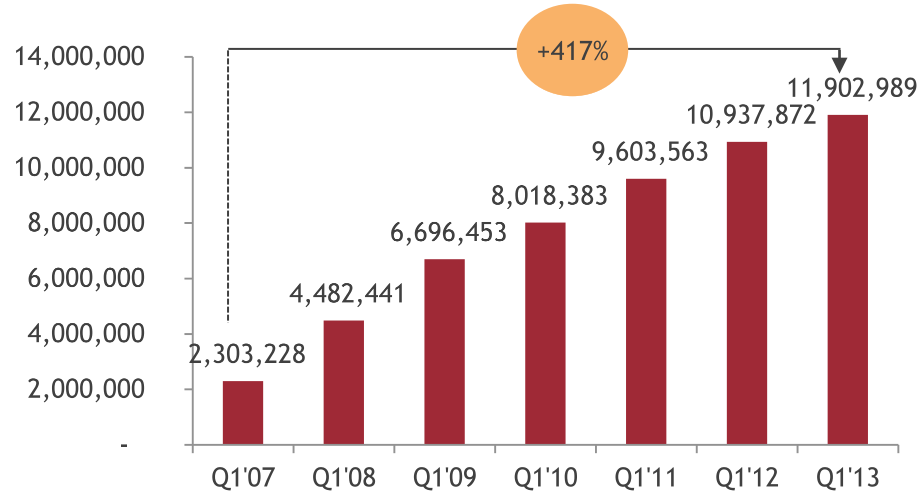
Catalysts

- On-going projects and existing organisations that support mobile app entrepreneurship in Afghanistan

Mobile usage has soared in Afghanistan. Today, as many as 12 millions Afghans are mobile phone users

Mobile penetration has boomed

- Since the first operator was launched in 2003, Afghanistan has seen a tremendous uptake of its telecom market. **5 carriers are now operating in Afghanistan**
- Mobile penetration has grown from about 2 million users in 2007 to almost **12 million users at the beginning of 2013* which represents 2/3 of the Afghan adult population**



Mobile phone users evolution (Q1 2007 to Q1 2012)*

- Among VAS offered today by MNOs, Ring Back Tones** (RBT) are by far the most successful: according to MNOs, between 18% to 30% of their customer base have at least once used this service i.e. between 2 million to 3.5 million users

Smartphone penetration is growing

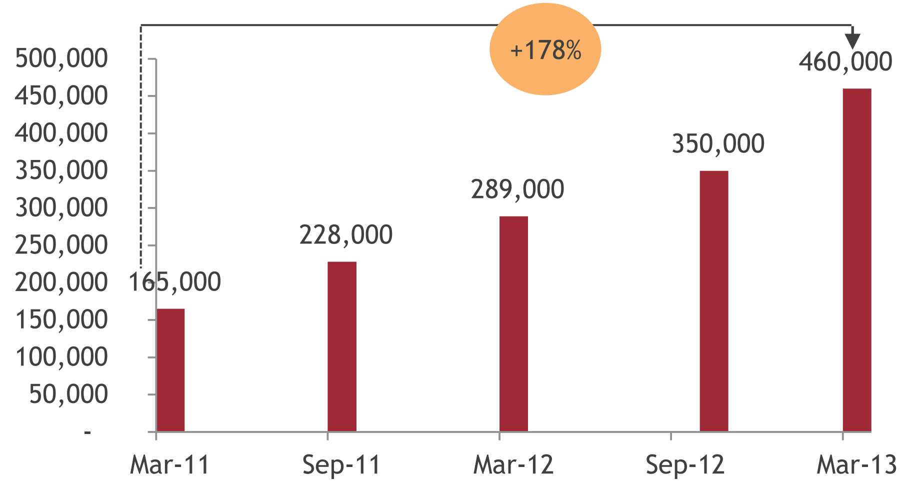
- **3G has been launched in March 2012 in Afghanistan and is now offered by 3 operators: Etisalat, MTN and Roshan**
- Smartphone penetration is estimated at 8% of total devices in circulation by several MNOs

Source: (*) https://wirelessintelligence.com/; (**) Interviews with MNOs.

The number of internet users has reached 1.7 million in Afghanistan in 2011 and is expected to grow significantly in the years to come with prices going down

Internet usage remains limited but has grown rapidly

- At the end of 2011, the number of internet users can be estimated to 5% of the total population* corresponding to approximately 1.7 million of internet users (i.e. people who have accessed internet over the last month) in Afghanistan, or much more according to other sources



Facebook users evolution (March 2011 to March 2013)

- The dynamism of internet usage is also reflected in the number of **Facebook connections which has experienced a strong growth over the past 6 months (+33%)** ** **with 460,000 Facebook accounts**

Internet prices have gone down with access to higher bandwidth

- While **internet offers used to be almost exclusively for corporations given the very high prices of subscriptions** (in 2002, monthly connection cost up to $10,000 for 64 kbps, in 2007 it cost up to $250):
- **It is now affordable for rather affluent households:**
  - For example, INSTA now offers a 256/128 **kbps** connection for 1,250 AFN/month (~$22) and up to 2,048 kbps connection

Source: (*) http://www.itu.int; (**) Socialbakers.
Note: (***) Back in 2005, the Ministry of Communication planned to increased internet penetration from 0.25% to 10% in 2010.

The fibre optic backbone is partly completed linking Afghanistan to international bandwidth. Barriers to Internet access still remain

The backbone launched in 2006 has been partly completed

- The Afghan government has **launched in 2006 an initiative to build a 4,810km optical fibre** cable ring around the country linked with Afghanistan's neighbours
- **More than 2,678km have been completed today** including connectivity with Iran, Pakistan, Tajikistan and Uzbekistan

Afghanistan's optical fibre backbone

Barriers to Internet access still remain

- In spite of all those developments, **penetration growth has been slower than expected** and **several factors could impediment a further development of internet usage**:
  - **Low literacy rate and limited command of English (as local content remains limited)**
  - **Connection prices have decreased but remains out of reach for the majority of the population**
  - **Lack of access outside city centres**

Source: USAID and Internews report; Ministry of Communication and Information Technology; Afghan Telecom; http://www.instatelecom.com/trf_dsl.html.

ICT players in Afghanistan range from multimillion dollar ventures to small SMEs

Four categories of ICT players have been identified:
MNOs and ISPs - Hardware companies - IT and software companies - Content providing companies

MNOs and ISPs

- **MNOs:** There are 5 operating carriers in Afghanistan. The four largest ones are:

ROSHAN

- **6.3m users***
- **Offers mobile money**
- **Offers 3G**
- Launched their **own web portal Kahkashaan** that supports SMS, IVR, USSD, SDK, Web and WAP apps including RBT
- Local content is provided by Yama Ramin and Tolo
- **Offers Malomat****: an IVR and SMS-based m-agriculture app

Afghan Wireless

- **4.7m users***
- Offers **a range of VAS based on short code and SMS**, including a music, Islamic, educational, game content
- The **platform is provided by regional contractors** (India, Pakistan)
- Local content is provided by ACTC

MTN

- **5.7m users***
- **Offers 3G**
- **Offers a range of SMS based apps including Ring Back Tone (RBT)**
- Offers **four main IVR services:** TeleMufti, TeleDoctor, TeleLawyer that provide advices and TeleVasar for classified ads
- MTN play, a web portal, will be launched in Q2 2013

etisalat

- **4.5m users***
- **Offers mobile money**
- **Offers 3G**
- Offers a **range of apps through SMS and IVR and Ring Back Tones (RBT),**
- **Will launch a web and mobile portal in end of May 2013: should support WAP, Web, USSD and SMS apps**

- **ISPs:**
  - There are 41 licensed Internet ISPs in Afghanistan
  - Clients: mostly B2B and B2G
  - Targeting large corporations/organisations that are less price sensitive
  - Access is mostly provided through WiFi and VSAT technology

Source: (*) https://wirelessintelligence.com/; Interviews. Note: (**) In partnership with Mercy Corps and DAI – IDEA NEW.

