The Canvas hack

- Please email your assignments to a.almaarif@vu.nl, if you have not done so already
- We use https://www.dise-lab.nl/ict-in-the-global-south/ to communicate with you, until Canvas is back again

ICTs and poverty alleviation

Does ICT really help, and how

Lecture 9

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The lecture is heavily inspired and based on the content from book:

Information and Communication Technologies for Development ICT4D by Richard Heeks. Most of the content and figures are taken from Chapter 5.

Different kinds of poverty

- In absolute terms**: lack of money**!

- Pronounced **deprivation** in **well-being**, World bank
  - A significant, severe lack of essential needs, resources, or opportunities

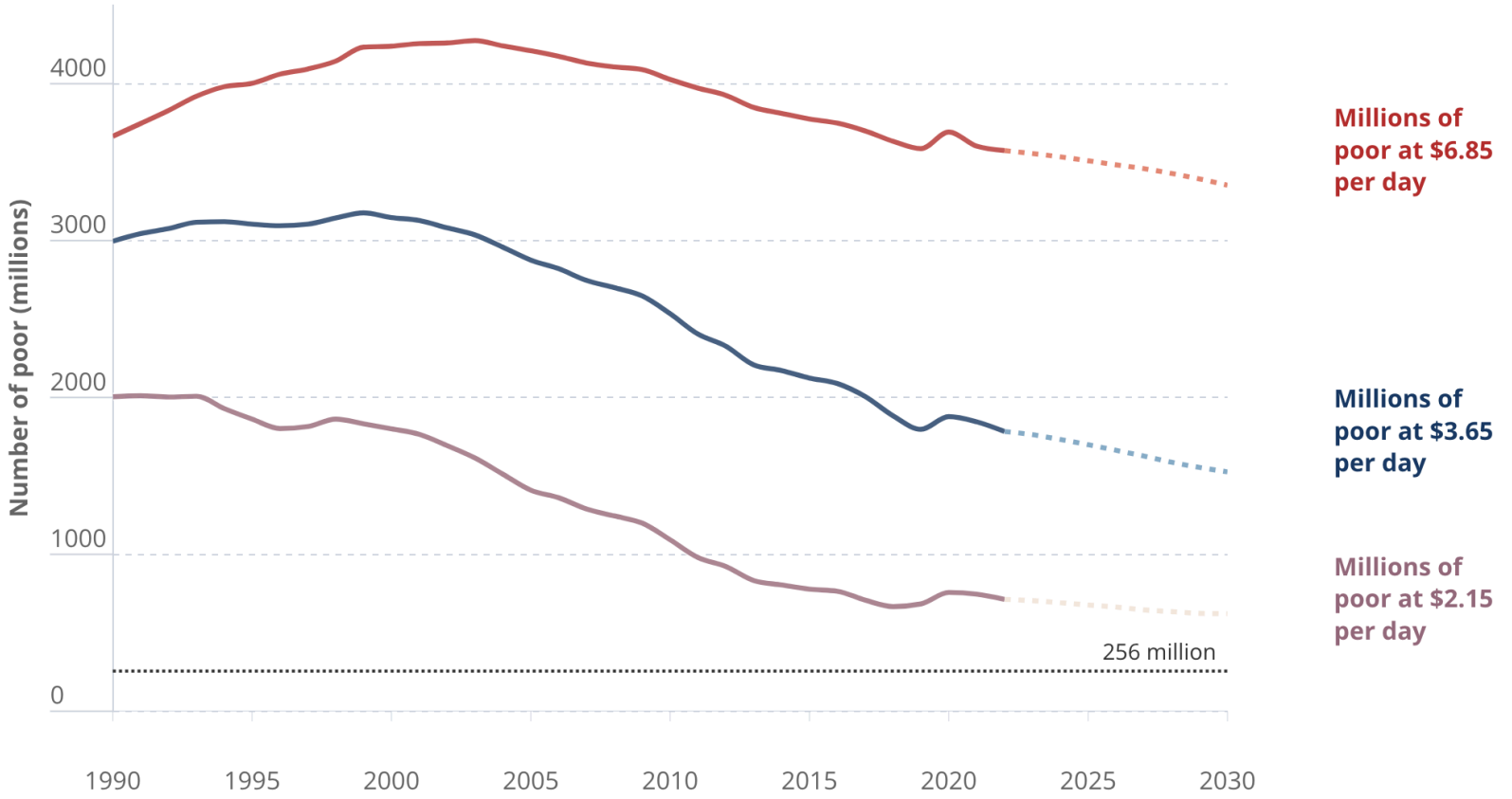
- **Powerlessness** and **voicelessness**, IMF
  - Poverty goes **beyond low income** to include lack of control over one's life, limited choices, and vulnerability to economic or social shocks.

    Narayan, Deepa. “Poverty is powerlessness and voicelessness.” finance and development 37 (2000): 117-120.

About half of the world's population is poor, about 8.5% extremely poor

- Total world population: 8300 M
- About 700 M < $2.15 a day
- About half < $6.85 a day

Source: Worldbank, Ending Poverty for Half the World Could Take More Than a Century, press release, 15, 2024



The UN Sustainable Development Goal number 1

SDG1: End poverty in all its forms everywhere.

