Enabling mobile communications for the needy:
an international comparison of solutions and impacts
(with focus on Europe)

L-F Pau, L.M. Ericsson Technology director ; Professor Mobile business
Rotterdam school of management and Copenhagen Business school

« Poverty is poison » (P . Krugman, The Hindu, 19/2/2008)

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Highlights

- The needy as not just the economically poor : addressing key human and social values
- Describe who are the "needy" , what they need, and the positive potential they represent for different communications stakeholders (besides society at large)
- Some data comparisons and analysis methods
- Solution approaches for discussion

- Asking how COST 605 can help the most

ROUGH ESTIMATION : 73 M poor people in EU (16 %-2004) , 2 M in EFTA , 160 M in areas part of Council of Europe

(Eurostat: poverty level defined at 60 % of national median income))

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EU-25 th poor in 2004

(Eurostat) (Averages in red)

COUNTRY	Income of 20 % wealthiest/ 20 % poorest (*)	POOR in % of population
Slovakia, Portugal, Ireland, Greece, Italy, Spain	7,2 (Portugal)	20-21
Estonia		18
Belgium, Poland, Germany, UK		Approx 16
France, Finland,Hungary, Austria, Luxemburg	Approx 4	12-14
Denmark, Netherlands, Iceland , Norway		10-12
Slovenia	3,1	10
Czek republic		8

Poverty level : 60 % of median gros income (e.g. CS: approx 4000 Eur/year, Luxemburg 15 500 Eur/year)

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(*) The poverty gap is GROWING over the past 40 years

Who are the communications « needy » in Europe: a description ?

• Poor , defined as such under minimum household revenue subsistance limit

• Homeless (still approx 30 % have work)

• Unemployed after expiration of unemployment and social benefits

• Isolated individuals of all ages, often subject to a social / medical fracture (39 % of age group 79-83 in France)

• Migrant workers who have or find very short term employment

• Elderly alone with home care on low pensions (under subsistance limit) (89 % of 79-83 age group in France)

• Displaced populations due to war or national disasters or growing climate change effects

• Some immigrants (total immigrant workers in Europe 190 M send 400 Beur home/year)

• Many disabled (deaf, etc..)

In addition : some categories of sick persons (hard to analyze)

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Why are the needy important ?

• Culturally in Europe : solidarity should still apply , by Constitution, according to faith, and/or by traditions

• Socially : for social cohesion, and their health , as well as in view of the heavy share inside the budget burden for unemployment, health, additional pension benefits, or emergency help

• Politically : as they justify or drive some political or ideological currents , and as voters

• Economically : the needy often are a welcome buffer for labour, and regional development in less afluent areas , besides being key customers for low cost distribution and housing

• Health policy: equal rights to medical care and sometimes protection apply

Why do the needy want telecommunications ?

- Manage daily life → services and community networks (incl. « village phones ») ;social calls in Africa = 10 seconds
- Break isolation → families and social networks
- Social cohesion → social networks
- Get out of unemployment → services and interaction
- Share initiatives and trade → business networks, find buyers/sellers ; business calls in Africa= 1 min
- Face emergencies → emergency networks
- Get healthier or prevent illness → telemedicine
- Identification → replacing identification by passport and proofs of residence
- Alphabetisation → read and write SMS's
- Safety for exposed por professions (fishermen etc) → localization

In 20 emerging countries surveyed by UNDP , poor are are wiling to use 5-10 % of earnings on communications connectivity

But for needy too, as for others, a mobile phone is till a « symbolic object » with diverse strong attractions

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Why are the needy important for communications, esp. wireless suppliers ?

Operators :
- 1) As European telecommunications penetration rates reach saturation, subscriber base increase mandates to approach untouched pockets of potential users in new ways
- 2) The service requirements of the needy , with heavy emphasis on community networks and specialized information services, offer both opportunities in new service creation as sometimes opportunities for reuse of narrowband overcapacity in traditional telephone networks
- 3) Offer unique services to public social and health administrations and alike, e.g. monitoring of compliance with social benefits via user reports and/or localization, diabetic treatments etc….
- 4) Possible separate brands for low income segments (FORSA, Marocco, not MEDITEL)
- 5) Cancel roaming fees for migrating workers (like Celtel in Africa)