IT services and content providers companies are usually SMEs facing similar challenges in terms of recruitment, training, access to market and sustainability

Hardware companies

- Clients: mostly B2C
- The market is dominated by small computer and mobile handsets dealers
- Essentially imported
- There are a limited number of large players and authorized dealers mostly for PCs

IT services companies

- **Clients: mostly B2B and B2G**
- **Services include software database development, website development, web hosting, IT maintenance and support**
- Very few players specialize in one area, **mobile software development is still in its infancy**
- IT services market had a limited number of players in 2007 (less than 30). It has grown to an estimated 176** active players to date

Content providers companies

- **Media are natural content provider for mobile app developers.** Tolo for example provides content to several MNOs
- Apart from the media, **very few Afghan companies provide content to mobile app developers and MNOs**
- **Clients: mostly B2B and B2G**
- **Business models: revenue sharing, i.e. 25% to 50% of revenue per download**
- **This revenue sharing model can be a challenge as those companies don't benefit from a strong bargaining power with their potential partners**

Source: (*) https://wirelessintelligence.com/; (**) AISA; Interviews.

The legal and regulatory framework for the telecom and internet sectors is built on the Telecom Law and the Telecommunications and Internet Policy

2002
- Decree 4517 granting the MCIT authority to issue licenses and spectrum frequency permits to private investors and the power to adopt policies, laws, regulations and procedures

2003
- New Telecommunications and Internet Policy approved by the council of Ministers
- MCIT establishes the **Telecom Regulatory Board** (TRB), an interim body responsible for monitoring licenses and spectrum permits

2004
- New National Numbering Plan (NNP) and National Frequency Table drafted by TRB

2005
- New **Telecom Law** enacted

2006
- Establishment of the **Afghanistan Telecom Regulatory Authority (ATRA)** as a permanent and independent regulatory body, in replacement of TRB

2010
- E-Afghanistan National Priority Program presented as one of the 22 NPPs and endorsed by Joint Coordination and Monitoring Board (JMCB)
- The **E-Afghanistan Program** is serving as the national development framework for the ICT sector for the next 3 to 5 years

2013
- **New ICT law / amendment currently being drafted by MCIT for approval mid-2013**

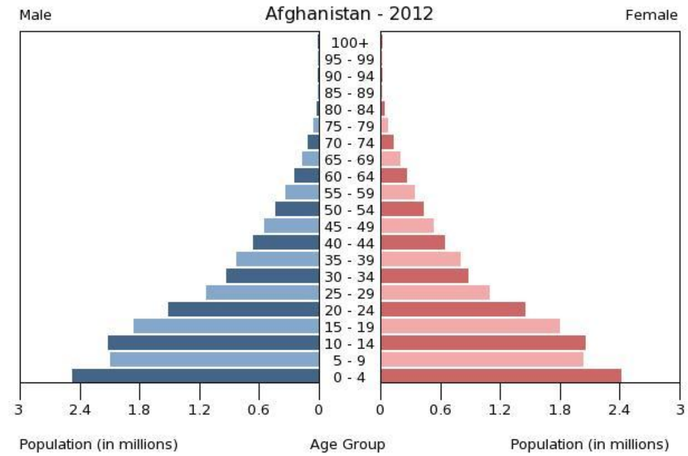
The current regulatory and legal framework concentrates on technical elements, rather than on content and services. A new ICT Law is currently being drafted

The licensing regime	• 10 licenses distinguished in the internet policy • There are **no specific licences for mobile content or service providers**. The Value Added Services (VAS) concern MNOs and has not been issued so far • No licensing regime for short code services
Short code procedure	• **ATRA is responsible for supervising the allocation of short codes** to private actors • Procedure includes initial agreement with a provider (MNOs) and then getting the allocation of the short code by ATRA • Based on a registration fee (5,000 AFN) + a fee by category (Gold, 70k AFN, Silver 67k AFN, Normal 57k AFN, and an annual renewal fee of 2,000 AFN)
Content providers fall under the media law	• As per the Constitutional Law, the **Ministry of Information and Culture is responsible for the regulation of content** • There is no involvement of the MCIT / ATRA, apart for regulation of the content filtering policy • This is not likely to be addressed by the new ICT Law
While software providers have no specific regulatory framework	• **There is currently no regulatory framework for software providers in Afghanistan, including mobile applications** • Software providers can operate under the general business license regime (Ministry of Commerce / AISA) • This is not likely to be addressed by the new ICT Law

Afghanistan is one of the youngest countries in the world but only a small number of Afghans have access to higher education

Afghanistan is a reservoir of human resource potential…

- **46% of the Afghan population is below 15 year old.** Afghanistan is the 8th youngest country in the world*
- Between 2001 and 2012, primary school enrolment rose from around 1 million to nearly 8.2 million**



Afghanistan's population pyramid graph***

…but only a small number of Afghans have access to higher education due to lack of capacity

- **Universities have improved their curricula. They still suffer from a shortage of skilled teachers and a lack of equipment and facilities.**
- Some institutions like the American University of Kabul have positioned themselves as "state of the art"
- General access remains very low: In 2012, a record of nearly **40,000 university places** got awarded for a formal admissions capacity at 34,260 students****
- Private training organisations complement university tuition and allow young Afghan to combine studying and having a job at the same time

Languages issues limit access to global knowledge

- **Dari and Pashto constitute barriers to access to global knowledge content** especially on the Web, since these languages are not very widespread

Source: (*) http://unstats.un.org; (**) Unesco; (***) United States Census Bureau (2012); (****) Ministry of Higher Education.

Afghanistan has a long tradition of entrepreneurship. The private sector is booming driven by SMEs in spite of market distortion especially in the field of HR

Afghanistan has a long history of entrepreneurship

- Afghanistan has given birth to **large private ventures reaching regional markets** (e.g. the Safi Group, Alokozay Group, etc.) as well as SMEs
- Afghan entrepreneurs often benefit from strong networks overseas thanks to the large Afghan diaspora: North America, Europe, Pakistan and Iran

The number of businesses launched since the fall of the Taliban has soared

- According to AISA:
  - **5,283 ventures have been registered in 2012** to be compared with 3,539 ventures in 2003
  - **176 ventures in the ICT sector have been registered in 2012** to be compared with 19 ventures in 2003. Ventures in the ICT sector represent 3% of the newly registered ventures in 2012

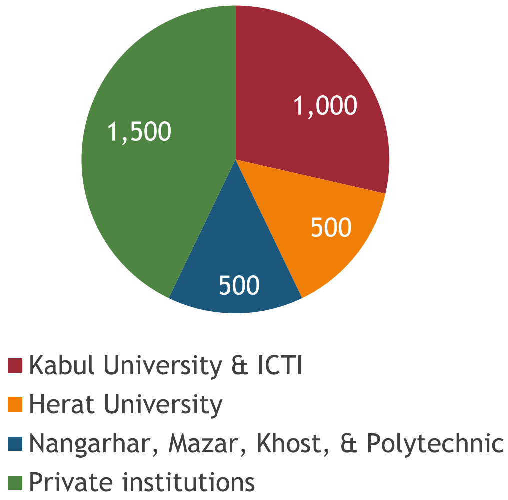
Afghanistan suffers from a distorted HR market

- The massive influx of aid money and international agencies as well as foreign military has deprived the Afghan private sector from precious skilled resources and created numerous **market distortions**
- As a consequence, for the same skills and capacity labour is more expensive in Afghanistan than in neighbouring countries

