INEQUALITY IN THE 4IR ERA

The opportunities, risks, and threats for the long-term sustainability of WAPA Business Models

An Opinion by Walter Brown: walter@sakan.org.za
presented to WAPA Members at the

WAPALOZA 2019 CONFERENCE | 16 – 18 September 2019

References are provided as [hypertexts](#) – please get a soft copy to access these links

1. A Review of the Multidimensional Nature of South Africa's Inequalities
   - Income   • Poverty   • Education   • Health   • Gender   • Work   • ICT
2. The Role of ICT in containing and reducing these inequalities
3. The Consequences of Inequality on South Africa's Socio-Economic-Political Environment
4. The Consequences of Inequality on the Sustainability of WAPA Business Processes
5. The Opportunities available to WAPA to Mitigate Inequality and Secure their Futures
6. A Platform for Discussion and Development of WAPA Intervention & Survival Strategies
7. Conclusion

South Africa has immense economic, social, and technological opportunities and prowess, driven by excellent business and technological competency and skills. These attributes are not shared equitably throughout the nation – this imposes significant threats that can derail the nation's immense opportunities for development with socio-economic-political stability........

The role of ICT in human and national development

1. ICTs, in all their predecessor names and technological variants, have always been vital tools for human development and survival, supporting human evolution from its origins 350,000 years ago to where humans are today

2. ICT Development is now driven more by their commercial utility than their value for national development – they are priced out of reach of most South Africans

3. The objective of this presentation is to begin a conversation that examines the possibility of WAPA members fulfilling the dual role of ICT – national and citizen development and commercial gain for WAPA members, in a win-win relationship

PHILOSOPHY TO CONSIDER: *"The test of our progress is not whether we add more to the abundance of those who have much: it is whether we provide enough to those who have too little"* - **USA President Franklin D. Roosevelt – Jan. 1937**.
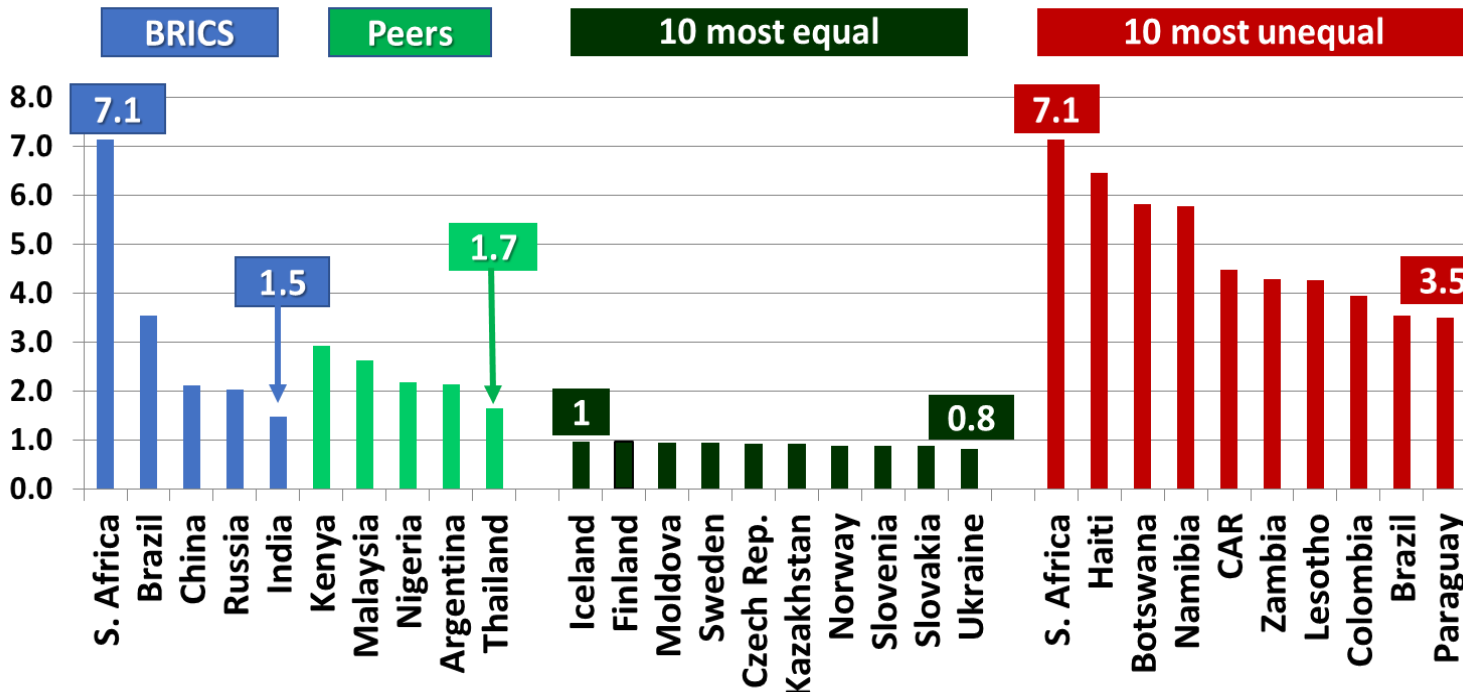
INCOME INEQUALITY (SDG10)

"There should exist among the citizens neither extreme poverty nor, again, excessive wealth, for both are productive of great evil." – Plato, about 400 BC

Inequality: Palma Ratio

(GNI Share: Richest 10%: Poorest 40%): Source: UN Human Development Report 2016

| BRICS | Peers | 10 most equal | 10 most unequal |

Probably the most dangerous social phenomenon facing humankind

- Major trigger for wars throughout history
- Linked directly to the Apartheid "Civil War" that nearly destroyed S. Africa
- Major trigger for current and future Xenophobic Violence
- Close links with Inequality in Education
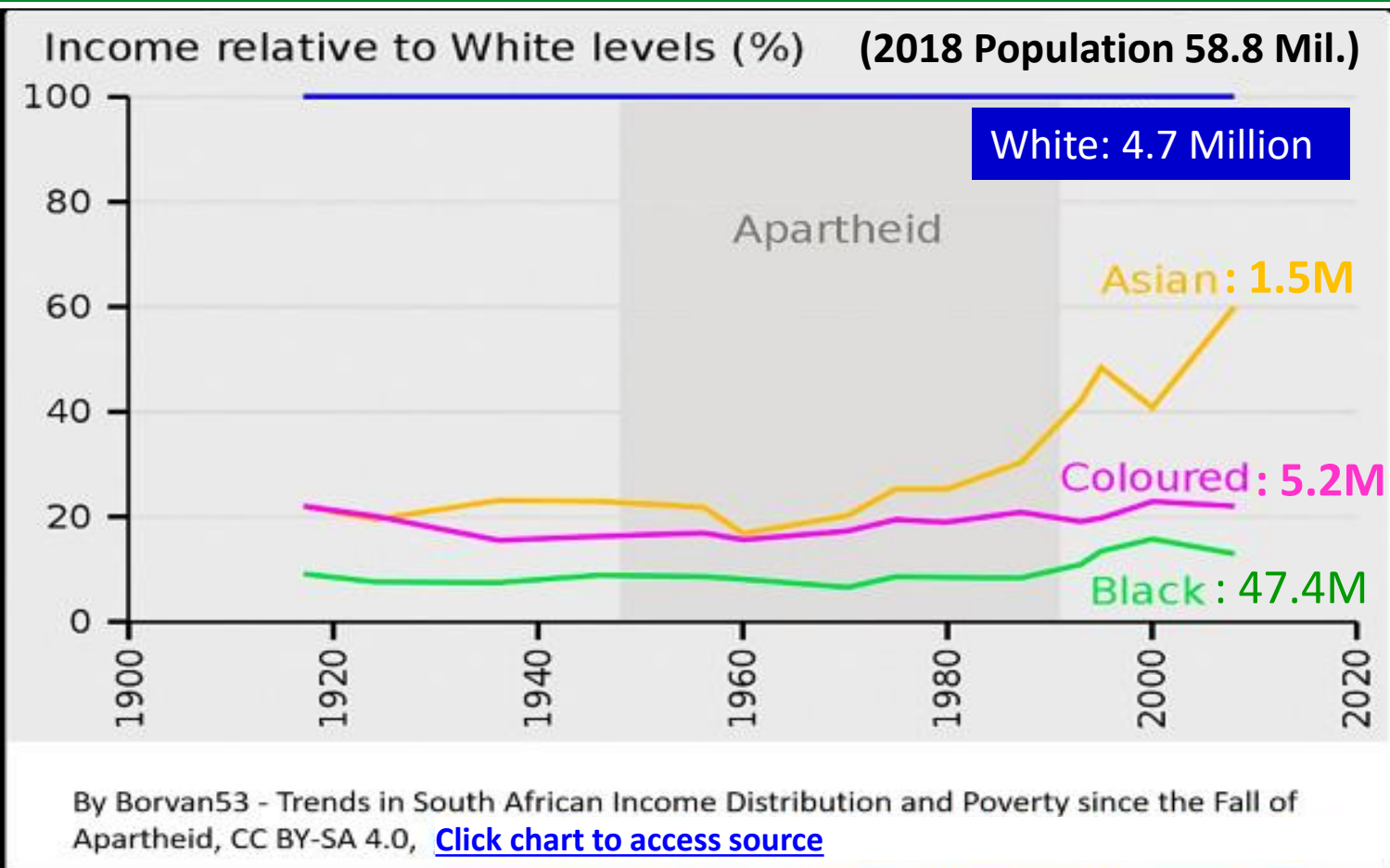- Has a dangerously strong Ethnic & Racial component

ICT Can/Must help: How can WAPA services secure a stable future?