Eradication of Extreme Poverty (1.1): Ending extreme poverty (currently defined as living on less than $2.15/day) for all.

Multidimensional Poverty Reduction (1.2): Halving the proportion of people living in poverty according to national definitions.

Social Protection (1.3): Implementing systems to protect the poor and vulnerable.

Resource Access & Resilience (1.4, 1.5): Ensuring equal rights to economic resources, basic services, and technology, while building resilience to disasters and environmental shocks.

Policy & Mobilization (1.a, 1.b): Mobilizing resources and creating pro-poor, gender-sensitive policy frameworks.

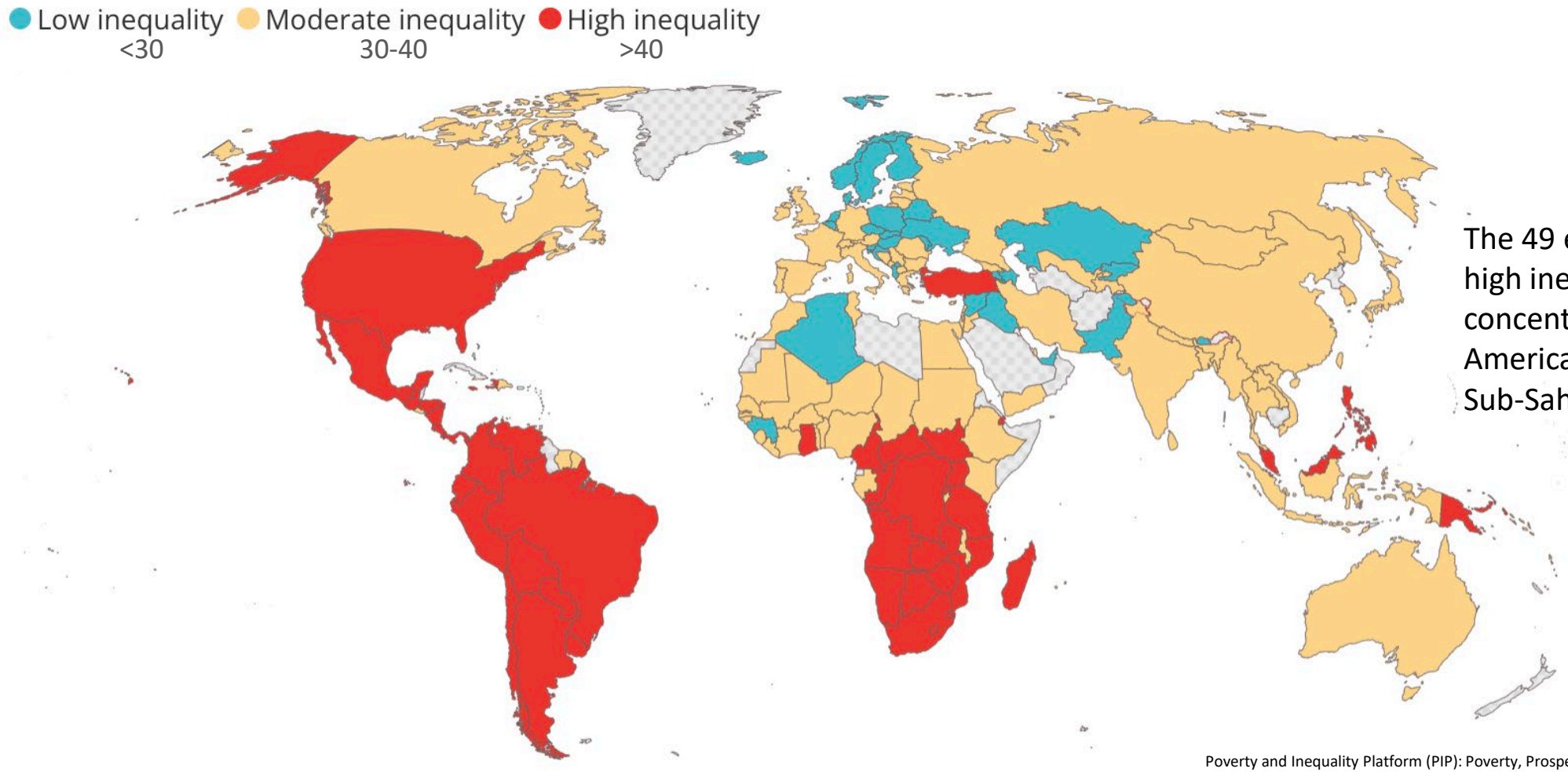
Poverty is relative to others: the Gini coefficient

- Poverty is closely related to **inequality**
- Poverty is **not absolute**, but relative to your peers
- Poverty has a **localization** dimension

- **Relative** poverty:
  - Earning less than 60% of the median income (in a geographical area).
  - Measurement of inequality – **Gini coefficient** (0-100)
    - Gini = 0: income is **perfectly distributed** (everyone gets the same)
    - Gini = 100: **one person gets everything**, the rest nothing

- Globally, **one in five people** live in a highly unequal society.

How the Gini coefficient works out in countries



The 49 economies with high inequality are concentrated in the Americas, Caribbean and Sub-Saharan Africa.