IT degrees are delivered by the major universities and a lot of private institutes. Close to 3,500 students are currently enrolled

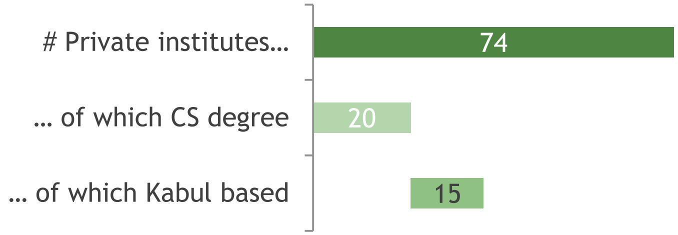
Around 900 IT students graduate each year

- 830 IT students will graduate in 2013, with an overall **3,500 IT students enrolled***
- Students from public universities are mostly full time, while students at private institutes are mostly part time
- After graduation, the **majority of students go to work for banks and government ministries**. A lot of the graduates, in particular from the private institutes, are already employed
- **Curricula are centered around programming, database and network management**



...but the skills levels are still unequal

- **Graduates need further training once they enter the market**, 100% of private businesses interviewed have indicated that they are conducting their own in-house training**
- Internship and hands-on experience are still missing for students
- **Mobile software is to date not taught and software programing is still very basic**



Source: (*) Ministry of Education; (**) Altai Consulting and interviews of universities and institutes.

The curriculum taught within the leading universities and institutes are focusing on network and database. Internships and hands-on projects are still rare

	Kabul University	Kardan Institute	American University
Launch	2008	2009	2006
Admission test	Koncor	Koncor	Koncor
Dedicated time	• All students are full time	• Most students are part time	• All students are full time
Curriculum General	• 4 years • General curriculum includes maths, physics, Islam, history, language and introduction to IT	• 3 years • General CS are mostly all basics required • CS core courses includes introduction to all IT fields	• 2 years • General education includes maths, physics, humanities and introduction to information technology
Curriculum Specialization	• 2 years • Specialization Includes network, database, software engineering	• 1 year • 2 specializations: network or software • Programming includes asp, .net, php, java, C++	• 2 years • Specialization includes network, database, security, programming
Internship / project	• Internship mostly within governmental organs • Mandatory project for 4th year students	• Required as part of the final year • Usually within current job	• Internship program recently started with IT private actors
Alumni	• No alumni network	• No alumni network	• No alumni network

A large number of Business Development Services (BDS) currently operate in Afghanistan supported by the donor community, GIRoA and professional associations

Donors have been involved in large private sector development programs focused on SMEs

- Since 2007, the **USAID-funded ASMED program** has directly and indirectly provided business skill training to over 20,000 clients throughout the country, has supported more than 9,300 Afghan businesses and facilitated access to bank loans and equity financing to 103 of those companies*
- **ABADE is succeeding ASMED with a goal to generate $180 million of investment in the private sector, targeting SMEs and innovation**, with a initial target of more than 400 recipients**
- Other donors and entities like **the World Bank and GIZ (New Market Development Project), DFID, AUSAID** also play a major role in private sector development:

An estimated number of 650 BDS providers now operate in Afghanistan

- There is an estimated number of **650 BDS providers in Afghanistan*****, their main areas of involvement include: basic business training, business planning, marketing and sales, legal support, other.
- A national association of BDS has been created to group BDS providers: Afghan Consulting Companies Association
- **Afghan Ministries (MoCI, etc.) is supporting entrepreneurs through targeted BDS programs**
- **Afghan Chamber of Commerce and Industries** (ACCI) support entrepreneurs through training sessions, business matchmaking events, fairs, etc.
- Portals like **Afghanistan Building Markets** have been put in place to help Afghan businesses access market and support them in getting access to tenders***
- Some specific initiatives have positioned themselves as business accelerators e.g. the Herat incubator

Source: (*) ASMED; (**) ABADE; (***) http://afghanistan.buildingmarkets.org/

Apart from the banking sector, other funding mechanism are available to innovative SMEs. VCs are still a rarity in Afghanistan

Accessing loans within the banking system is difficult for SMEs

- As of September 2012, **loans by Afghan banks to SMEs accounted only for 6,3% of total loans***
- This is partly due to the limited capacity of the recipients to complete the collateral documentations required by the Banks
- **Typical corporate loans are not adapted to the needs of Afghan SMEs, with an average mark at $250k**

Several donor initiatives provide grants to SMEs and invest in key infrastructure projects

- ABADE is planning to generate massive investment in the private sector within the next four years, with a specific focus on innovation and through **grant mechanisms**
- DFID has created **Imurabba**, the Afghanistan Business Innovation Fund (ABIF) in 2011 running until 2014 to support SMEs
- TFBSO has been operating since 2011 in Afghanistan and is the main supporter of the **International Center for Afghan Women's Economic Development** which will be launched in May 2013
- The World Bank is funding, through its FSRPP* project, the deployment of a **modernized inter-bank card and mobile payments switch**

Private investment fund, aka VCs are still very rare

- Private investment funds are still a rarity in Afghanistan
- **SEAF-AGF has been active since 2007** and devoted part of its funding to ICT ventures, including Rana technologies

Source: (*) Da Afghanistan Bank, Financial Supervision Department, Nov. 2012.

Following ASMED, USAID has launched ABADE, its new framework to provide assistance to SMEs in Afghanistan

ABADE framework

- Time frame: 4 years program, from November 2012 to October 2016
- Implementing partners: VEGA / IESC
- Objectives: **increase domestic and foreign investment, stimulate employment within the private sec**tor
- Key targets:
  - **Generate $180 million in private sector investment**
  - **365 public-private alliances**
  - **41 innovation public-private alliances**

Components

SMEs and Public-Private

- Through a **competitive process, awards to SMEs ABADE to provide matching grants on a 1:2 basis**
- Public Private Innovation Alliance (PPAs) are designed to stimulate innovation focused initiatives. **ABADE funding to be matched on a 1:1 basis**

Technical assistance and business advisory services

- **Technical assistance provided to recipients and program stakeholders**, including operations & management, access to finance, quality, etc.

Business enabling environment

- **Improve business environment by lifting specific regulatory and procedural barriers**, including support to ministries, analytical studies

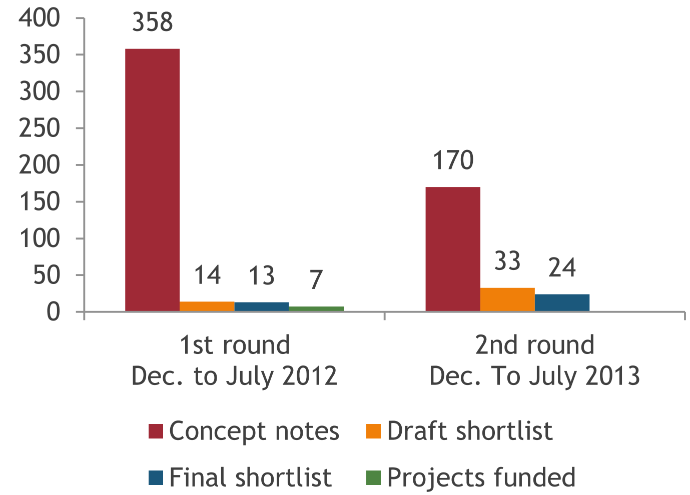
Roll out

- 1st round of requests for application launched in Feb. 2013
- PPAs innovation alliances (Jan. to Sept. 2013), estimated funding: $3m, total awards 15, average award $150k
- SMEs enterprises alliances (Jan. to Sept. 2013), estimated funding $10m, total awards 100, average award $250k

