

#### The contribution of ICTs to educating marginalised children









#### **Outline**



- Who is marginalised?
- Context of report for Save the Children
- How will ICTs be used to support some of the most marginalised?
- Innovative case studies



#### Who is marginalised?



- Recent exercise with a group of students in India
  - Rickshaw drivers
  - Child labourers
  - Remote tribal people
  - Low paid hospitality workers
  - Poor rural children
  - Slum dwellers
  - Daily wage migrant workers
  - Manual sewage pipe cleaners
  - Women in patriarchal societies
  - Blind people
  - Street children



#### Recent report on ICTs and education in 2025...



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- For Save the Children
- Where will ICTs be in 2025?
- Where will Basic Education be in 2025?
  - Especially for most marginalised children
  - Including refugees
- How will ICTs be being used to support them?

#### THE FUTURE OF LEARNING AND TECHNOLOGY IN DEPRIVED CONTEXTS



A report for Save the Children

Tim Unwin, Mark Weber, Meaghan Brugha and David Hollow

#### **Initial observations**



- Pace of change in education is slow; innovation in technology is fast
  - So technology has increasingly driven the agendas
- Absence of technology is itself a measure of deprivation
  - The most deprived have least access to ICTs
- Educational outcomes need to be clearly articulated, and technology then used to facilitate change
  - ICTs are not the silver bullet they are often seen to be
- Much hope but little certainty!

#### ICTs for primary learning: Low income areas in 2025



- 1. Huge diversity
  - The most impoverished will remain so
- 2. Increasingly successful ICT solutions to facilitate learning
- 3. Teachers using technology more effectively
- 4. Learners accessing relevant content anywhere any time
- 5. Increasing automation of administration and assessment
  - At a range of scales from classroom to district and national levels

### ICTs for primary learning: crisis affected areas in 2025



- 1. Crises will increase in number: war, climate change, disasters
- 2. Mobile technologies will enable "mobile people" to continue learning
  - But will still require direction and facilitation
- 3. Learning in a box flexible solutions will increasingly be used
- 4. Refugee camps increasingly with digital learning hubs

#### **BRCK and Kio Kit in** Solomon Islands



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Platform/CPU	Dual Core 64-bit Intel Atom 1.33MHz Processor
Memory	2GB DDR3 RAM (Expandable to 4GB)
OS	BRCKOS Linux based Operating System
Storage	8GB eMMC OS Storage and up to 5TB SATA HDD/SSD Data Storage
Screen	2.0" elnk display for network and power information
Battery	59Wh battery for 8hr battery life
WiFi	3x3:3 W a/b/g/n 2.4GHz WiFi Optional 5GHz WiFi available
Ethernet	3 x Gigabit Ethernet. 1 port POE in. 1 Port POE Out
Cellular Connectivity	Triple SIM Failover, LTE, HSPA+, GPRS connectivity
Dimension	178mm x 225mm x 52mm
Weight	2200gm
Ports	$3 \times$ Ethernet Port, $3 \times$ SIM Card Slot, $1 \times$ USB 3.0, $2 \times$ WiFi antennas $2 \times$ LTE antennas, $1 \times$ BRCK IO Expansion Port
Antennas	2 x WiFi RP-SMA External Antennas 2 x LTE SMA External Antennas
Power	5 - 24V DC input. Solar Compatible. 802.3af POE input.
Expansion	Raspberry Pi Compute Expansion port with embedded Ethernet 2 x PCIe expansion (internal) 2 x NGFF (M.2) expansion (internal)

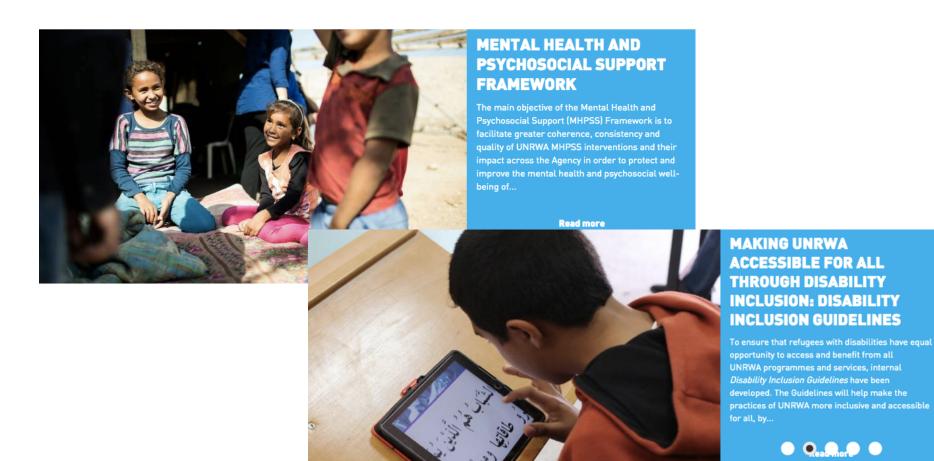
#### **UNRWA** with refugee children in Jordan



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#### **Good practices (Mike Trucano**, 2016)





#### Box 2: Notable practices for using ICTs effectively in poor, rural and isolated communities

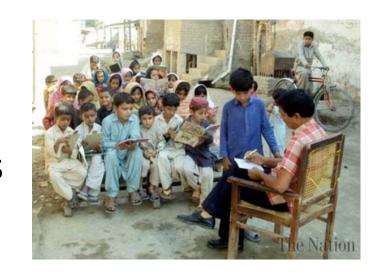
- Using "old" technologies (like radio and television) in new ways
- 2. Sharing one device with lots of people
- 3. Caching on-line content for offline use
- 4. Promoting literacy and learning, and supporting teachers, with mobile phones
- 5. Using low-cost video to support peer learning and support
- 6. Developing content and tools locally

Source: Trucano (2016)<sup>xliv</sup>

## Conclusions: ICTs for education United Nation In marginal contexts (1) United Nation Educational, Scientific an Cultural Organization



- Focus on educational outcomes
- Need for a holistic view
  - Education, ICTs and Finance Ministries
- Governments must prioritise education
- Priority first on technology for teachers, and only then schools
  - Questions over low-cost private solutions



Design at scale

http://nation.com.pk/national/08-Sep-2015/38-pakistanis-satisfied-with-govt-schools-gall-up-pakistan

## Conclusions: ICTs for education in marginal contexts (2)



- Potential of indirect solutions
  - Maternal health training
  - Role of parents and communities
- Reliable old technologies still have uses
  - Radios, TV, and community telecentres
- Must include child online protection
- Use of content caching and data updates
- Relevant local content development







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# With them



## For them

http://unwin.wordpress.com