Poverty and Inequality Platform (PIP): Poverty, Prosperity and Planet report (2024)
https://blogs.worldbank.org/en/opendata/the-geography-of-high-inequality--monitoring-the-world-bank-s-ne

SDG10: Reduce inequality within and among countries

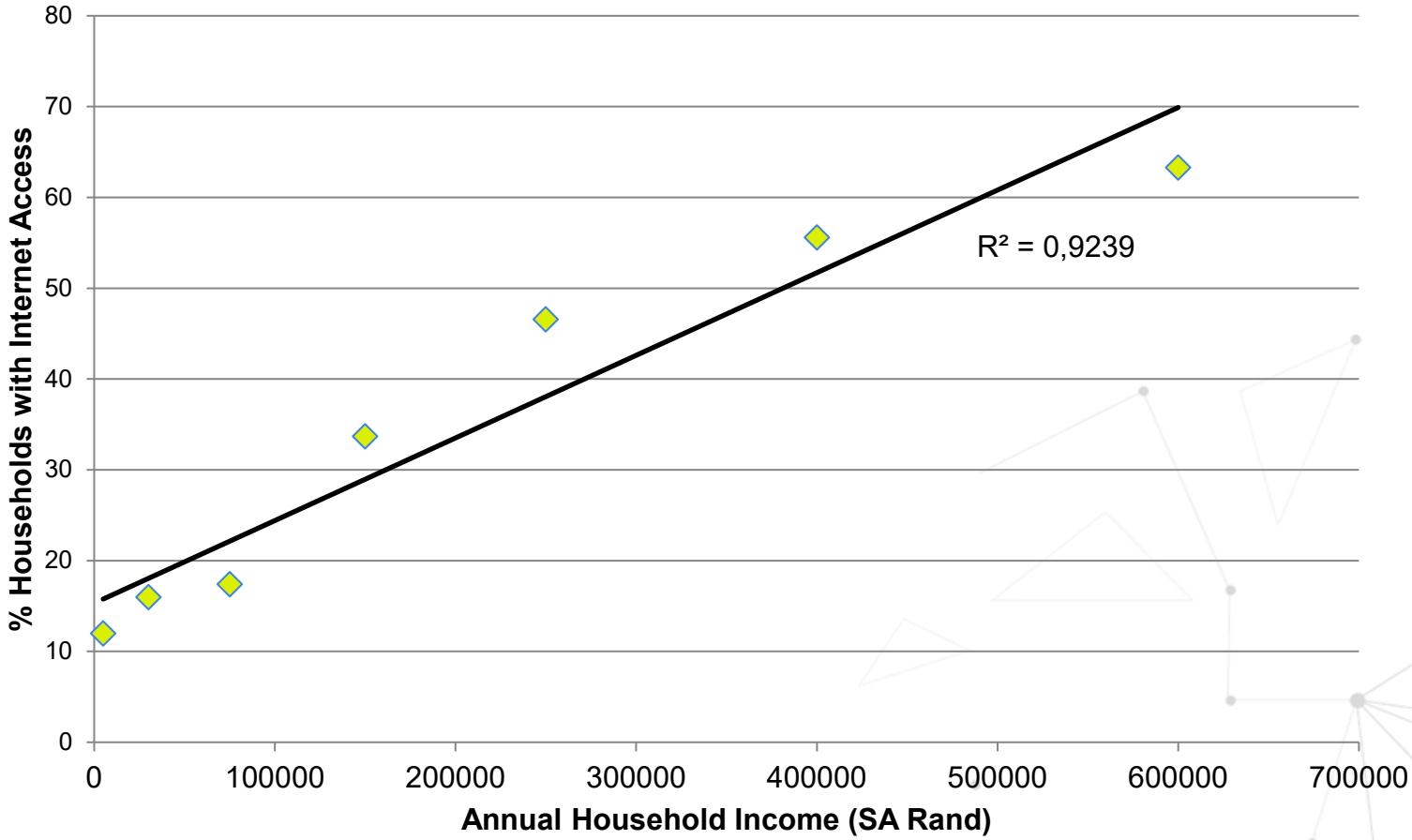
Income & Economic Growth (10.1, 10.4): Achieving income growth for the bottom 40% of the population at a rate higher than the national average. It also emphasizes adopting fiscal, wage, and social protection policies to achieve greater equality.

Social, Economic, and Political Inclusion (10.2, 10.3): Empowering all people regardless of age, sex, disability, race, ethnicity, origin, religion, or economic status. This includes eliminating discriminatory laws, policies, and practices.

Financial & Global Governance (10.5, 10.6): Improving regulation of financial markets and enhancing representation of developing countries in global decision-making.

Migration and Development Assistance (10.7, 10.a, 10.b, 10.c): Facilitating safe, orderly migration, implementing differential treatment for developing countries, encouraging financial flows, and reducing transaction costs of remittances.

ICTs and financial poverty



ICTs and financial poverty

Households in Peru using the internet earned an average 19% more than similar households which did not use the internet (de los Rios 2010).

Access to broadband in Ecuador increased household annual income by 5% (Katz & Callorda 2013).

“with every one unit increase of ICT access, one sees a 3.7 % improvement in one’s poverty status from 2007 to 2008 and 2010 in four Eastern African countries” (May & Diga 2015:98).