RACE & INCOME INEQUALITY

Racial differences amongst humans have zero scientific basis, but the social construct of race has the potential of disrupting South Africa's socio-economic-political growth with stability

Income relative to White levels (%)   (2018 Population 58.8 Mil.)

White: 4.7 Million

Apartheid

Asian: **1.5M**

Coloured: **5.2M**

Black : 47.4M

By Borvan53 - Trends in South African Income Distribution and Poverty since the Fall of Apartheid, CC BY-SA 4.0, Click chart to access source

RACE: A Dangerously Provocative Consequence of South Africa's History

- Afrophobia threatens South Africa today
- Europhobia must be prevented from destroying South Africa tomorrow!
- Both are Xenophobic, and could drive South Africa towards economic collapse and failed statehood
- Very long term strategy needed
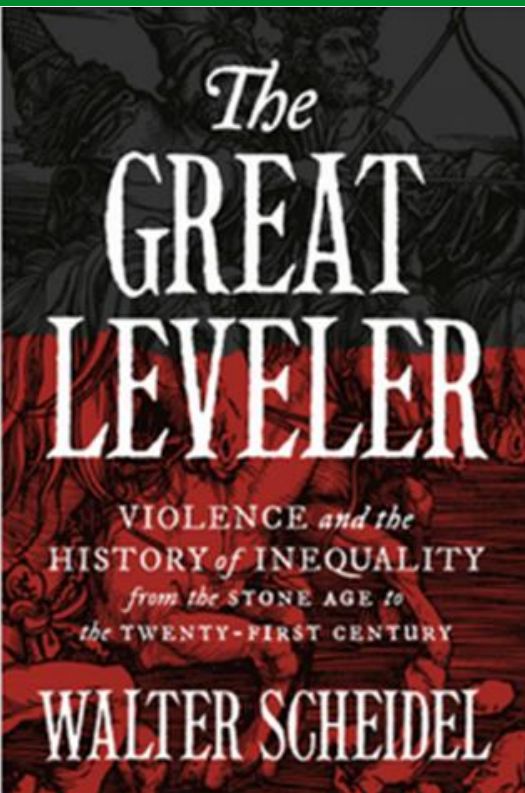- Being seen to be doing something the best short-term defense

ICT Can/Must be positioned to help reduce race-based inequality

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Violence and the History of Inequality from the Stone Age to the Twenty-First Century…..

- High levels of inequality are the norm in history
- Only reductions via catastrophic events: **massive plagues and health pandemics (e.g. Euro Black Death)**; **violent revolutions**; **mass mobilization and warfare (e.g. WWI & WWII); state collapse………**
- Exceptions: Civil wars captured and perpetuated by "strong men" who reinforce kleptocracy and sustain inequality – e.g. Somalia, Venezuela
- Older Exceptions: Pre-agricultural hunter gatherer egalitarian societies: Zero gender or other inequalities; 100% resource sharing

INEQUALITY is the default social order today:

Violence has been the single most important means of leveling wealth and income inequality in human history (**Click here or picture for Scheidel's Video**)

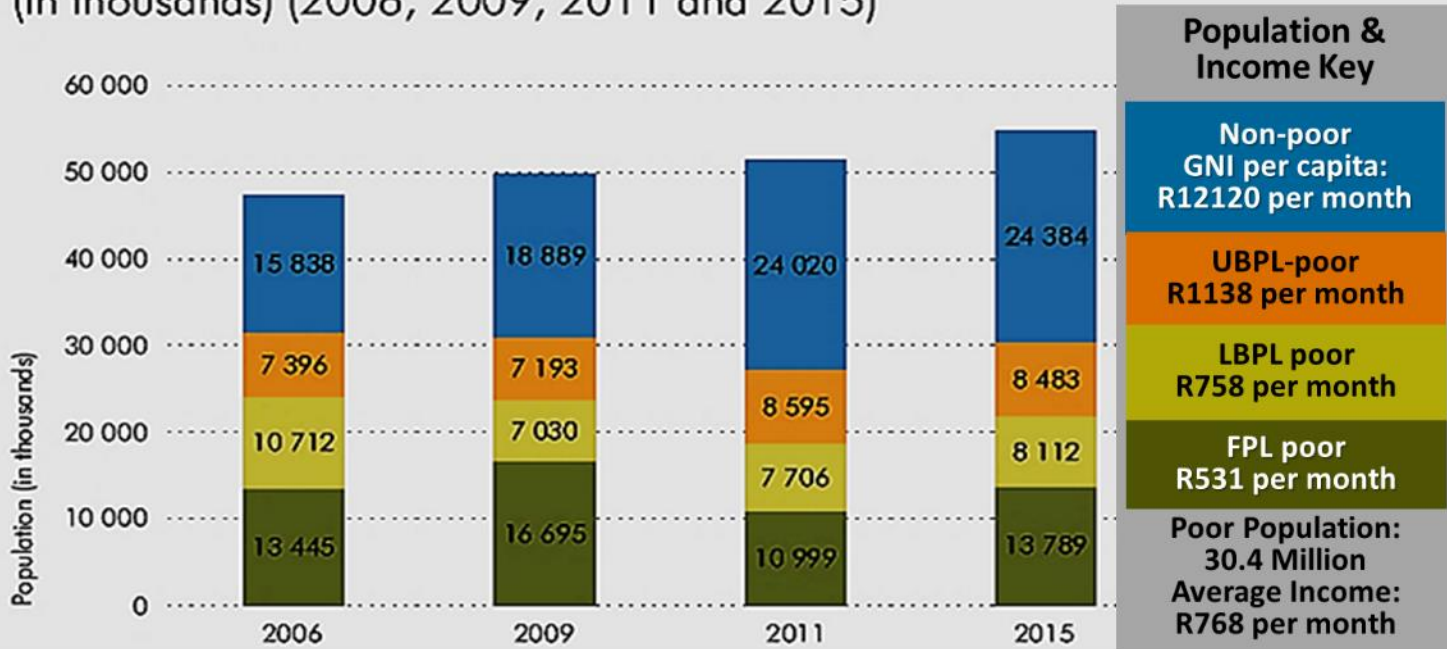Princeton University Press, 2017 **Book review in the Cato Journal**

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Poverty Trends in South Africa
An examination of absolute poverty between 2006 and 2015

Figure 2.2: The number of poor and non-poor persons in South Africa (in thousands) (2006, 2009, 2011 and 2015)

Population & Income Key
Non-poor GNI per capita: R12120 per month
UBPL-poor R1138 per month
LBPL poor R758 per month
FPL poor R531 per month
Poor Population: 30.4 Million Average Income: R768 per month

Year	Non-poor	UBPL-poor	LBPL poor	FPL poor
2006	15 838	7 396	10 712	13 445
2009	18 889	7 193	7 030	16 695
2011	24 020	8 595	7 706	10 999
2015	24 384	8 483	8 112	13 789

STATS SA
STATISTICS SOUTH AFRICA

STATS SA Report-03-10-06 2017

More than 50% of South Africans are poor, living below the International Poverty Line of US$5.50 PPP per day, or ZAR918 per month (2019 rate)

- In 2015, 30.4 million South Africans lived below the national poverty line.
- Their total monthly expenditure averaged R768 per month.
- At 5% of income or expenditure, their ICT affordability was R38.40 per month.
- What developmental quality and quantity ICTs can they purchase at this price?

South Africa's poor majority cannot afford the ICTs they need for self, family, and community development
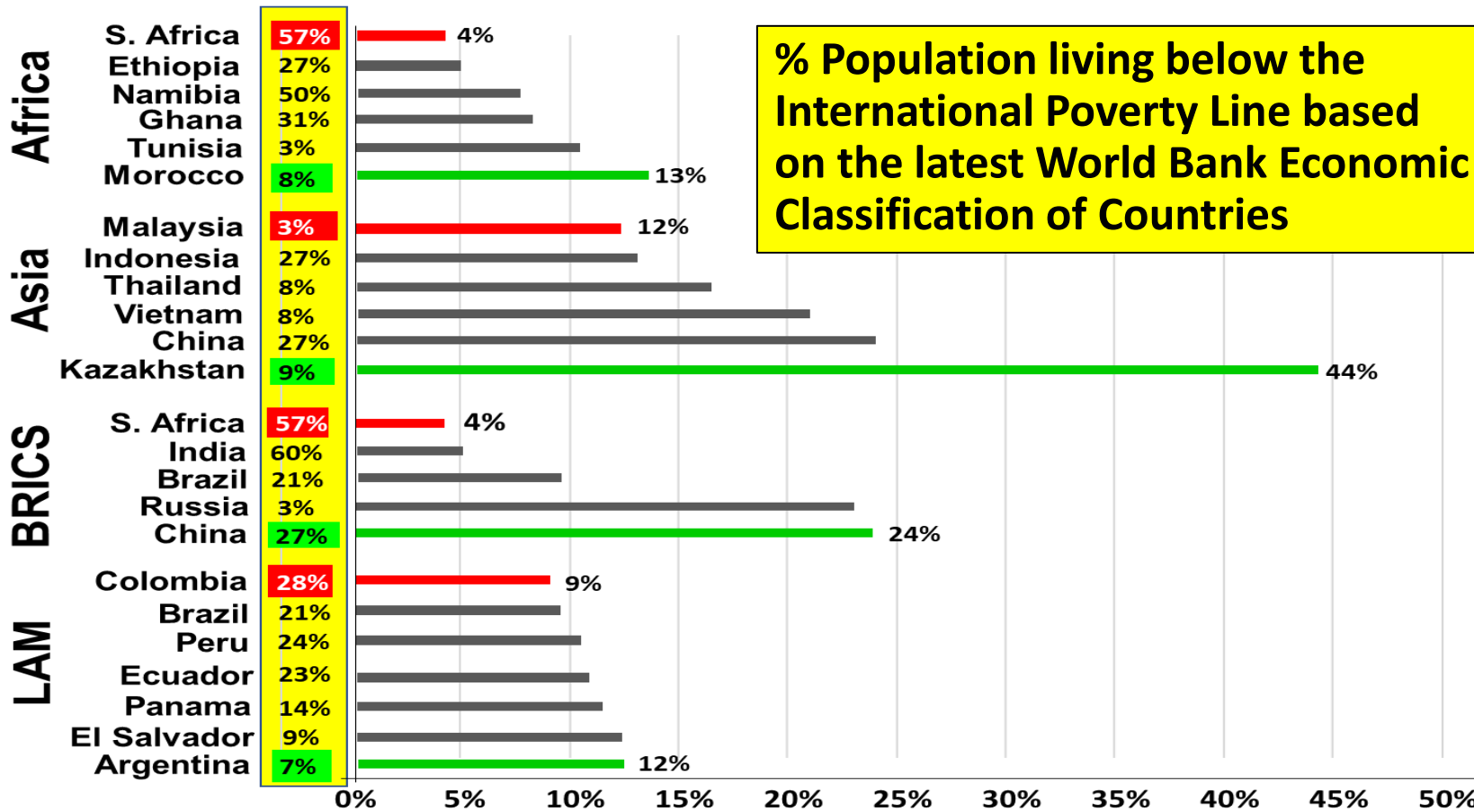
Progress in reducing poverty