Consumer electronics and terminals
- 1) Markets for low cost terminals originally developped for some emerging countries, with scale effects derived from those; problems however with the distribution channels

Infrastructure suppliers
- 1)Testing and ruggedizing for emergency use or in sporadic locations NodeG /RBS /link and antenna products
- 2) Femtocells in social housing, hospitals, and retirement homes
- 3) « Affordable » communications architectures and OPEX reducing tools (pre-configuration , hardware, open source software,antenna range extensions)

Billing, business models and financial services
- 1) Bundling schemes for prepaid wireles communications and simple mobile payment systems
- 2) Crediting of social benefits to identified beneficiaries by crediting their comunications account
- 3) Needy lead to small subscriber acquisition costs SAC) : give SIM → addict → recharge →use ;1 month payback on 1 Euro SIM card

Information services
- 1) Tailored personal services : social housing , shelters , etc
- 2) Tailored professional services
- 3) « Flashing » calls or call-me-back discount SMS
- 4) Transfer unused minute credits by SMS to family (like M2U in Africa)

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Policy debate : do enablers for the communications adoption by the needy have to be a public service/good ?
(« Universal service obligation »)

- FOR : necessary due to social cohesion goals (e.g. many old national regulations, EU Communications directive , US FCC Universal service obligation, « Plan numérique 2012, France »for 500 kb-1 Mb access)
- AGAINST : competition will achieve the same result at lower end user costs; esp. banks who finance operators are against
- NEW ENTRANTS : claim that WiMax or Satellite communications change the cost basis NB : approving of such initiatives creates new de facto local monopolies

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Universal service fund in the « Boondocks » in USA

- The regulated Universal service fund in US takes a % off fixed telephone bills to send to operators serving rural telephony and Internet for rural schools (2005 : 8,6 BUSD/year)

- Rural operator examples: Altel, Counry Roads, Centurytel ,Wildbkue etc

- Real achievements : keep some rural operators and local politicians afloat with all the perks ;one Hawai telephone company gets a USO subsidy of 13345 USD/line making a private satellite link cheaper ; each Alaskan gets 175 USD/person and in Wyoming 282 USD/y

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Seggregating regulations or practices

- Universal service obligations (USO) imposed by regulators onto operators, who don't like them as they disrupt their management and CRM systems, thus not much is implemented in practice

- Exceptions granted in effect to universal service obligations, whereby communications services (such as broadband and even mobile) are denied all citizens in some areas (low population density, poor/migrant population etc)

- Legislative or regulatory measures imposed on infrastructure owners to serve special areas, with or without network sharing,ending up in geographical pockets with no communications access

- Black listing of some communications users (addiction to communications, overuse, high costs) treated differently and with no mediated solutions as in financial credit overexposure

- Abuses by some needy of other needy when many borrow phones or terminals owned by the few lucky ones, with no protection whatsoever

- Identification by passport and proof of residence with no replacements for migrants and homeles

Theoretical analysis methods

- Social sciences research methods about social inequality and exclusion, mostly reduced to surveys in view of many different situations

- Knowledge distribution models to break digital divide

- Affordability analysis

- Novel business genetics approaches which model the forces of attraction / disruption and their dynamics across networks (users and suppliers) subject to service level agreements (SLA)

- Personality assessment methods

The needy's purchasing power in mobile minutes

COUNTRY	POVERTY INDICATORS (IMF www.undata.org ,2006)	MOBILE TARIFF www.erg.eu.int ,Tarifica , Intelecon	A POOR's PPP MOBILE MINUTES/month**
Mexico	-GDP PPP 14120 $/y -2 nd Poorest quarter 92 $/mo (30,9 % pop) -Poorest quarter 32 $/mo (34,6 % pop)	-0,49 $/min -Entry barrier 32 $ + min. recharge 9 $/instance	1440
Marocco	-GDP PPP 2400 $/y - 21 %of pop under poverty line	- 0,14 $/min -Average -Prepaid 96 %	857
Georgia	-GDP PPP 4694 $/y -3 Euros/month pensions for isolated seniors	0,14 Eur/min	
Tanzania	-GDP PPP 1256 $/y	0,31 $/min --50 USD handset = 1 year of savings	202
Portugal	-GDP PPP 21779 $/y	-ERG average 0,1319 Euro/min	8255
France	-GDP PPP 33509 $/y -7,9 M poor (INSEE, or 13,6 % of pop) (< 882 Eur/mo, 2006) ,highest in towns of > 20 000 -100 000 homeless (Fond Abbé Pierre)	-ERG average 0,0980 Euro/min -550 000 households have no possible Internet acess	17096