The Afghanistan Business Innovation Fund (ABIF) is a donor-backed investment challenge fund that supports innovative projects within traditional private sectors

ABIF is now into its second competitive round of investment challenge with 7 projects funded so far

- **ABIF is a $7.5 million investment challenge fund financed by DFID & AUSAID**, launched in 2011 and due to run until March 2014
- ABIF offers grants as an incentive to invest in **innovative business models**, products or services / typical grant size is $250k
- Committed capital to date: $2.5 million and 7 projects funded
- Key sectors include:
  - Horticulture, livestock, carpets, furniture
  - Health care, household services
  - Mining services



ABIF wants to incentivise not to subsidise

- The challenge is mostly **advertised through the partnering networks of AISA and ACCI** (including local provincial branches) along with dedicated road shows & workshops
- Throughout the selection process, applicants, supported by the ABIF team and a selected number of BDS firms, move from the initial concept note to a complete Business Plan (BP) / financial model, including a 4 years cash forecast
- The grantees propose different milestones within their BP: **funding is provided upon completing of milestones** supported by documentation, to ensure that the agreed upon investments have been made

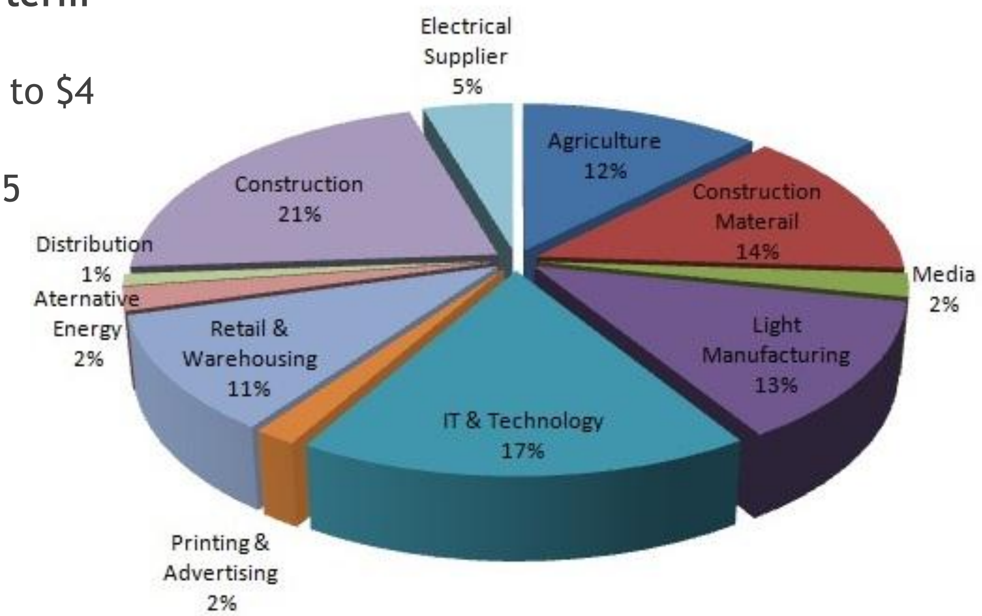
Source: ABIF Interview.

The SEAF backed Afghan Growth Finance (AGF) fund is the most active VC in Afghanistan for SMEs

Afghan Growth Finance has been active in Afghanistan since 2007

- **AGF is a $55 million investment fund seeking to provide long-term assistance to SMEs**
- Investments range from $100k to $4 million
- Committed capital to date: $25 million
- Key sectors include
  - **It & Technologies**
  - Dry fruits and Nuts
  - Transports and logistics
  - Cold and dry storage
  - Carpets
  - Marble and stone

Sector Breakdown: Total Approved & Disbursed



...and invested for instance in Rana technologies

- The objectives is to help Rana tech to become first ISP/ICT company to offer broadband internet services to all 34 provinces of Afghanistan

Source: SEAF-AGF.

Initiatives within the MCIT, under the umbrella of the E-Afghanistan National Priority Program, have been designed to leverage the mobile infrastructure

MCIT Policy

- The MCIT has launched several ambitious initiatives to stimulate the IT sector in Afghanistan while improving the access of governmental services to Afghan citizens
- Those initiatives include:
  - eGov projects
  - mGov projects

The MCIT is implementing 4 mGov projects, funded by the World Bank

1 mGov strategy

- The aim is to formulate the mGovernement strategy and includes governmental employees training

2 Mobile Service Delivery Platform

- Awarded to Paywast/Ustronics
- Includes the development of 30 mobile apps delivering governmental services

3 DEWAE Innovation Support Program

- Awarded to AIMS
- In 4 years, a total of $5 million will be awarded through grants

4 ICT Village

- The aim is to gather all IT related private and public organizations in the same area
- Includes an ICT incubator

The MCIT is working on formulating the mGov strategy. Training has been provided to governmental employees so that they can identify mobile apps opportunities

Scope of work

- The aim is to :
  - **Formulate the mGovernment strategy**
  - **Train governmental employees so that they can identify and report opportunities for mobile apps to deliver governmental services**

- **Timeframe:**
  - The report should be published **beginning of S2 2013**
  - About 150 governmental employees and 1,500 individuals have already been trained

THE WORLD BANK
Working for a World Free of Poverty

Ministry of Communications and Information Technology
Islamic Republic of Afghanistan

mGovernment Strategy Formulation and Capacity Building Training for the Government of Afghanistan

A world Bank funded project on the mobile government strategy to have mobile technologies wide-spread in the country for delivering services to the citizens, and on conducting mobile government training of the government officials.

- Two other documents will be published in the coming months that will help shape the mGov strategy: the **ICT policy and the IT industry report**

- « *The report will provide an assessment of the current situation and a recommendation of the mobile strategy that can be implemented in Afghanistan until 2016*» Mr. Payab - MCIT

- The report should emphasis that although the mGov strategy is centrally designed through the MCIT, its success will require local representatives that can raise awareness and build capacity locally

- **Health, education and agriculture will be addressed as a priority**

Expressed needs / Opportunities

- Needs to be create synergies between all mGov projects: *"all these projects should go hand in hand"*
- Capacity building is key

The mGov platform will be set up within the next 6 months with a initial delivery of 10 applications. The platform will be called HOSA*

Organization in charge

- **Paywast/Ustronics:**
  - Launch year: 2011
  - Location: Kabul
  - Ownership: Subsidiary of UStronics
  - Manager: Khaled Qaderee
  - Staff: 30 employees
  - Core business: Providing SMS-based services

Scope of work

- **Develop and launch a platform that will host and make accessible mobile applications that provide governmental services**
  - The platform will support IVR, SMS and USSD apps. It will be available in Dari, Pashto and English
  - The platform will provide hosting to applications developed by private companies as long as they offer a governmental service
  - An API will be provided for approved third party applications to connect to
- **In addition to the platform, 30 mobile applications providing governmental services will be developed**
  - Mobile applications are developed in collaboration with ministries. Apps copyright will belong to the ministries
  - Billing will vary: some apps might be free for end-users, others might not be
- Timeframe: **24 months contract. 1st step: October 2013, the platform and 10 mobile applications will be launched**
  - Tentative apps (still in discussion) include: Citizen survey, Exams results, Mobile health alerts, School admissions, Transports alerts, Disease surveillance and outbreak reporting, Request and tracking

Expressed needs / Opportunities

- Create a formal association for mobile developers where they can exchange their ideas (following the model of AMMOA)
- Enhance the current curriculum of universities
- Create a platform similar to the platform developed today for the mGov project to host apps not linked to government services

- Note: (*) HOSA means "easy, convenience"