% average annual reduction 1960 to 2016

% Population living below the International Poverty Line based on the latest World Bank Economic Classification of Countries

Africa
- S. Africa — 57% — 4%
- Ethiopia — 27%
- Namibia — 50%
- Ghana — 31%
- Tunisia — 3%
- Morocco — 8% — 13%

Asia
- Malaysia — 3% — 12%
- Indonesia — 27%
- Thailand — 8%
- Vietnam — 8%
- China — 27%
- Kazakhstan — 9% — 44%

BRICS
- S. Africa — 57% — 4%
- India — 60%
- Brazil — 21%
- Russia — 3%
- China — 27% — 24%

LAM
- Colombia — 28% — 9%
- Brazil — 21%
- Peru — 24%
- Ecuador — 23%
- Panama — 14%
- El Salvador — 9%
- Argentina — 7% — 12%

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50%

http://api.worldbank.org/v2/en/indicator/SI.POV.DDAY?downloadformat=excel

Rate of poverty reduction

- ALL developing nations are comparatively poor
- The level of poverty is less important than its rate of reduction
- South Africa's record of poverty reduction is significantly lower than the 20 developing countries selected for this benchmark

"Poverty is the Parent of Revolution and Crime": Aristotle, 384 to 322 BC

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THE REALITY OF POVERTY
in South Africa Today

While we throw $$$ BILLIONS at "SMART CITY" Technologies
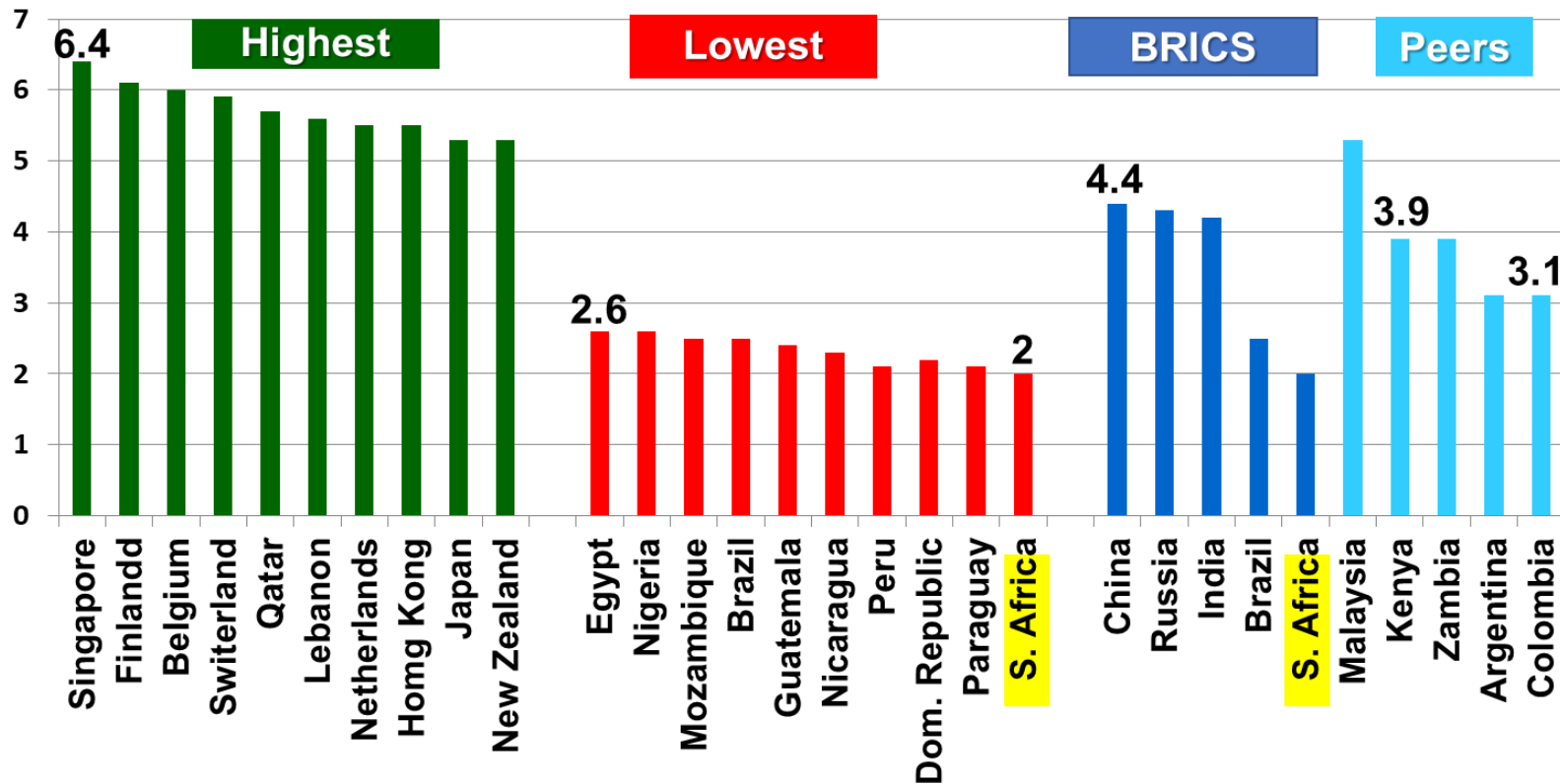
Are we forgetting that "CITIES" are made of People?

"SMART PEOPLE" are the foundations of "smart cities" - Can WAPA help to make people SMART and remain profitable?

The "REAL" face of Poverty in South Africa?

More than 55% of the Population!

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Quality of math and science education

Highest | Lowest | BRICS | Peers

6.4 ... 2.6 ... 2 ... 4.4 ... 3.9 ... 3.1

Singapore, Finlandd, Belgium, Switerland, Qatar, Lebanon, Netherlands, Homg Kong, Japan, New Zealand, Egypt, Nigeria, Mozambique, Brazil, Guatemala, Nicaragua, Peru, Dom. Republic, Paraguay, S. Africa, China, Russia, India, Brazil, S. Africa, Malaysia, Kenya, Zambia, Argentina, Colombia

Key: 1 = Extremely poor: 7 = Excellent | South Africa ranked 139th out of 139 countries

http://www3.weforum.org/docs/GITR2016/WEF_GITR_Full_Report.pdf

Vital for survival in the 4IR

- South Africa's education is severely challenged: 78% grade 4's cannot read!
- Math and Science are vital foundation skills for this 4IR age – South Africa came last in the 2016 World Classroom.
- The nation's school system will need generations to "catch up" – urgent action needed now – see ref. ICT4SDG4.
- ICTs are vital learning tools – they are also dangerously distracting and subject to abuse – Solutions needed urgently.