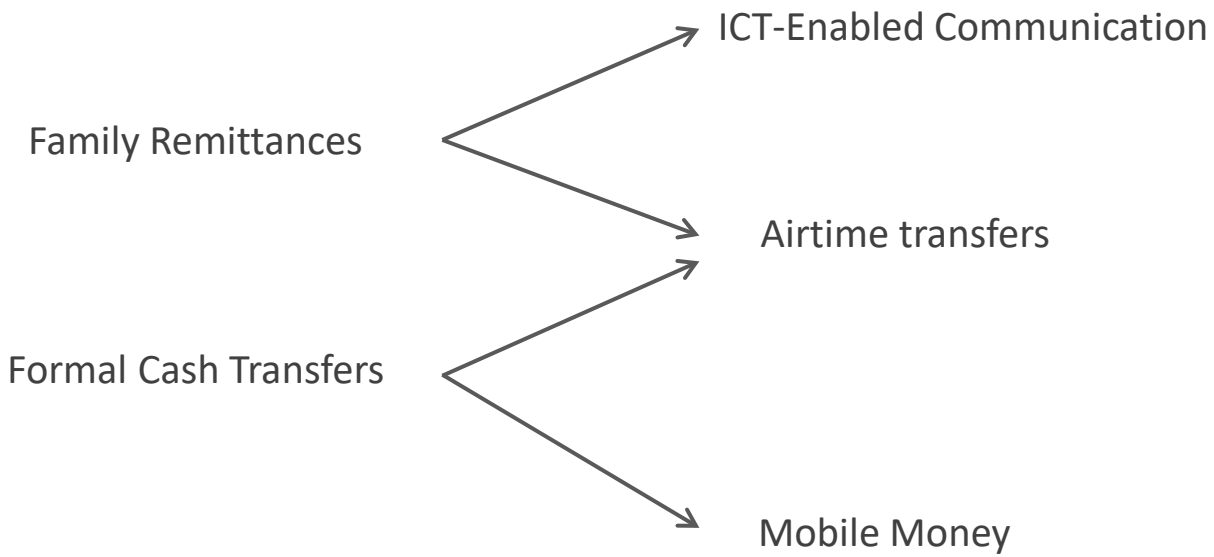
ICTs and financial poverty

- **Getting** money
- **Saving** money
- **Making** money
- **Spending** money

Getting money: Banking the unbanked

Who remembers the **Libra**?

- Most basic -- communicating with social contacts to receive money
  - Pre-existing formal and informal methods: *hawala*, *hundi system*



- *Whether the money being obtained with/through ICTs is "new" money?*

New money – substitution through ICT

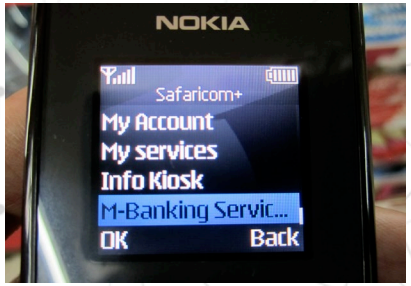
Farmers and rural entrepreneurs in Niger would, on average, require a three-hour round trip to the nearest main market. Substituting that with a phone call in order to gather information would save around 300 CFA (US$0.5) (Aker & Mbiti 2010).

It is estimated that mobile money reduces the cost of sending $100 internationally from $8 to $2 (Jack & Suri 2014).

Micro-entrepreneurs in Nigeria typically spent up to N250 (US$1.25) on a phone call but saved N1,000 (US$5) on the typical cost of a taxi journey; a net saving of US$3.75 (Jagun et al 2008).