The Innovation Support Program will last until 2015 with a $5 million grants to boost the application economy

Organization in charge

- **AIMS:**
  - Launch year: 1997, a UNDP-funded NGO until 2008
  - Location: Kabul
  - Executive Director: Mr. Azizi
  - Staff: 17 employees
  - Core business: Management Information System and Geographic Information System

Timeframe and governance

- Timeframe: **4 years contract**
- **$5 million of grants will be awarded in 5 batches:**

1st batch	2nd batch	3rd batch	4th batch	5th batch
April-May 2013	Sept-Oct 2013	May-June 2014	Feb-March 2014	August-Sept 2015

- **DEWAE reports to the Special Executive Board** constituted of : two representatives of the MCIT, one representative of the Ministry of Higher Education, one of the Ministry of Education, one of the Ministry of Public Health, one of the Ministry of Rural rehabilitation and development program, one of the Ministry of Agriculture, one of the Computer Science Department at Kabul University
- Applications will be first reviewed by a **Panel of experts**: 7 experts from the public and the private sector will shortlist applications. A **panel of judges**: 3 to 5 representatives from the public and the private sector will award the grants. Members of both panels remain to be appointed

Expressed needs / Opportunities

- Create a mentorship program to accompany grants winners
- Create a technology awareness program
- Create a certification body as there can be doubt on the authenticity of apps and softwares offered in Afghanistan

The scope of grants focuses on 4 categories with the objective of making governmental services accessible to a wide audience

Scope of grants

- Process:
  - **4 different types of grants**
  - **For mTechnology, mGovernance and Students award, AIMS in collaboration with the MCIT will issue challenges on the topic of government services that could be made more accessible.** Applicants will have to answer those challenges
  - « *It will be a two-way traffic* »: AIMS will gather challenges raised by the public and issue some of them for the competition

mTechnology awards

To award and support the development of mobile apps to address challenges and services delivery, program management and performance management

- 28 Idea awards:
  - Value: $2,000
  - Concept
- 28 Solution awards:
  - Value: $5,000
  - Concept + implementation plan
- 28 Practice awards:
  - Value: $80,000
  - Ready to roll out

mGovernance awards

To reward and support a specific impact through the use of mobile apps for service delivery programs

- 28 Practice awards
  - Value: $80,000
  - Concepts ready to roll out

Students awards

To encourage innovative and socially geared thinking and ideas, targeting students in the field of technology

- 27 Young ICT Innovator awards
  - Value: $5,000
  - Mobile apps
- 27 Technologists awards
  - Value: $5,000
  - Any IT solution

IT Champion awards

To reward the services of people who have contributed to the promotion of ICT in Afghanistan

- 21 IT Champion awards
  - Value: $2,500
  - The Special Executive Board will nominate those awards

The ICT Village, a Public-Private initiative will not be operational in the coming year. But an incubator dedicated to support IT entrepreneurs will open by the end of 2013

Organization in charge

- Ownership: MCIT
- Management: through private contractors
- Location: Kabul
- Scope: support to IT entrepreneurs

Scope of work

- The ICT village is a **medium/long-term plan of the MCIT to locate all IT-related organizations in one location in Kabul**: the MCIT office will be established in the ICT village as well as headquarters of private companies such as software companies and Mobile Network Operators
- **Included in the ICT village is the ICT incubator which should be launched in 2013:**
  - It will be located in Kabul. Location is still under discussion
- **The incubator will be set up within the next 6 months, it should be up and running by December:**
  - Currently in the first phase of the request for expression of interest phase
  - Final proposals should be received by end of May
  - Mid-summer: the incubator manager should be in place
- **The Incubator is would possibly host:**
  - **Ideas & projects coming out of the Innovation Support Program, DEWAE**
  - **Talents having gone through the Skills Development Project (World Bank/MCIT)**
- **The incubator would have to reach sustainability within 2 to 3 years**

REQUEST FOR EXPRESSIONS OF INTEREST
(CONSULTING SERVICES – FIRMS SELECTION)

Country: Islamic Republic of Afghanistan; Ministry of Communications and IT;

Name of the Project: Afghanistan ICT Sector Development Project;

Project ID: P121755;

Grant No: IDA-665-AF;

Assignment Title: Consultancy Services by a Firm for Incubator Management;

altai consulting

infoDev Growing Innovation

The ICT sector has seen several professional organisations emerging over the past few years

Professional organisations represent the interest of both the public and the private sector

- **National ICT Council**
  - Formed in 2007 to define & coordinate technological standards across ministries
  - Chaired by 1st VP, members include key Ministers & representatives from private sector, media association, ICT consumers
- **ACSA: Afghanistan Computer Science Association**
  - Founded in 1999 to advance professional excellence in ICT
  - Projects include localization of software, ICT awareness campaign, promotion of internet policy, regulatory reform
- **NICTAA: National ICT Association of Afghanistan**
  - Formed in Feb 2006 as an alliance & umbrella association of non-government ICT players
  - 3 permanent seats at National ICT Council are reserved for NICTAA
- **NISPAA: National ISPs Association of Afghanistan**
  - GIPI-AF (Global Internet Policy Initiative) initiated establishment of NISPAA in 2006

3 organisations are covering new grounds

- **iHub**
  - Informal network of IT professionals organising monthly events open to all
  - Soon to start “weekend code”
- **AMMOA**
  - Newly formed associations of the 4 leading MNOs to promote mobile money
  - Acts as a lobbying and coordinating entity. Sponsored by USAID
- **Open Source Afghanistan**
  - Promotes open source software in Afghanistan
  - Recently held an event at Nangarhar University

Impactful events have taken place in the past couple of years to mobilize the Afghan ICT community

Kabul Innovation Lab

- Organized by: **Internews**, sponsored by **USAID**
- Participants are media, information and ICT and companies and NGOs
- Goal: **To develop innovative technology-based systems to improve the reach of the media, professional standards and quality of content**

Latest: **February 11th to 14th 2013**

- Frequency: once a year
- 1 day session and 3 days workshop
- Number of events completed: 2
- Location: in Kabul

Open Source Afghanistan

- Organized by: **Open Source Afghanistan**, last event sponsored by **FirstRate Afghanistan** (private ICT company)
- Participants are ICT students and professionals
- Goal: **Provide awareness and training on Linux and Free/Open Source Software (FOSS)**

Latest: **February 19th to 21st 2013**

- Frequency: once a year
- 3 days event
- Number of events completed: 7
- Location varies. The last event was organized in Jalalabad

iHub

- Organized by: **Farshid Ghyasi** (Netlinks) and **Javid Hamdard** (Internews)
- Participants are ICT students and professionals, any ICT enthusiast
- Goal: **informing the ICT community on opportunities in Afghanistan and on the latest technologies available**