- **It will take far too long to fix South Africa's School Systems**
- **Broadband Access At Home (or near home) is the best response**
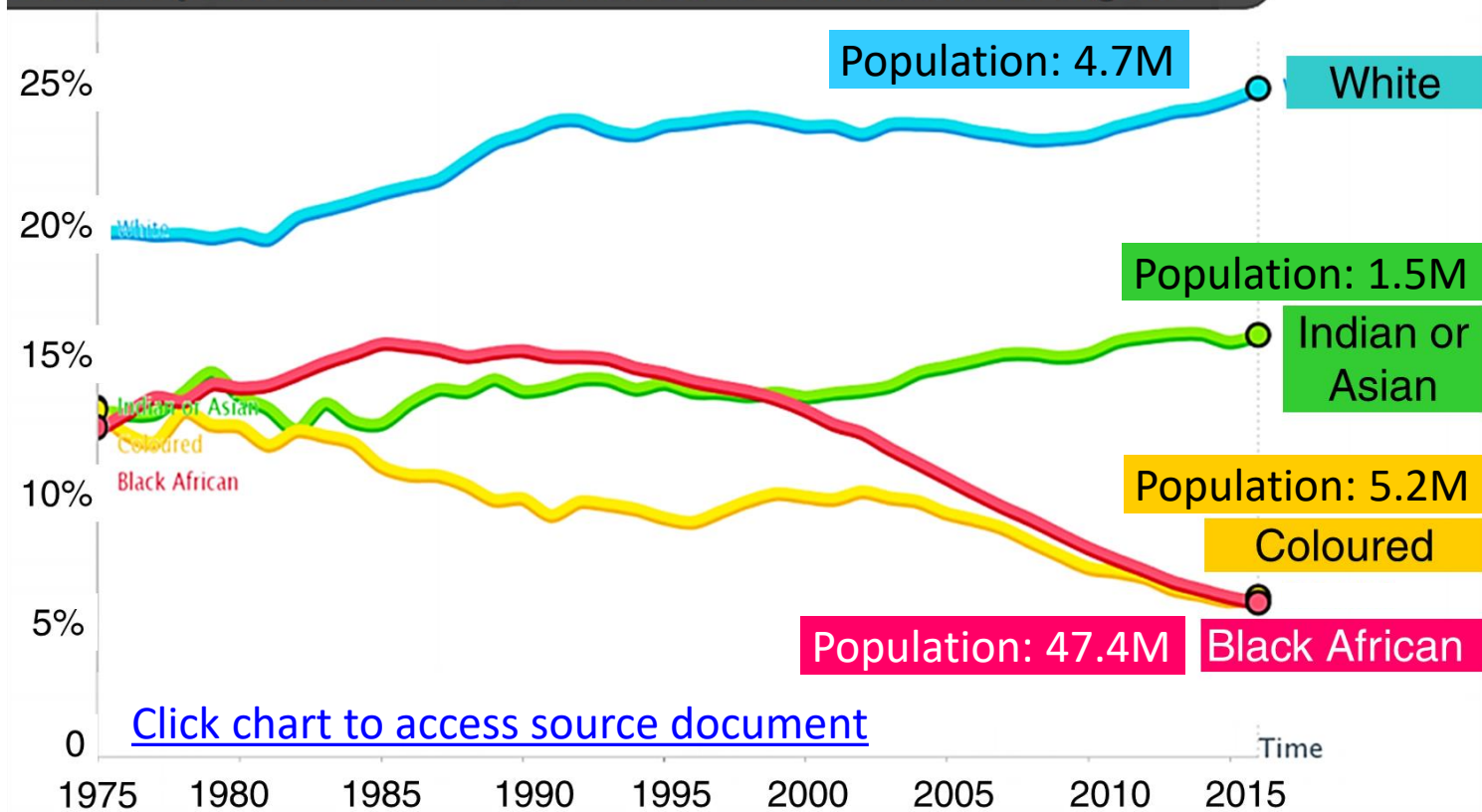- **Can WAPA lead the way and provide this connectivity, profitably?**

THE RACE FACTOR OF UNEQUAL EDUCATION

"Achievement has no color"- Abraham Lincoln, 1809 to 1865| If Educational Achievement is skewed along racial lines, it can have devastating effect on political and racial peace & stability

2016: Proportion of Matric Graduates who attain a bachelor degree

Population: 4.7M — White

Population: 1.5M — Indian or Asian

Population: 5.2M — Coloured

Population: 47.4M — Black African

Click chart to access source document

Time
1975 1980 1985 1990 1995 2000 2005 2010 2015

The success of a few over the failure of many is fuel for increased inequality and potential disaster

The Hechinger Report 2015: A 33-country study shows that income inequality fuels education inequality, which fuels socioeconomic inequality with potentially devastating effects

ICT can bridge this gap while the education system slowly improves. Can the WAPA community lead the way out of this potential disaster?
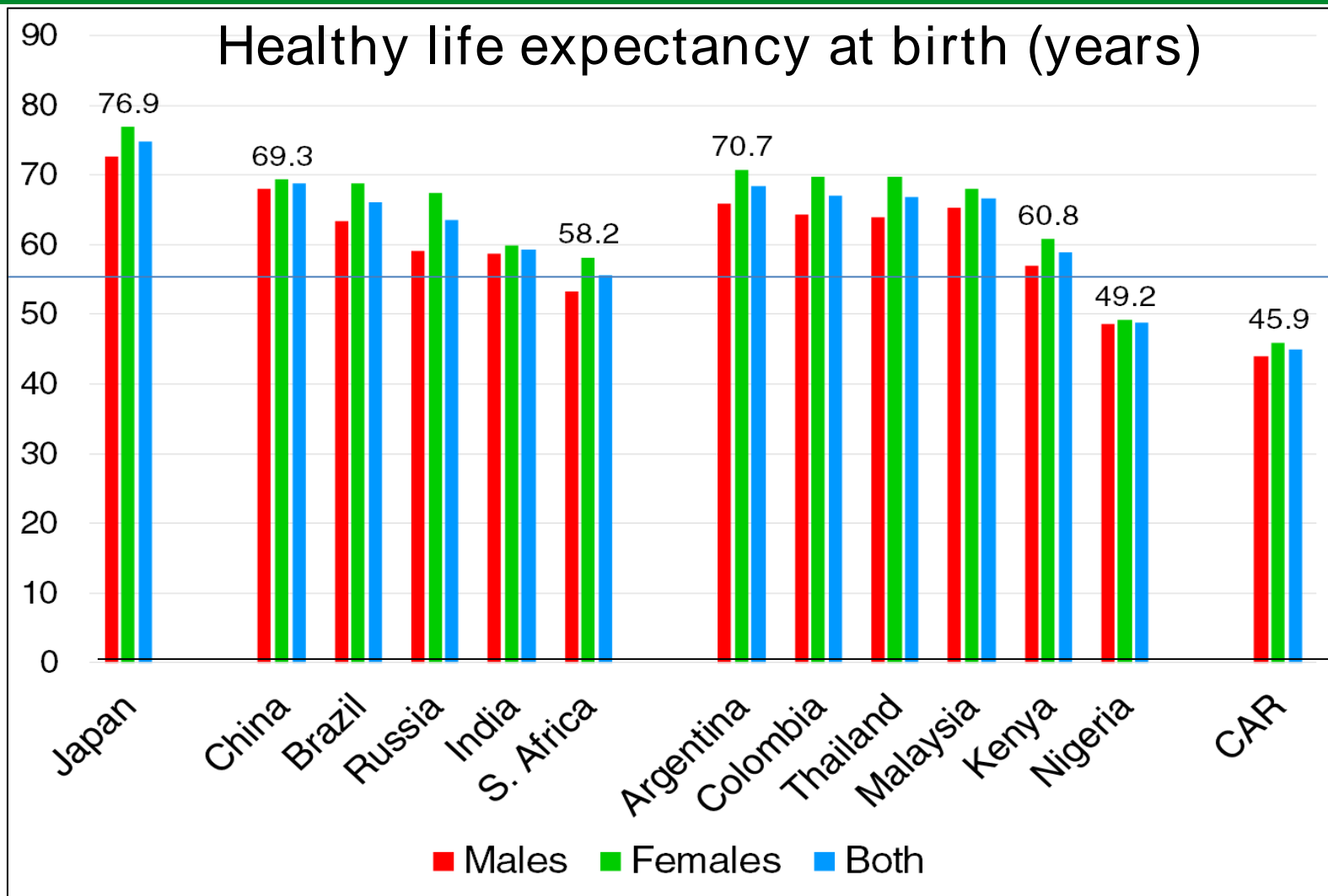
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Healthy life expectancy at birth (years)

Bar chart showing healthy life expectancy at birth (years) for Males, Females, and Both across countries. Labelled values: Japan 76.9, China 69.3, Argentina 70.7, S. Africa 58.2, Kenya 60.8, Nigeria 49.2, CAR 45.9. Countries (left to right): Japan, China, Brazil, Russia, India, S. Africa, Argentina, Colombia, Thailand, Malaysia, Kenya, Nigeria, CAR.

Legend: ■ Males ■ Females ■ Both

https://www.who.int/gho/publications/world_health_statistics/2019/EN

Are we a healthy nation?

- The WHO ranks South Africa 151 out of 179 countries in this measure.
- South Africa survived a near disaster – the HIV/AIDS and TB pandemics that nearly destroyed the nation, saved by global biotechnological advances.
- 4IR technologies are already having a profound impact on access to and delivery of health services – fully integrated health institutions/services with AI and Robotic diagnosis and treatment (see ICT4SDG3).