M-Pesa mobile money system

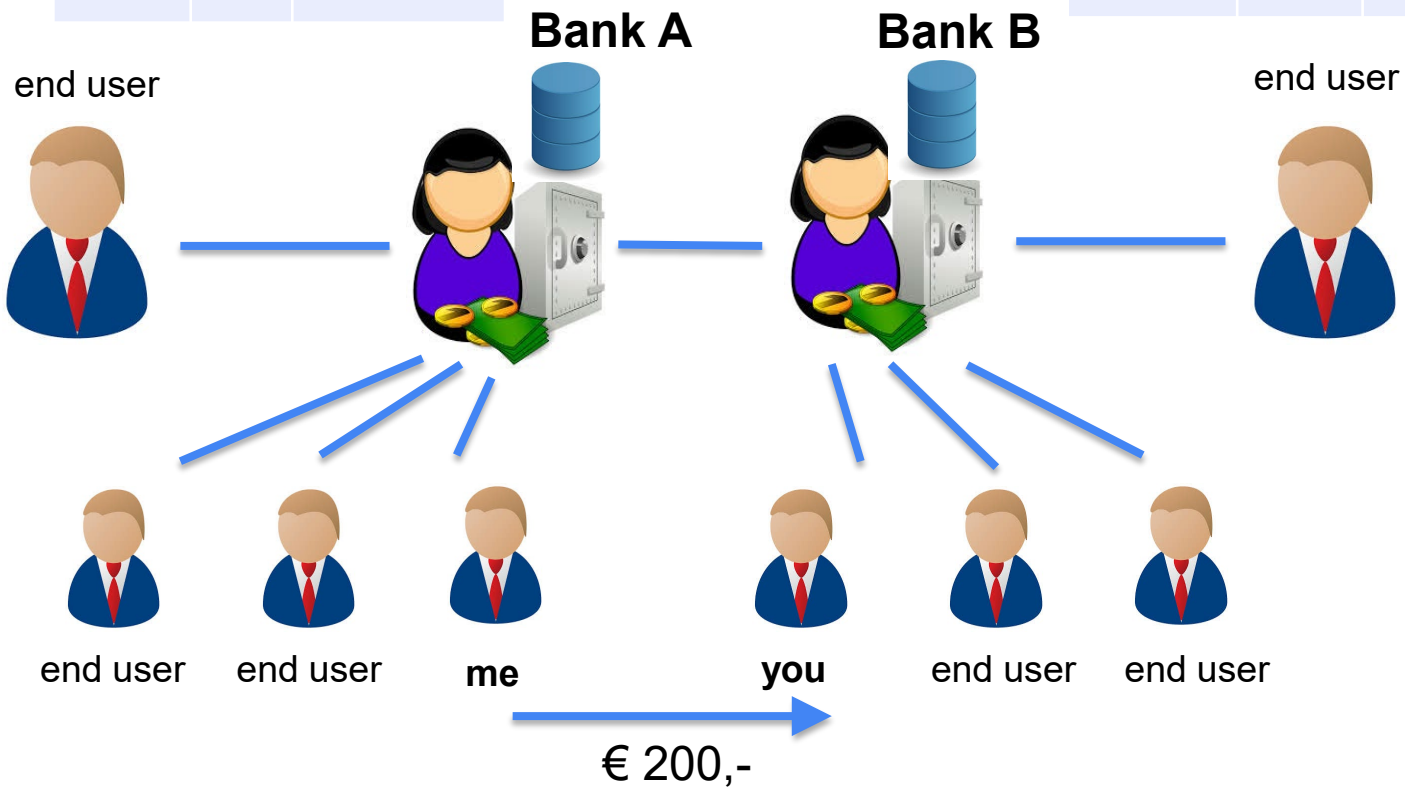
- 2003, £ 1m, Vodafone – Kenyan partner Safaricom
- Initial plan: Use mobile phones to support a large micro-finance institution – Faulu Kenya
- *Unintended outcome: phone users sending credit to each other*
- Two core functionalities
  - Conversion: e-cash ←→ real cash
  - Transfer: e-cash through SMS (containing recipient's mobile number and amount)
- 96% of Kenyan households use it today, 51 million customers, $315 billion dollar transaction/year
- **Reasons for success:**
  - Supporting government policies
  - Higher consumer demand
  - Societal instabilities
  - Presence of large agent network