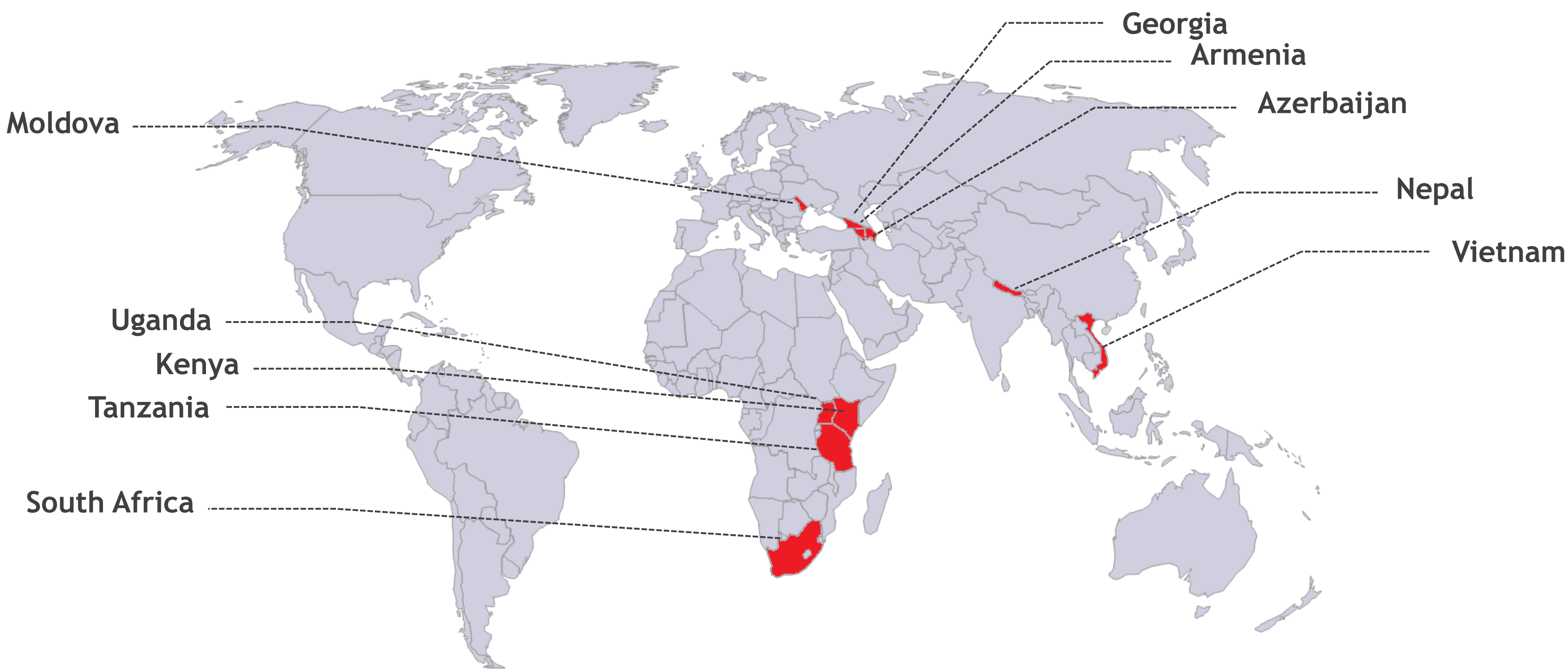
Latest: **April 3rd 2013**

- Frequency: once a month, usually the first Thursday of the month
- A couple of hours long sessions
- Number of events completed: 12
- Location: in Kabul

Part of infoDev's activities is focused on mobiles. Its program Creating Sustainable Businesses for the Knowledge Economy program has supported the 12 initiatives to date

Promote and support mobile entrepreneurship

- The program **Creating Sustainable Businesses for the Knowledge Economy (CSBKE) was launched in 2010, based on a public/private partnership with the Ministry of Foreign Affairs of Finland and Nokia**
- With a focus on mobile applications, business incubation and technology entrepreneurship, **it has supported the launch of 10 regional initiatives**



Reviewing infoDev supported initiatives in other countries allows to shed light on different models than can be used to mobilize entrepreneurs towards mobile technology

mHub, mLab and virtual incubator follow different models

- All initiatives are designed to **maximize the development impact of mobile technology and generate innovative entrepreneurship**
- **The models are different and go from a light footprint model based on social networking - mHub - to a full incubator model - mLab**
- The virtual incubator model is an alternative model focusing more on supporting entrepreneurs than on technology
- Depending on the countries and initiatives, **governance schemes vary and go from NGO to fully private contractors**

infoDev's initiatives

1 mHub

- An mHub is an informal network gathering a community of individuals and organisations around the opportunities of the mobile eco-system

2 mLab

- An mLab provides the environment to help nurture and create sustainable mobile businesses. It also acts as a role-player in the mobile ecosystem

3 Virtual incubator

- A virtual business incubator acts as an incubator without walls and aims at reaching potential incubatees through a variety of mechanism

An mHub is an informal network gathering a community of individuals and organisations around the opportunities of the mobile eco-system

An mHub is a social networking hub

- A mHub is a **social network focused on mobile**
- Its aim is to **bring together organisations and individuals who are interested and / or willing to work around mobile technologies**
- It is an **informal network building a community of shared practice, lobbying to lift the constraints of the eco-system and channelling opportunities**

Based on informal meetings, it brings in mobile centric events to the community

- The social networking hub is typically based on:
  - **Regular informal meetings** bringing together industry professionals, individual developers and academics
  - An **online platform** acting as a forum and a networking tool for the community
- In addition, mHub can be used as a **channel to advertise and / or organize specific events** such as:
  - Hackathon
  - Challenges / contests
  - Informal meetings with VCs

And does not need any specific governance requirements

- As it is mostly based on informal networking, an mHub **does not require any specific governance in the way it is designed**, at least in the early stages
- It **can be endorsed / animated by a private organisation** whose business interests are in line with the emergence of an active innovative mobile scene

An mLab provides the environment to help nurture and create sustainable mobile businesses. It also acts as a role-player in the mobile ecosystem

An mLab is an infrastructure for mobile entrepreneurs

- **An mLab will have a physical location, incubating technology entrepreneurs who can interact, work, gain access to tools and expertise to start and grow their businesses**
- It also aims at playing **a leading role in the mobile ecosystem, supporting non residents and acting as a gateway to access industry players and investors**

It offers a wide range of services both to residents and non-residents

- **Residents or incubees benefit from premium services on site:**
  - Office space / internet access / testing facilities / equipment
- In addition, a **wide range of services are proposed to both residents and non-residents**:
  - Training / workshops
  - Consulting / Mentorship
  - Access to investors
- The **location is often used to organise various events** in relation with the community:
  - Mobile Monday, code sharing, contests, hackathon, etc.

Governance schemes can vary

- An **mLab can be an NGO, run by a private organisation or by a consortium of organisations**
- Given the wide objectives of an mLab, **a consortium of organisations seems to be appropriate** as it brings together various stakeholders with each its own area of expertise, e.g. university, private IT venture, government

A virtual business incubator acts as an incubator without walls and aims at reaching potential incubatees through a variety of mechanism

Virtual business incubators are concentrating on services

- A virtual business incubator goes **beyond a physical space**
- **Three types of concepts exist:**
  - **Incubators offering mainly business development services**
  - **Networking focused incubators**
  - **Finance focused incubators**

Services are delivered to entrepreneurs to help them get their business off the ground

- Virtual incubator will focus on three types of different service concepts: **training and mentoring, networking, seed capital**
- **Training and mentoring**:
  - The focus is on developing entrepreneurial capacities to get start-up off the ground. Typical example is to connect a would be entrepreneur with a mentor to coach the business plan phase
- **Networking**:
  - The aim is to bring together entrepreneurs and investors into the same network. Typical examples are business plan competition or mobile Mondays
- **Seed capital**:
  - The objective is to provide seed investment capital combined with short or long term mentoring

Governance can vary depending on the type of services

- **Governance of virtual incubators may vary** depending on the type of services provided
- Examples of governance vary from **foundation to private venture**

Some lessons learnt are common to all models. Others are specific to each model

Lessons learnt across all models

- The key is to understand **who you are serving and what are their needs. Building on the community you want to reach is a critical first step**
- **Once the community is built, the brand becomes strong**. It is then possible to attract a large set of partners & sponsors that will generate revenues and make the brand even more relevant to the community
- **Designing the appropriate governance for the model is important.** Whether a foundation, an NGO, a private company, the governance has to be in line with the overall objectives