- **South Africa's poor will miss out on 4IR technological advances in health**
- **The National Response is the NHI – inevitable, irrespective of its affordability, logic or logistics**
- **Inequality is a KILLER – even in health!**

GENDER INEQUALITY (SDG5): A BLIGHT ON SOUTH AFRICA

Female Homicides per 100,000 females (all ages) — World Health Organization

Best | Worst | World | BRICS | Peers

Values:
- Ireland 0.2
- Singapore 0.3
- El Salvador 15.1
- Jamaica (16.1)
- Lesotho (16.4)
- Zimbabwe (16.5)
- Honduras 46.1
- Global 2.4
- China 0.6
- Russia 5.1
- S. Africa 9.6
- S. Africa (2) 16.7 (Ages 15 - 29)
- Vietnam 0.7
- Kenya 4.3
- Nigeria 5.7
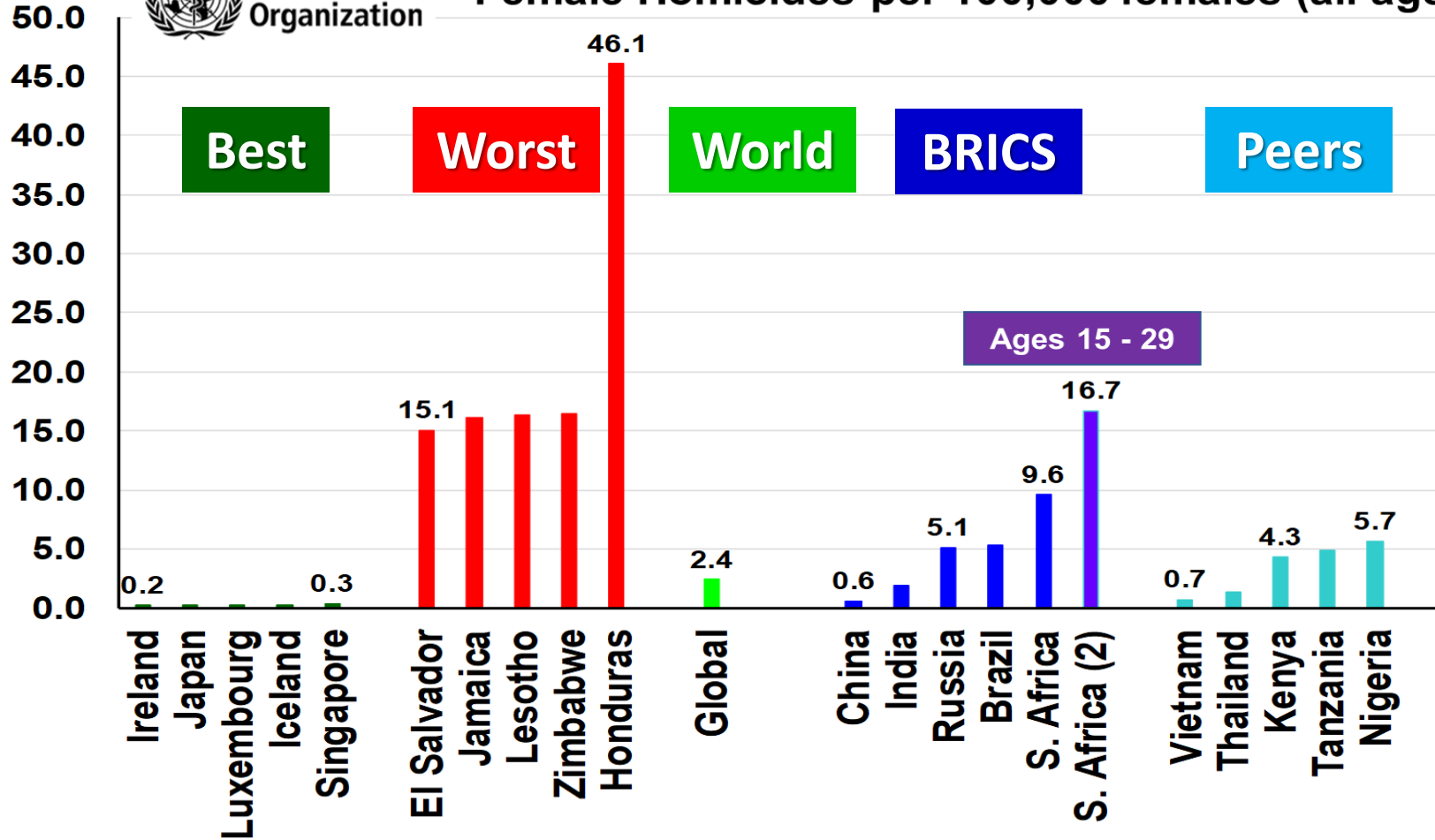
Source: **Download data - World Health Organization**

A Massive Challenge

- Gender and child violence a particularly debilitating threat – Is South Africa the "Rape Capital" and "Murder Capital" of the World?
- Impact on Economic Growth and Social Stability severe.
- A significant intellectual capacity undermined by Gender Discrimination as a whole, and Gender Violence in particular.
- Detailed discussion at **ICT4SDG5**

"The unrelenting murder of women – for no reason other than that they are women – is steadily corroding the soul of our nation" - President Cyril Ramaphosa, Nov. 2018.

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1. September 3, 2019: BBC News: South Africa: How common are xenophobic attacks?
2. September 4, 2019: Xenophobic violence hits South Africa | DW News
3. September 5, 2019: The Guardian U.K. : Thousands protest in South Africa over rising violence against women
4. September 6, 2019: South Africa's shocking gender based violence statistics
5. September 8, 2019: Why are women paying the price for an unsafe South Africa?
6. September 10, 2008: WATCH LIVE: MPs debate xenophobic attacks, gender-based violence in SA
7. September 10, 2019: Xenophobia forces hundreds to take free flights from SA to Nigeria

The world watches as South Africa unravels – A nation victimized by extreme inequality, poverty, unemployment, all fueled by inequality and poor education. It is never too late to begin repairs – all it needs is a change from silent observation, criticism, and fear, to collective, participative action – before the challenges become irreversible.
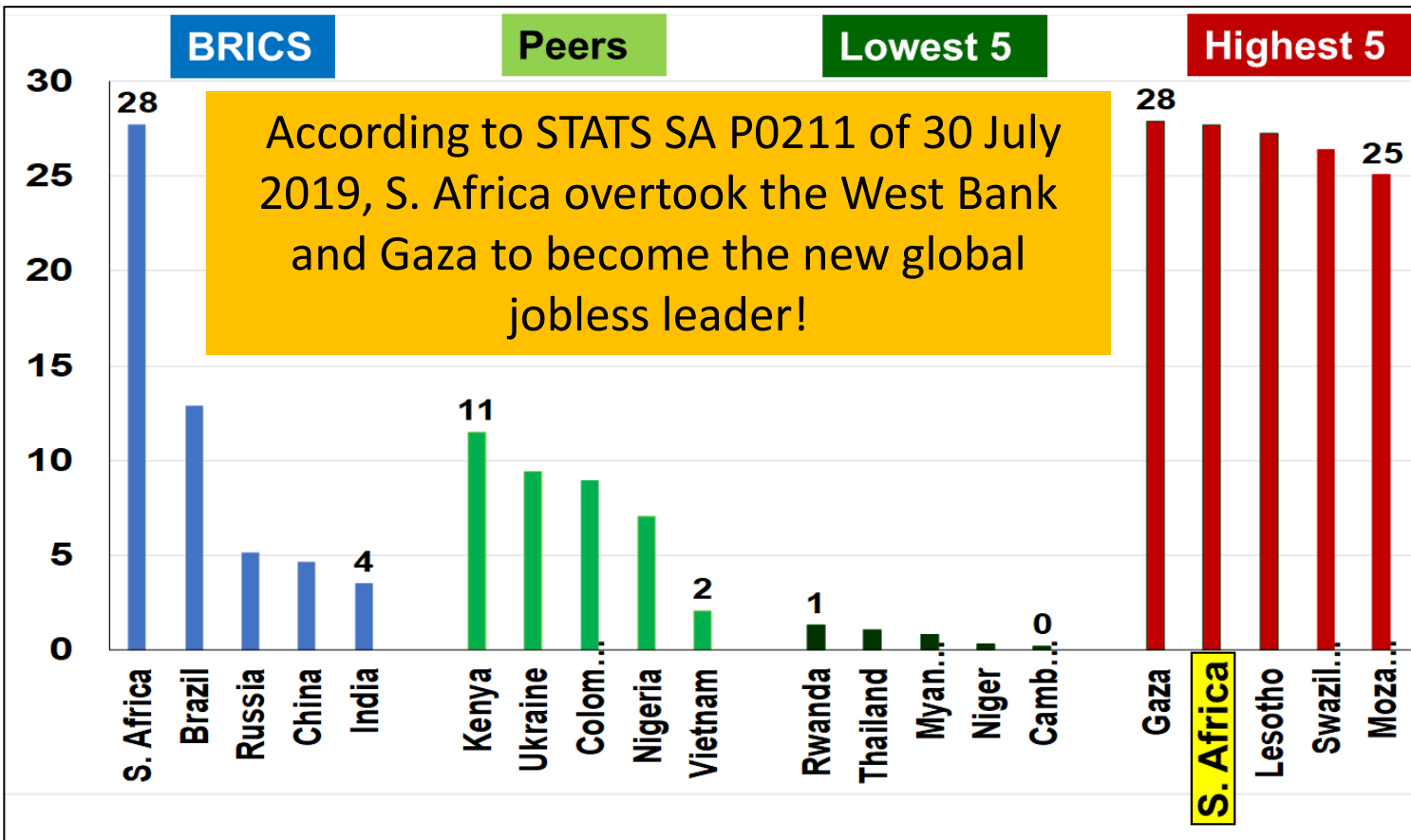
UNEMPLOYMENT AND UNEMPLOYABILITY: TURNING THE 4IR FROM OPPORTUNITY TO THREAT

Unemployment (% of total labour force)

BRICS | Peers | Lowest 5 | Highest 5

According to STATS SA P0211 of 30 July 2019, S. Africa overtook the West Bank and Gaza to become the new global jobless leader!

28 — S. Africa
13 — Brazil
5 — Russia
4 — China / India
11 — Kenya
9 — Ukraine
9 — Colom...
7 — Nigeria
2 — Vietnam
1 — Rwanda
Thailand
Myan...
0 — Niger / Camb...
28 — Gaza
28 — S. Africa
27 — Lesotho
Swazil...
25 — Moza...

Source: https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?view=chart

South Africa's Achilles Heel?