Blockchain and alike: the problem of **trust**

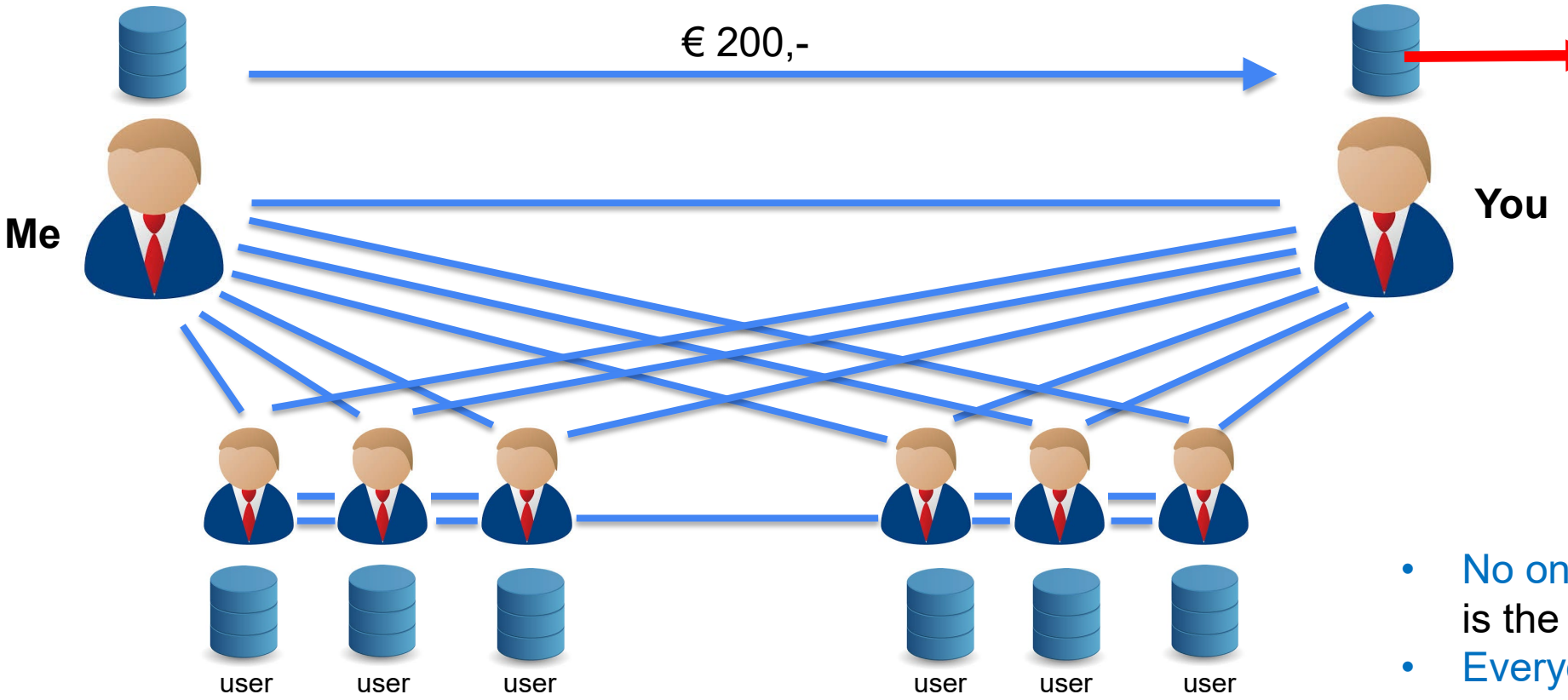
From	To	Amount
…	B	…
K	B	100
A	B	200

From	To	Amount
A	…	…
A	F	500
A	B	200



- The banks are trusted by everyone
- Only a few banks (e.g., in NL) are required to offer services to everyone

Blockchain and alike (cont'd)



From	To	Amount
A	…	…
A	F	500
L	Y	200
…	B	…
K	C	100
A	B	200

- No one needs to be trusted, trust is the cryptography
- Everyone is a bank

ICTs and financial poverty

- Getting money
- Saving money
- Making money
- Spending money

Saving money with ICT

"there is evidence that these [*m-money*] accounts were used to accumulate small balances that may be indicative of savings" (Blumenstock et al 2015).

Controlling for other factors like income, education and wider community use of mobile money, use of the M-Pesa system was found to make it 20% more likely for individuals to report savings (Demombynes & Thegeya 2012).

Even if people don't save more, they save differently, holding their savings on the mobile money system rather than in the riskier form of physical cash: women in Kenya described this as a way to keep their "**secret savings**" safe from their husbands (Morawczyski 2019).

- Hindrances in big savings:
  - Transaction costs, lack of trust, regulatory barriers, information and knowledge gaps, social constraints, behavioral biases

Financial inclusion

Mobile money as a platform for financial services

Main challenge: human, not technological

Limited financial literacy: the poor are increasingly being offered financial products about which they have limited understanding!!

Making money wit ICT

- Intensive – improving existing livelihoods
- Extensive – creating new ICT-based livelihoods

Role / **Application**	**Intensive**	**Extensive**
Entrepreneur	a) Improving income for a traditional enterprise	c) Creating or improving an ICT sector enterprise
Employee	b) Getting a new or better traditional job	d) Getting a new or better ICT sector job

Making money – traditional enterpreneurship

Enterprise Participation

Moving from not being entrepreneur to being one. 26% from a survey in Egypt were influenced by mobile phones (Sameul et.al 2005).

Commerce Participation

Moving from not selling your outputs, to selling them. Limited data available

Market Participation

Moving from selling to one person, to selling in market. Banana farmers in Uganda went to market after having mobile phones (Muto & Yumano, 2009).

Value Chain Participation

Moving from selling to market, to selling into a longer supply chain. eChoupal in India facilitated selling soyabeans to large corporations resulting in 33% more profit (Goyal 2010).

Making money – Securing traditional job

- Key sources of poverty is unemployment or underemployment
- Employment increases by 15% when a locality receives complete network coverage (Klonner and Nolen,2010).
- How ICTs help:
  - Information about jobs – weak ties vs strong ties
  - Digital employment exchange – formal job market for informal workers (babajob from India)
- Challenges
  - Ongoing information failures causing lack of trust
  - Lack of resources to turn information into action

Making money – Working in ICT sector

The majority of ICT-based employment is found lower in the economic pyramid

- 70% of telecommunication-related jobs created in Pakistan (~1 million) were payphone operators and airtime retailers.
- 41% in rural Nigeria earned from offering mobile call services, selling recharge cards, or charging mobile phone batteries.

The outsourcing continuum

Impact sourcing – targeting IT outsourcing contracts to marginalized groups

- Kudumbashree, Karela (India): Data entry and other digitization tasks delegated to women from below-poverty-line families resulted in $540 annual income
- ~1 million workers from Africa and Asia are working in Impact sourcing

Making money – Working in ICT sector

Growing examples of marginal livelihoods created in black and grey digital economy.