1 mHub

- Use a limited number of champions to build the community: once on-board they will act as ambassador for the hub and bring their network of partners and individuals
- New ideas are constantly needed to keep the community attracted, whether it is events (e.g. hackathon) or opportunities (new challenges) or exposure to a new technology (training on latest Android API)

2 mLab

- Building or setting up the physical premises can take a lot of time and capital expenditure…
- … which can divert from delivering other services or getting the brand & the community installed
- A secured place can become a disadvantage as it makes the mLab less accessible to the audience it wants to reach
- In a place where you don't have the critical mass of innovators, you might need a physical place where individuals can come together and support each other

3 Virtual incubator

- Possible to be creative in organising events at no cost
- Events are organised based on existing networking organisations (students groups, clubs)
- Online social network support the consolidation of the community
- Attracting and building the network of business angels is not a short term effort, it requires more time and effort

Best practices have emerged among the initiatives interviewed: they include focusing on design, internship and tools all built to fill in the gaps

Enhance product design

- **Some labs have built up a specific offer or a range of services in regards to product design:**
  - Based on findings that the capacity to design products (user interface, user experience) was poor
- **Expertise and training are provided to incubees and non-residents to:**
  - **Select the appropriate platform for their project**
  - **Understand and get trained on how to design a best in class application**
- **This new area of expertise also provides more attractiveness towards the lab** reinforcing its position as a hot bed for innovation

Provide internship and mentorship opportunities

- In most of the countries where infoDev initiatives are based, it is **hard for developers to try and find an internship in relation to new mobile technology**
- **Some labs have created and provided internship opportunities for young graduates and or individual developers** to be able to get their first experience in developing application
- **The interns are mentored by experts from the labs, receive training and work directly on a project or idea generated by the lab and the community**

Open access to the mass-market

- **Access to billing is a constraint common to many emerging countries**
- **Some labs are trying to tackle the issue** either through a dedicated portal that would be operated by the lab or through the project of an incubee (e.g. a start-up who wants to provide a market place)

The below chart gives an overview of the mobile app ecosystem in Afghanistan

Technical Environment

- 12m mobile users
- 8% smartphone penetration
- More than 5% Internet penetration

ICT Players

Four categories of ICT players:

- MNOs and ISPs
- Hardware cos.
- IT services cos.
- Content providing cos.

Regulatory Environment

- Concentrates on technical elements, rather than content and services
- A new ICT law currently being drafted

Addressable Afghan mobile app market

Human Capital

- A young population with growing access to education
- Long tradition of entrepreneurship
- 3,500 IT students enrolled out of whom 830 IT students will graduate in 2013
- Mobile software development not included today in curriculum

Catalysts

- MCIT mGov initiatives: HOSA, DEWAE and the ICT incubator
- Numerous ICT related organisations and events including iHub, NICTAA, Open Source Afghanistan, TechNation & TechDera

Business Skills Enablers

- An estimated number of 650 BDS providers now operate in Afghanistan

Financial Enablers

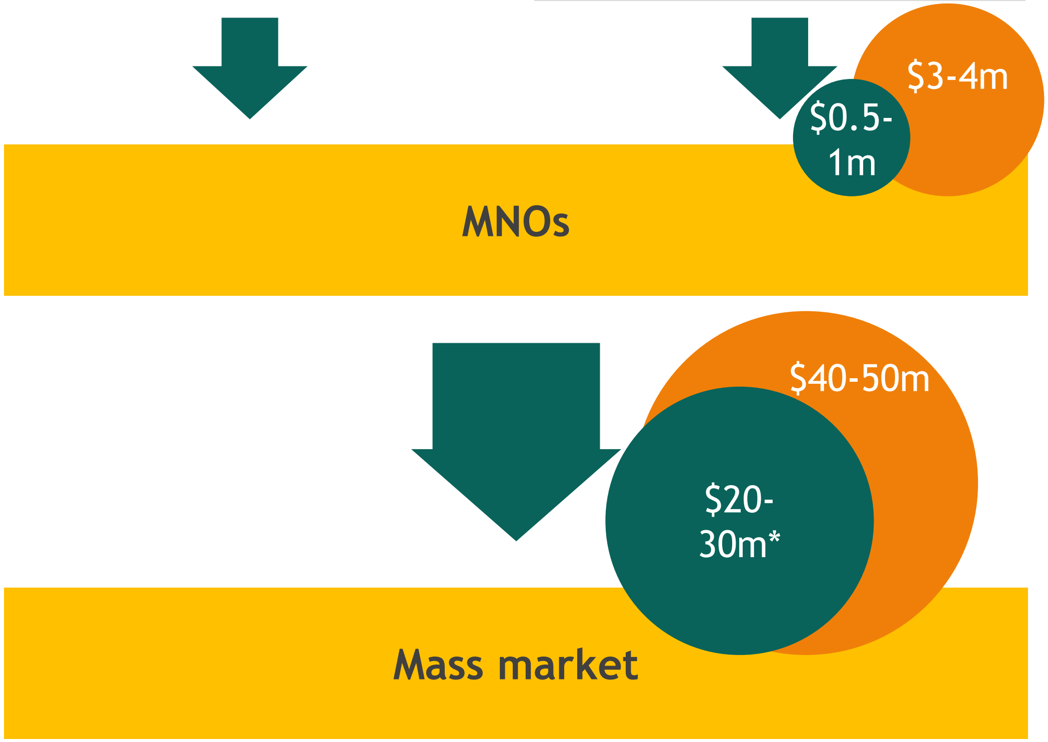
- Grant programs are available, e.g. ABADE, Imuraba
- Loans and VCs are rare to inexistent in Afghanistan

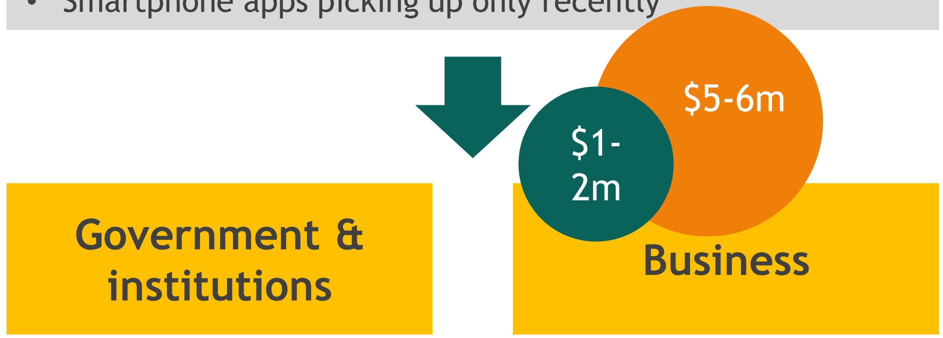
The mobile app market is deemed to grow from 21.5-33m to 48-60m. The main gross potential concerns SME be it mobile content or software providers

Mobile services providers Foreign based
- No local technical providers identified
- Service providers also provide localized content

Mobile content providers Afghan based
- <5 actors
- Main content is music & TV voting
- Revenue share with MNOs 25%-40%

Mobile software providers Afghan based
- < 10 actors
- Commissioned developments
- Mostly IVR / SMS based services
- Smartphone apps picking up only recently





Key assumptions
- Increased connected users with internet & 3G to 15% in 2016
- Increase smartphone penetration to 15% in 2016
- Impact of DEWAE & HOSA on innovation and usage

Estimates 2013   Estimates 2016

Source: estimates based on Mobile applications in Afghanistan, a World Bank report, international benchmarks and interviews with actors; (*) Based on current VAS estimate of which 90% is RBT.