South Africa ranked 190th out of 191, behind the West Bank and Gaza in 2017. In 2019, South Africa overtook West Bank and Gaza to lead the global unemployment ranks, for those countries that can and have compiled statistics.
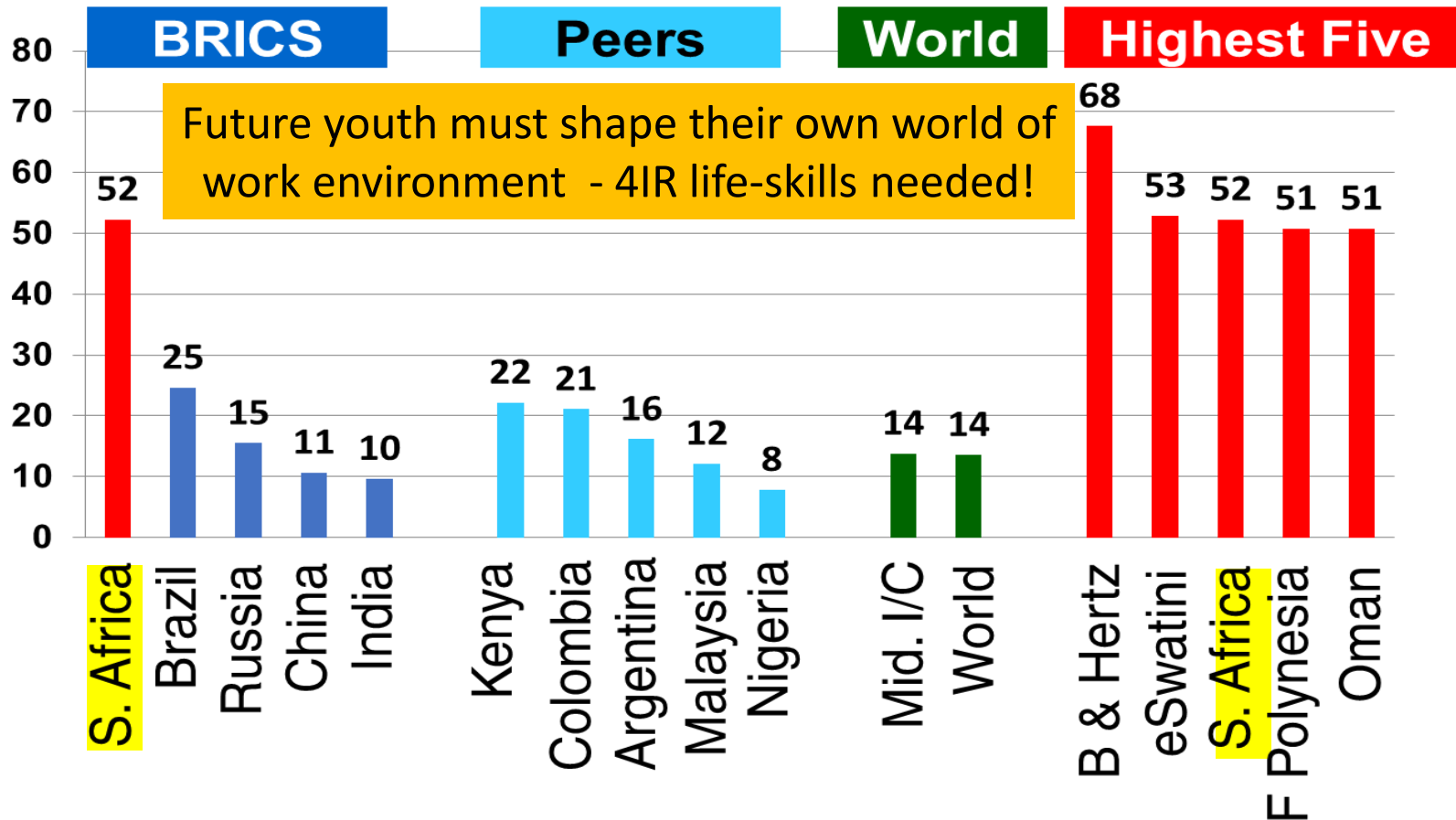
As SMEs, WAPA may not need high labour volumes, but a large population of very poor and poorly educated unemployed masses will limit the WAPA market & trash WAPA's business environment......

Youth Unemployment: 15-24 years (%)

Future youth must shape their own world of work environment - 4IR life-skills needed!

BRICS — Peers — World — Highest Five

68 — B & Hertz
53 — eSwatini
52 — S. Africa
51 — F Polynesia
51 — Oman

52 — S. Africa
25 — Brazil
15 — Russia
11 — China
10 — India
22 — Kenya
21 — Colombia
16 — Argentina
12 — Malaysia
8 — Nigeria
14 — Mid. I/C
14 — World

Source: https://data.worldbank.org/indicator/SL.UEM.1524.ZS

A Dim 4IR Future?

- The 4IR is about youth – they must be educated to fit into the unknown work (or workless) *Homo technologicus* age!
- Failure to do this will change the 4IR from friend to foe – and a disastrous future for S. Africa.
- Youth unemployment is fueled by ineffective educational systems.

ICT MUST help - With the current ineffective educational performance, inadequate access to information via ICT for lifelong self-driven learning, South Africa faces a grim future.

1860:   First telegraph between Cape Town and Simonstown, just 16 years after Morse's 1844 launch;

1878:   First telephone lines in South Africa, just 2 years after Alexandra Graham Bell's patent;

1879:   First undersea cable between South Africa and Europe; 89 years later, SAT-1 South Africa to Europe submarine cable launched. Another 41 to upgrade to Seacom and EASsy submarine cables;

1898:   First RFQ for a wireless telegraph system intended for use in the Anglo-Boer wars of the late 19th century;

1991:   Launch of dial-up Internet services; 22 years later (2016), 9.6% fixed broadband connected households;

1994:   96-years after first wireless RFQ, South Africa becomes a democracy, introduces cellular mobile telephone services;

2004:   106-years after first wireless usage, ICASA publishes Spectrum Band Plan for 20MHz to 70GHz;

2017:   Entry Level fixed broadband price basket was 2.73% of GNI per Capita (Table 4.6 of ITU MIS Report V1 of 2018) ; The equivalent price basket for 30.4 million (55.5% population) living below the national poverty lines was approximately 23% of average monthly expenditure;

2019:   March 28th: 121 years after introducing wireless technologies, the Minister of Communications reiterates the department's commitment to finalising the policy directive on licensing high demand spectrum;

2019:   MNOs scramble for 5G spectrum fuels "Big Data" price competition: bundle prices for 20 to 50GB "anytime" data per month range from 26% to 66% of average monthly expenditure levels of 30.4 million South Africans;

2019:   In a renewed attempt to render national ICT prices affordable by the majority of the nation's citizens, the South African Competition Commission published its "Provisional Report on the Data Services Market Inquiry " on April 24th 2019. Follow up public discussions and hearings are planned.
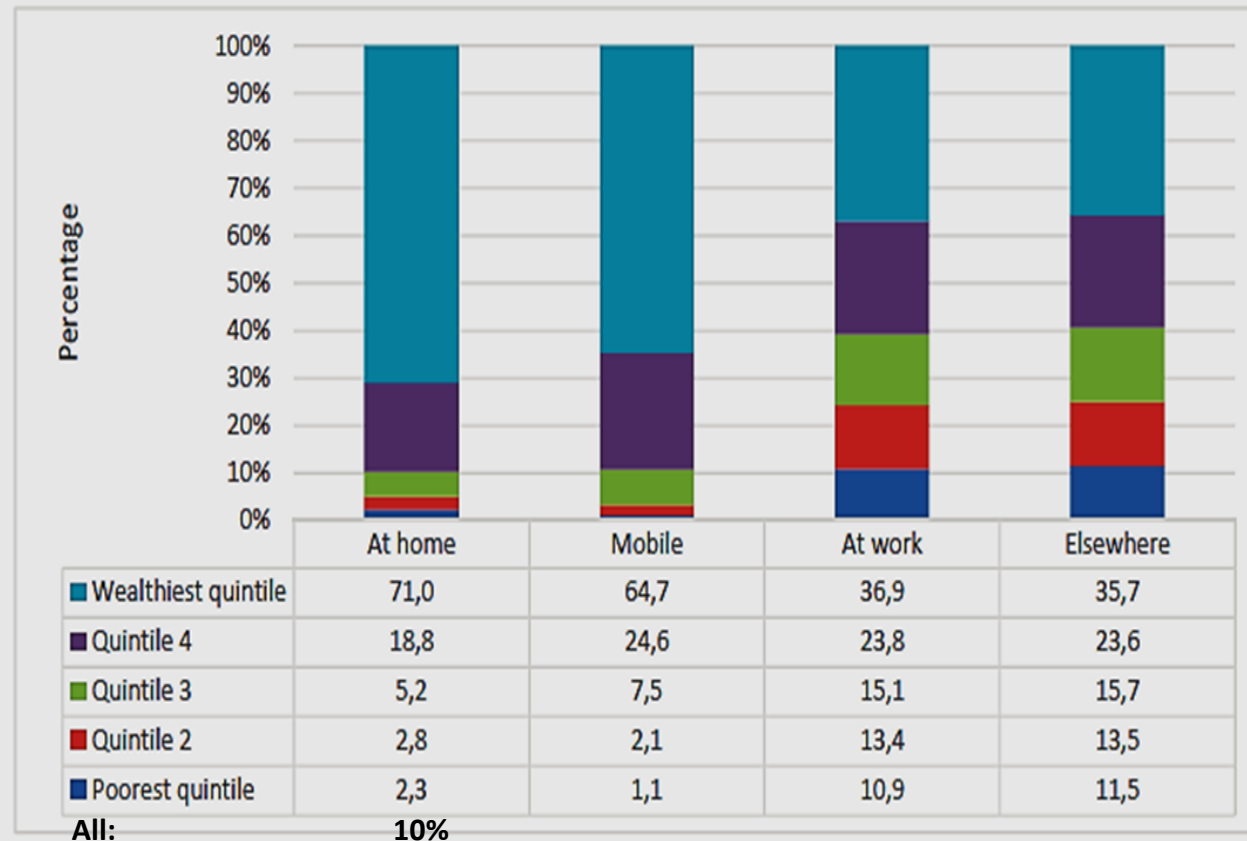
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Figure 18: Percentage of households with access to the Internet by type of access and per capita household income, 2013

	At home	Mobile	At work	Elsewhere
Wealthiest quintile	71,0	64,7	36,9	35,7
Quintile 4	18,8	24,6	23,8	23,6
Quintile 3	5,2	7,5	15,1	15,7
Quintile 2	2,8	2,1	13,4	13,5
Poorest quintile	2,3	1,1	10,9	11,5
All:	**10%**			

Source: GHS 2013

Published April 2015

- Of the 15 million South African households in 2013, two million (71%) in the wealthiest quintile had 24/7 Internet access at home;
- Of the remaining 13 million households, 0.87 million households had 24/7 Internet access at home, about 12 million households (±42 million citizens, 80%) did not.