- Scamming
- Gold farming
- Click farming
- Gambling
- Cybersex
- Blackmail

Even when perfectly legal, ICT sector employment can be precarious

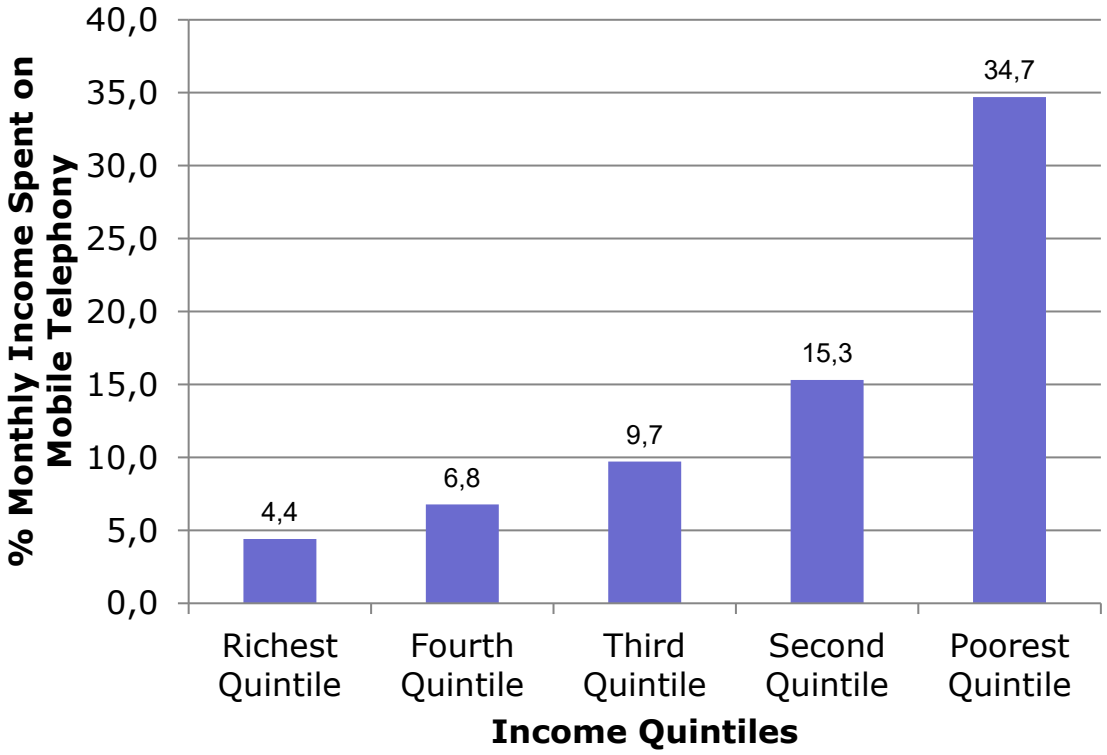
- Grameen phone ladies case study from Bangladesh

Intensive vs extensive – 95:5 hypothesis

Intensive consumer-related ICT uses touch 95% people and make 5% change in their lives
Extensive producer-related ICTs uses touch 5% people and make 95% change in their lives

Mathematically both have the same development effect so ideally both should be adopted
Reality : consumer-related ICT applications is given far, far more attention

Spending money with/for ICT



Money spent across income quintiles in (selected: Bangladesh, Pakistan, India, Sri Lanka, Philippines, Thailand) Asian countries

Poor spend **significant amount** of money on ICTs, percent-wise

Where does this money come from?

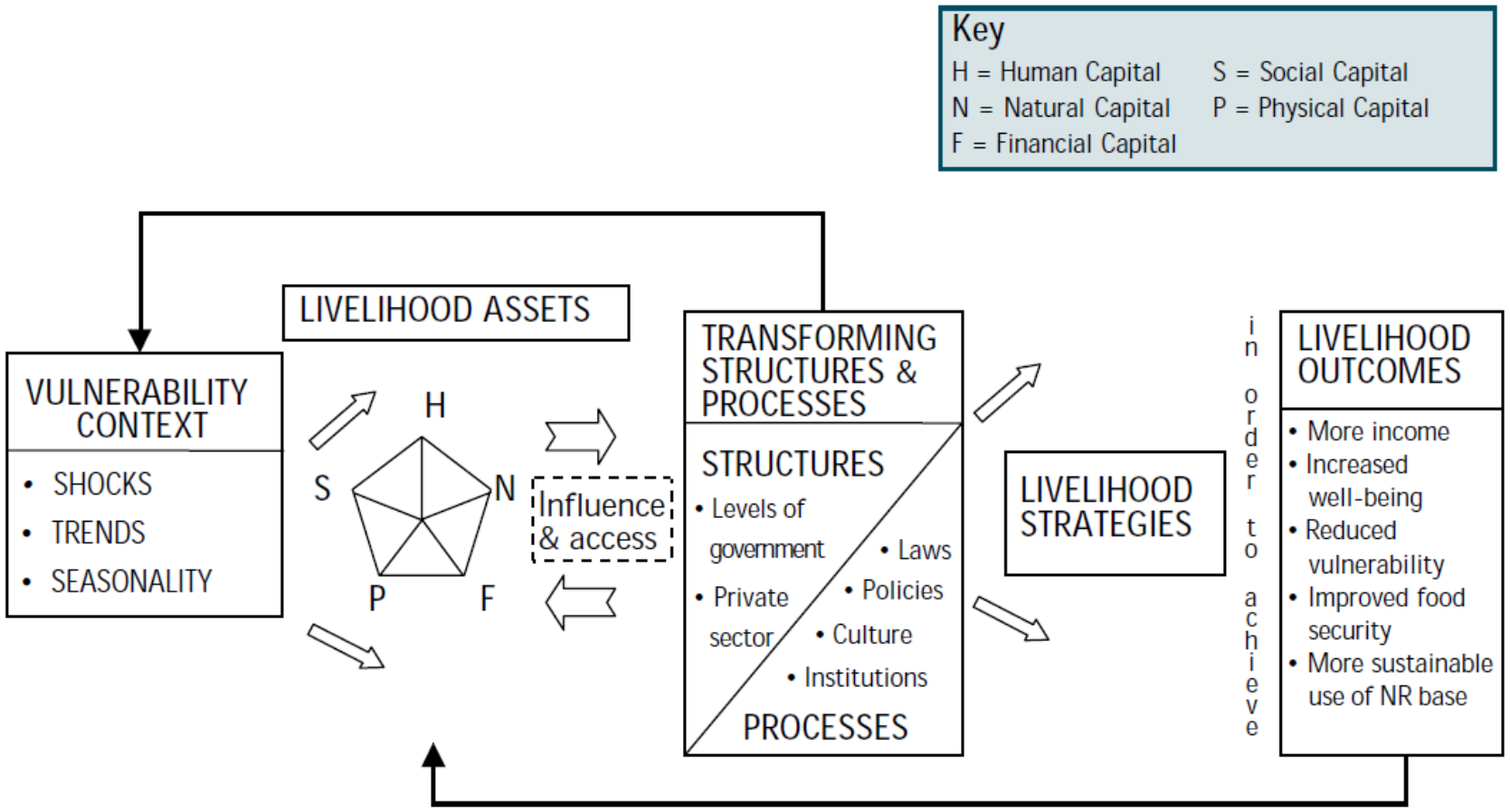
- Usage of free services,
- Diversion of expenditures such as, smoking, replacing bus journey by walking, energy for heating/lighting