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**: ((GDP PPP)*0.6) / (MT*12)   represents the monthly full purchasing power in mobile minutes

The needy's residual purchasing power and the affordability concept

- Each society and community ranks spending items by priority levels but behavior is erratic as income is even more

- Needy in Europe have in general the following ranking for themselves and family:

  1. Food

  2. Housing and then required utilities

  3. Acute Health and sanitation

  4. Communications

- COST 605 has generated a simple risk analysis methodology to assess the residual purchasing power available for communications , and to compare it with tariffs ; this extends also to addiction cases

Some solution approaches: active solidarities (I)

Regulatory

-Social tariffs : Award USO income to reduce net subscription cost of needy recognized as such by social institutions (France 7/2008 , result of a COST605 partner's work)

-Local municipalities subsidize indirectly the needy as MVNOs or local satcom hubs, delegating operations to local industry

Policy

-The right to high speed Internet (Finland: 10 Mb for all in 2016 , France : min 512 kb from 2010 for max 35 Eur/month everywhere via a legislated « opposable right » alike electricity / water access, announced at CeBit 2008) ; but will it work when facing operators ?

-Taxation : put VAT on all private communications services at same level as lowest VAT on utilities

-Discrimination laws: extend them to those excluded from communications

Service creation

-Knowing that adoption speed is much less in communities than for individual subscribers, invest in community networks and delegate management

-Service creation, also by NGO's for services such as "sending minutes or MB access" to relatives and needy

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Some solution approaches: active solidarities (II)

Design

-Impose equipment providers and operators to provide technical solutions meeting cost ceilings , triggered by RFP's by government

-Improve user interfaces of mobile phones for illiterates,elderly etc.. (approx 9 % of population 18-65 y in France)

Financial

-Micro-credits to finance mobile phones or Internet access points (like Village Phone, Bengladesh and Grameen Bank)

Individual / environmental

-Donate old mobile terminals which can be recycled or reused (France :12 M mobiles thrown away/y ; www.fnath.org collection points where 1 old mobile yields 4 Euros)

Associative/NGO's

-Exempt from VAT and donate bulk communications to NGO's working for the poor (Petits Frères des pauvres, Fondation Abbé Pierre etc)

-NGOs as MVNO's for emergency communications (Association Télécoms sans frontières)

European and other initiatives

- EU: E-Inclusion plan for the digital economy (signed in Riga, June 2006), focussed on Internet, disabled and telemedicine ; mostly goals but few concrete measures

- UN Millenium development goals to fight extreme poverty

- UN Development program: vision of « Communication for all » focussing on developing world

- Swedish development agency SIDA / Ericsson deployments in poor countries (e.g. Celtel in Sudan Congo, Sierra Leone, Tchad, Uganda) ; coverage on Victoria Lake for fishermen

- GSM Association's Foundation for development

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Distribution issues

- No operator or distribution help in reselling used phones (like in India)

- Top-up cards must be available widely as needy cannot travel

- Like in the emerging countries, allow small local shopkeepers to benefit from selling top-up cards , repairs and power charging (where there is no electricity)

The way forward :
- create policies and processes to respect the needy and the values they bring
-realize the contributions of the needy

- What should be the actions to prioritize ?
- Can this COST 605 project help do background work ?

A more formal definition of the communications "needy"

- A definition hinges on the existence of a useful communication channel, for whatever services the individual needs

- It should be access technology neutral

- It is not possible to categorize communications needy due to overlaps or diversity

- A public authority should not cater for those who isolate themselves although classified as needy, because of the imperative to involve all in the knowledge society and not to cut off close family/households.

Qualifies as a "needy" who satisfies one or both of the conditions ;

- *Social criterion : the immediate communications partners are equal or less to twice the average national family size*

- *Economic criterion : negative residual disposable purchasing power , or gross personal purchasing power under national poverty criterion*

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