The data for 2016 as reported by ICASA (Table 1 on page 8) in March 2018 was as follows:

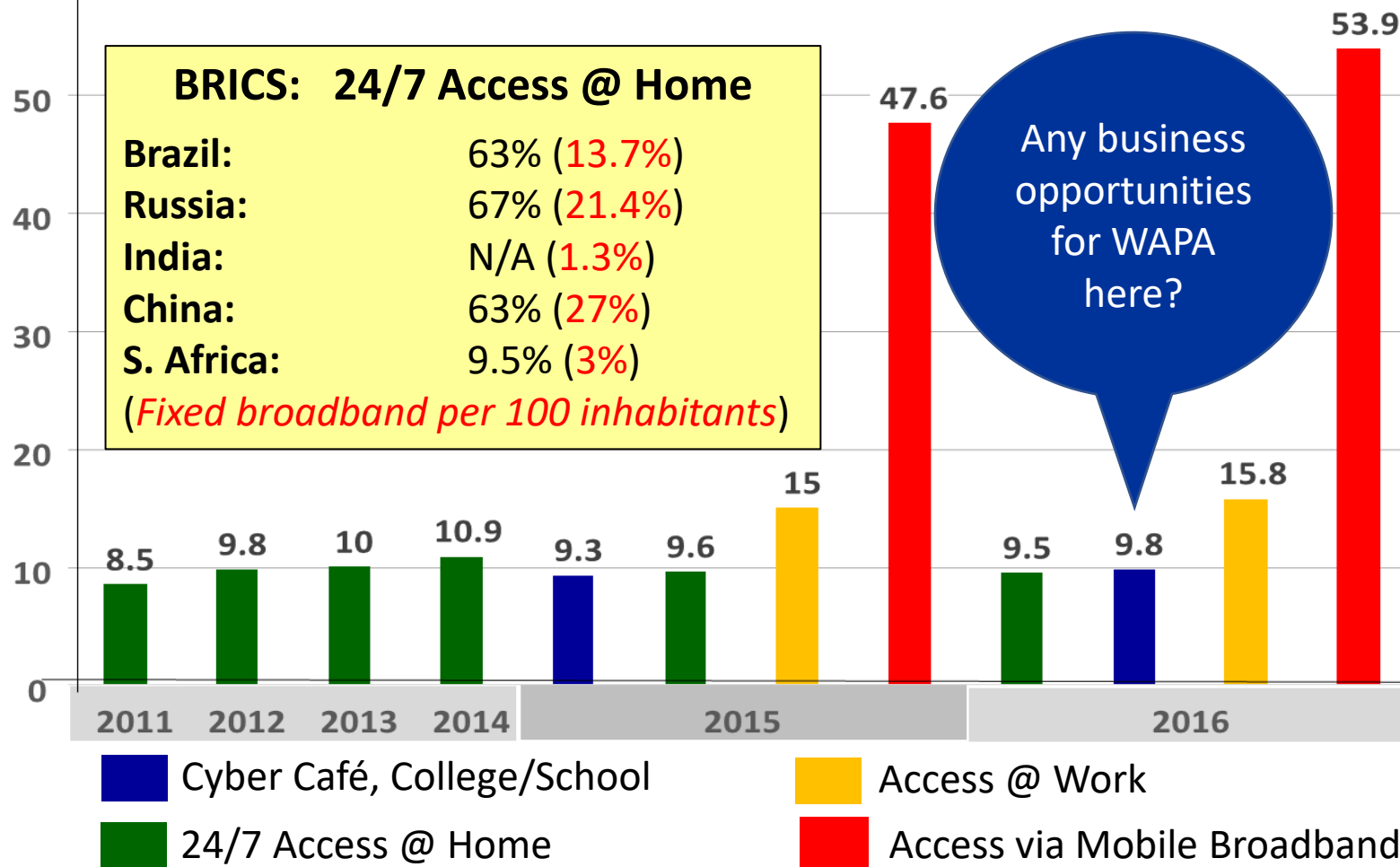|	
Households with 24/7 Internet Access at home (2018 update by STATS SA Fig. 13.3)	9.5% (10.4%)
Household members who access the Internet at work	15.8%
Household members who access the Internet via mobile networks only	53.9%
Household members who access the Internet at public spaces (2018 update)	9.8% (10.1%)

http://www.statssa.gov.za/publications/Report-03-18-05/Report-03-18-052013.pdf

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Percentage of South African Households with Internet access and the mode of access

BRICS: 24/7 Access @ Home

Brazil:	63% (13.7%)
Russia:	67% (21.4%)
India:	N/A (1.3%)
China:	63% (27%)
S. Africa:	9.5% (3%)

(*Fixed broadband per 100 inhabitants*)

Any business opportunities for WAPA here?

Values on chart: 8.5, 9.8, 10, 10.9, 9.3, 9.6, 15, 47.6, 53.9, 9.5, 9.8, 15.8

Years: 2011, 2012, 2013, 2014, 2015, 2016

Legend:
- Cyber Café, College/School
- Access @ Work
- 24/7 Access @ Home
- Access via Mobile Broadband

1. 24/7 broadband access to every home is vital for child and women safety and security, for community cohesion, and for learning

2. Mobile broadband near ubiquitous, but unaffordable for 55% of the population: 13% to 20% of income for 1GB per month

3. Public access coverage low and stagnant – 9.8% of households in 2017

4. User terminals unaffordable for 55% of the population: a usable smartphone nearly double average monthly income

5. **Wide screen terminals are best for learning – small screen handhelds limit reading, writing and creative skills development**

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Growth of fixed broadband per 100 inhabitants

South Korea reported 98.78% households with fixed broadband connections in 2015 (OECD)

Fixed broadband penetration (y-axis: 0 to 45)

- ZAR: 2000 = 0, 2005 = 0.3, 2010 = 1.4, 2015 = 2.6
- MAR: 2015 = 3.4
- THA: 2015 = 9.2
- COL: 2000 = 0.02, 2005 = 0.7, 2010 = 5.8, 2015 = 11.5
- BRA: 1.7, 2015 = 12.4
- TUR: 2015 = 12.4
- CHI: 4.3
- ARG: 16.3
- KOR: 8.4, 2015 = 40.2

Legend: ■ 2000 ■ 2005 ■ 2010 ■ 2015
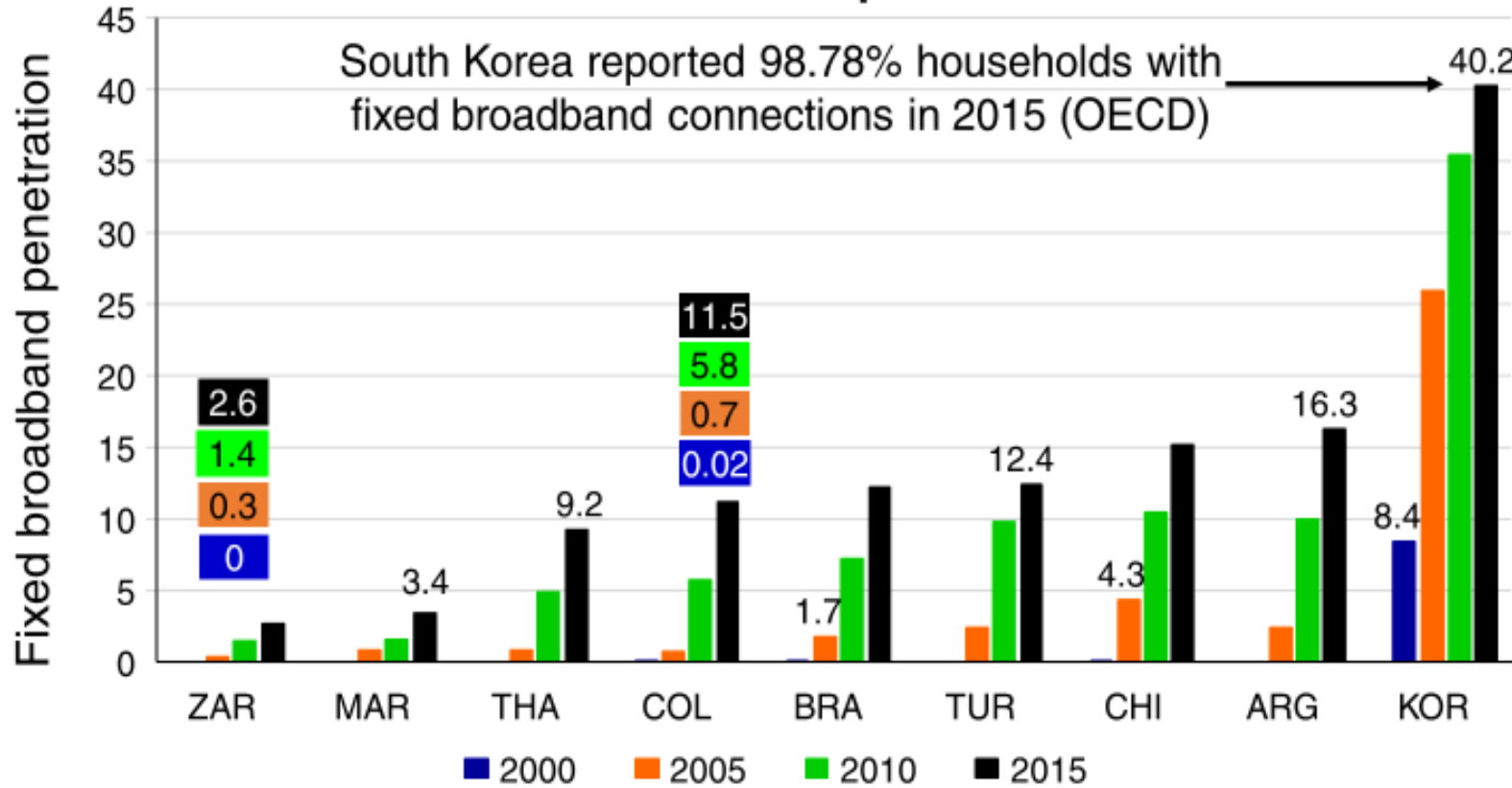
24/7 household access
The Ultimate Goal