Do the costs outweigh the benefits?

- The evidence is mixed and limited

ICTs and livelihoods

Livelihood assets:
H: Human capital
P: Physical capital
S: Social capital
F: Financial capital
N: Nature capital



Sustainable livelihood framework

Sustainable livelihood framework

For the scenario cards provided to you on paper:

i) Identify the elements from the framework for your scenario card.
ii) Using the framework to brainstorm about an ICT solution that contributes to improving the poverty situation.
iii) Put your results on 2 – 3 slides

Livelihood assets:
H: Human capital
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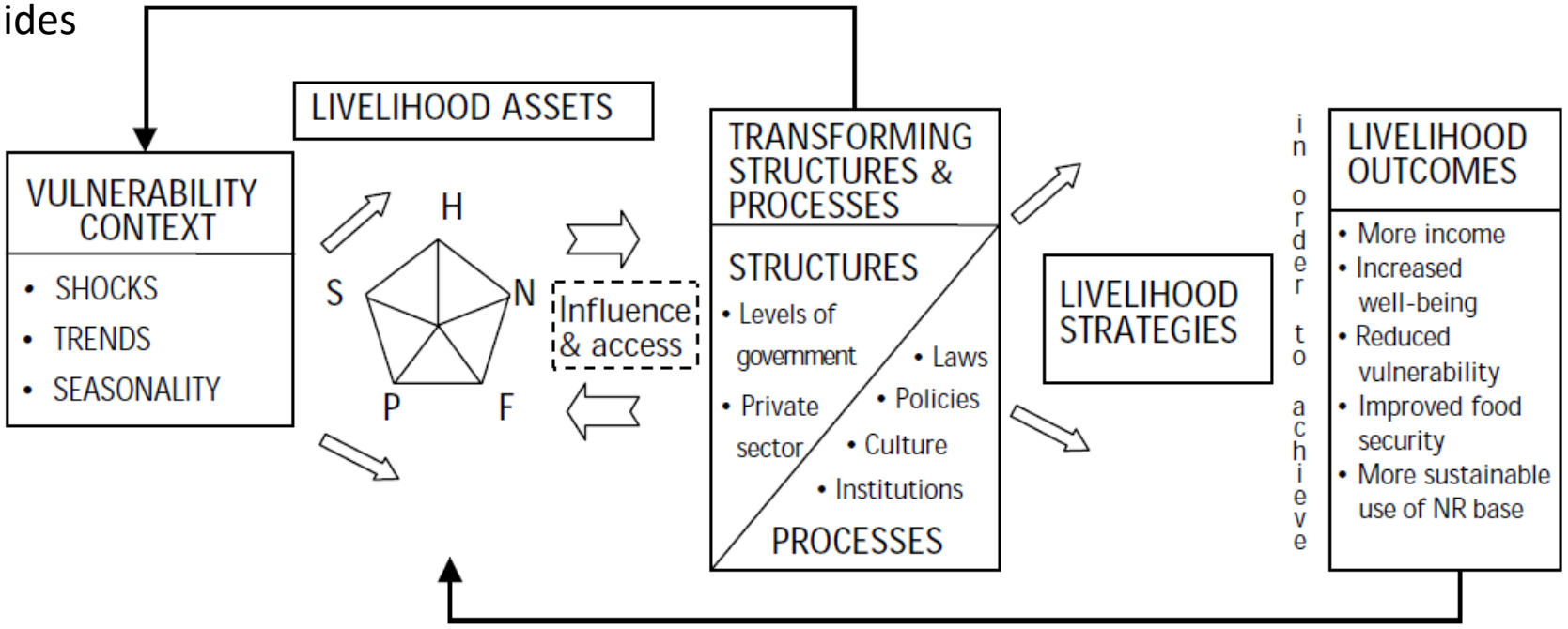

Sustainable livelihood framework