3 areas have been identified to deepen the support to the mobile eco-system. This should come as a complement to the MCIT / mGov initiatives and to the growing networking arenas

Build on the momentum around HOSA, DEWAE and the ICT incubator

- With 10 government applications available before the end of the year, **HOSA can have a positive collateral effect in boosting apps usage & adoption**
- **DEWAE aims at supporting the emergence of innovative ideas** both from students and the ICT sector
- The ICT incubator is to focus on **bringing sustainable innovative ICT SMEs to the market**

mGov initiatives

HOSA
Stimulate usage & adoption of mobile apps

DEWAE
Stimulate ideas & innovation

ICT INCUBATOR
Grow ideas into business

Leverage the existing networking arenas

- With the **networking activities deployed by several organizations**, e.g. iHub, NICTAA, Open Source Afghanistan, TechNation & TechDera, **a tech community is emerging**
- It provides an **active arena of tech driven individuals and institutions**, both from the academic and private sector that can be leveraged

No mobile centric initiative exists today in Afghanistan

How infoDev could accelerate the mobile app sector growth in Afghanistan?

- In collaboration with the existing initiatives, there still is a need to deepen the support provided to the mobile eco-system in Afghanistan. Initial scope should include:

1. **Increase awareness, skills and access to practical experience**
2. **Provide tools, derived and localized from mobile open source software, to accelerate the adoption of mobile technology by entrepreneurs**
3. **Enable access to the mass market and the capacity to bill services, by creating an alternative application distribution mechanism for SMEs**

Immediate opportunities for action include raising awareness around the mobile eco-system, increasing the skills in mobile software and improving hands-on experience of IT students

Raise awareness around mobile eco-system opportunities

- The **level of awareness among individuals and SMEs about the business potential of mobile technology is still low**
- Initial efforts should be put into **creating a community of interests around mobile opportunities**
- A natural first step is to increase this through events (competition, hackathon, etc.)
- This should also be done throurgh **industry partnerships** (all main platforms and technology providers), who can provide training bootcamps and challenges

Adapt the skills to the mobile eco-system

- **To date, none of the IT institutes, whether private or public, provide specific training on mobile software development**
- All stakeholders interviewed were **interested and ready to adjust their curriculum to include mobile software development courses**
- This **should be adapted as per the current market demand**, with a focus on java, SMS, and IVR technology, **as well as anticipate the demand for the next generation of native apps based on major operating systems and technologies**

Increase experience of IT students with mentorship and internship

- Most ICT private actors interviewed stated that **IT graduates lack hands-on experience**
- All IT institutes suggested that they would be **more than ready to give to their students internship opportunities and projects based courses**
- This gap can be bridge by:
  - Adjusting curriculum to include compulsory internships
  - Building partnerships in between ICT private sector companies and the main IT institutes to provide internships & projects opportunities

Providing mobile open source tools should be selected made relevant to the Afghan market could help accelerate adoption by tech entrepreneurs of business ideas & projects

Select open source mobile software

- **Select a list of open source tools and software relevant to the Afghan context** taking into account the business potential per sector
- **Open source mobile software are available on all platforms** and can address many business issues / sectors:
  - eLearning
  - Data collection and monitoring
  - Content publishing tools
  - Streaming radio
  - Geo-localisation tools
  - Etc.

Provide a localised version and bring it to the community

- **Support private and public initiatives to produce a local (Dari, Pashto) and documented version of the software**
- **Bring the set of localised tools to the community of developers, entrepreneurs and training institutions who can then use them to:**
  - Learn and improve their technology skills
  - Launch projects and prototypes to improve hands-on experience
  - Grab a business opportunity provided by the technology with a minimum of investment in capital and little barrier to entry

Accessing the end users remains a hurdle. Replicating HOSA, with a dedicated distribution platform for apps coming from the private sector, would benefit the whole eco-system

A independent platform for service & content providers

- The platform would provide **integrated billing access** (via airtime and mobile money) **to all MNOs**
- It would act as a **distribution portal for content & service providers enabling SMEs to target the mass-market easily and bill content and services**
- It should be designed to benefit all stakeholders: users, MNOs, providers

Benefits for MNOs

- Boost of app usage
- Revenue share deal
- Identification of talented SMEs

Benefits for mobile content & service providers

- A unique brand is marketed as providing local content & services: heighten reach
- Direct access to end users and integrated billing system with all MNOs
- Revenue share deal

Platform

- The platforms allows access to IVR, java and SMS…
- … as well as smartphone apps
- The platform is marketed under a unique brand

Benefits for the end users

- Users are exposed to one brand, marketed as the portal that delivers local content and services
- Access to the platform is free of charge
- Services are available across all networks
- Each service listed by the platform can be free or at cost
- Users are billed as per airtime or using mobile money payment

The mHub model would concentrate on providing mobile centric services, with the primary objectives of complementing the mGov initiatives and existing networking arenas

KPIs	Pros	Cons
Reach & community	• Comes as a complement of ICT incubator and in support of existing social network • Focus on marketing the initiatives	• Difficulty to interest developers with no physical location • No ownership of events & ideas
Brand	• Brand could be built on tools provided • And active role in training (both tools and latest techno)	• Brand could be inaudible if strong effort in marketing HOSA & DEWAE • Lack of own initiatives can impact brand
Services	• Services designed to support identified gaps • Focus on mobile technology training and training on tools	• Can drain out interests from community of developers and entrepreneurs • Maintenance of the tools
Partnership	• Dedicated partners for tools • Partnership with IT institutes on training and projects	• Links more difficult with private actors • Capacity to attract sponsors
Access to finance	• Could be added but not primary focus	• Redundant with role of ICT incubator?
Sustainability	• No Capex needed, limited Opex • Capacity to attract sponsors to self fund events & training	• If low brand equity, impact on capacity to attract sponsors

The mLab model would provide the full scope of services, be strongly supportive of the private sector and be solely dedicated to the mobile eco-system

KPIs	Pros	Cons
Reach & community	• Physical location: a must to catalyse the community • Focus on marketing the initiatives	• Comes in competition with all other ICT incubators, even though it's focused on mobile • Community is too small?
Brand	• Brand could be built on full scope: services, tools, hot bed for innovation • Easier to built links with private sector	• Comes in competition with branding effort of ICT incubator • Private vs. public brand tension
Services	• Full scope of services provided • Possibility to set up internships and mentorship programs on site	• Redundancy of services offered by different incubator • Need to coordinate incubators in order to avoid duplication
Partnership	• Physical location is an asset to attract sponsors and long term partnership	• Too many recipients, risk of too few sponsors and partners • Risk of redundancy
Access to finance	• Could act as a role player in providing access to donors private sector investment programs (eg, ABDADE)	• Competition with other ICT incubators • Lack of focus on building the applicants business skills
Sustainability	• Physical location provides a long term asset for potential revenue	• Impact of higher running costs

The virtual incubator model comes as a support to already existing IT incubation initiatives, with a focus on building the community of ideas, entrepreneurs and local investors

KPIs	Pros	Cons
Reach & community	• Will be based on the reach of MCIT /mGov initiatives, thus national and at least for 3 years	• No fully owned reach and community • Dependency
Brand	• More of a supportive brand	• With no specific branding, could loose impact and capacity to attract and select ideas
Services	• Core activity to provide support and training to incubators • Also strong focus on access to BDS and finance	• Should all incubators be included? • Risk of redundancy with the many BDS already available
Partnership	• Will focus on building partnerships with financial enablers • Capacity to attract and built network of local investors	• Limited number of actors • Difficult to coordinate all donors and governmental initiatives
Access to finance	• Business development services • Access to financial enablers • Built local investors network	• The market place of ideas, entrepreneurs and local investors may not be big enough at the beginning
Sustainability	• No Capex involved • Capacity to self fund events	• Impact of low brand equity in attracting sponsors and partners