- The 4IR demands 24/7 access at home and office for everyone
- Family security, development & learning demand it
- The benchmark comprises similarities in population and the economic growth starting 1960
- S. Africa compares very poorly!
- The selected indicator, fixed broadband population penetration is flawed, population outnumbers households and office buildings

South Korea included in the benchmark: Up to 1970, S. Korea lagged S. Africa by 1:4 in ICT Access and GDP per Capita. Today, S. Korea boasts 100% household broadband penetration at near 1Gb/s: S. Korea's GDP per Capita grew from US$158 (S. Africa US$441) in 1960, to 5X higher at US$31363 in 2018 ... S. Korea used ICT as a key economic driver!

Winner of the Nobel Prize for Economics

JOSEPH E. STIGLITZ

'A towering genius' *Independent*

The **GREAT DIVIDE**

Inequality is a choice: fueled by "trickle-down economics"; reduced by "pull-them-up" economics…….

- The good news - according to Stiglitz - is that, if inequality is the result of our actions, then we can reverse course by changing the rules.

- We can restructure our economy so as to restore more equitable conditions and govern the **Fourth Industrial Revolution** in a more sustainable manner, distributing – or redistributing - the benefits of technology, and avoiding a further increase in inequality" (Click pic or here for video)

Technology can/must be positioned to reduce inequality, BUT – education must keep up with technology, or else more people will be left behind – again……

Penguin, April 2016: Available at exclusive books South Africa

"UNCREATING" THE TRIPLE THREATS
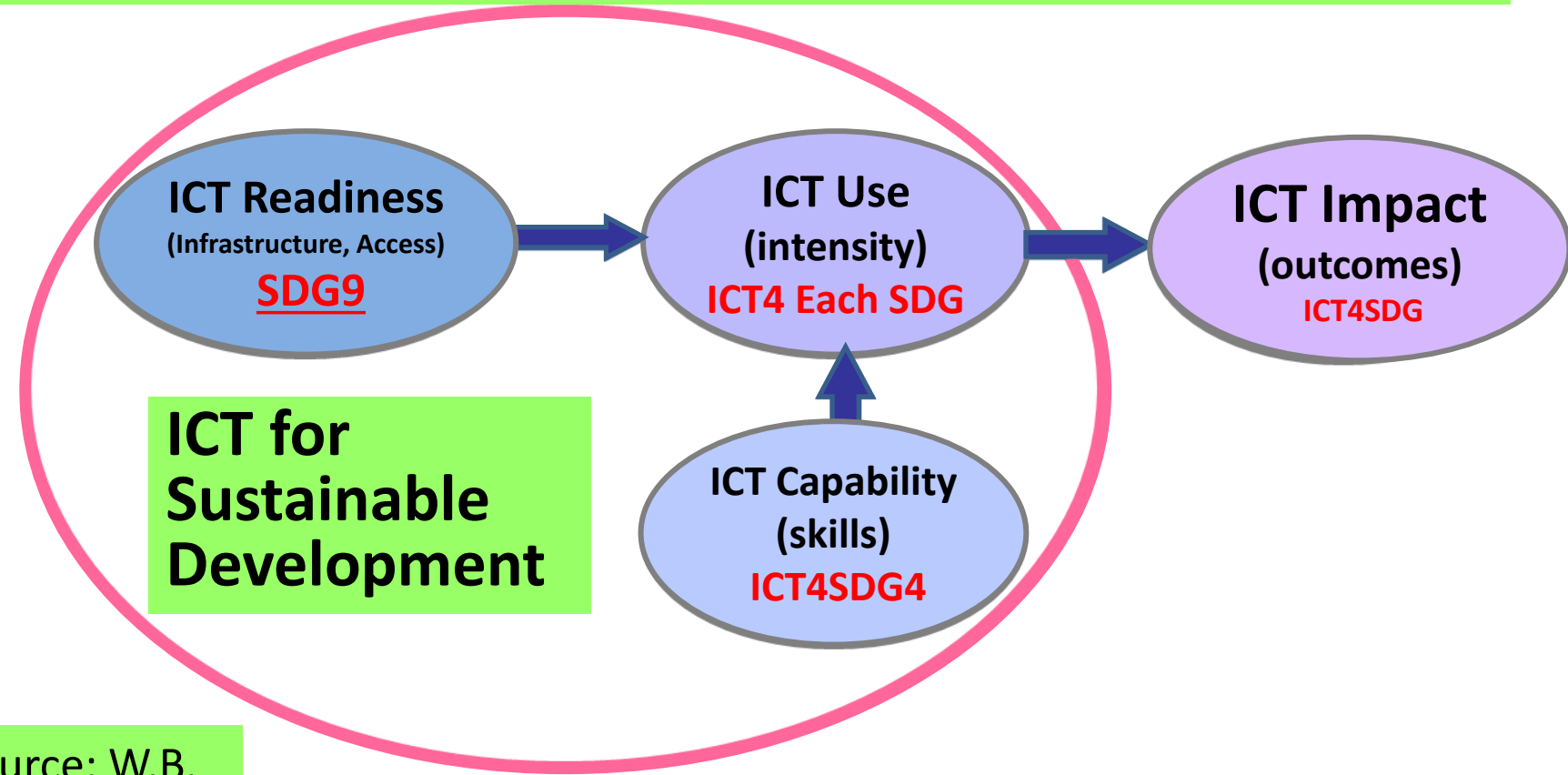## A new kind thinking about ICT4SDG!
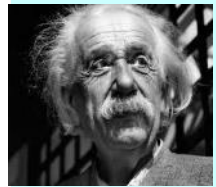
You can't solve problems by using the same kind of thinking that you used to create them.....

After 160 years of inability to provide empowering and transformative ICTs to ALL South Africans, can we rethink our ICT4D growth strategies?

- Retain the current free market growth model for those that can afford ICT services – it worked!
- Change the way we provide services to the +30 million poor
- Design for their needs, build ICTs to meet those needs

Develop PEOPLE through ICTs – NOT ICTs through People!

ICT Readiness
(Infrastructure, Access)
SDG9

ICT Use
(intensity)
ICT4 Each SDG

ICT Impact
(outcomes)
ICT4SDG

ICT for Sustainable Development

ICT Capability
(skills)
ICT4SDG4

Source: W.B.

ICT4 SDG Building ICT Networks for Sustainable Development for ALL

1. South Africa's +30 million poor citizens have an average monthly expenditure capacity of approximately ZAR768 (Estimate from slide 8) .
   - How much of this should they pay for empowering transformative ICT services? 5% or ZAR38 as suggested? Or the 2.5% or ZAR19.20 as proposed in SA Connect?
2. What are these "empowering transformative" ICT needs?
   - How much "data" is needed to **"empower"** the poor to lift themselves out of poverty? To "**transform**" their own and the lives of their children and communities?
   - U.K. 2018: 91% premises with ≥30Mb/s fixed broadband coverage consume 240GB each per month; 85% 3G/4G mobile covered premises consume 3.3GB per month.
   - S. Africa 2018: 10.4% connected households: Vodacom reports 1.1GB per month mobile consumption; RAIN is the cheapest provider, at ZAR250 per month uncapped, it is 7 times higher than the affordable price target (5%) for +30 million South Africans.

What pro-poor ICT models can give hope to South Africa's +30 million citizens that they will eventually "catch up" with their wealthier compatriots, and with their UK peers over time?

Brazil: From jungle into the Favela into the Digital Age

RUSSIA: Rebuilding Syria's Info Society from Internet Cafés

India: Birth of the Eastern Silicon Valley?

China 2016: Early Childhood Digital Skills?

Massively scalable Internet Cafés have served many nations well: S. Africa's numerous attempts failed – WHY?

- The standard free market economic model of individual connectivity will not work for the very poor
- Public access facilities have worked well throughout ICT history:
  - 1878: Public pay phones introduced to help drive ICT sector and ICT user market growth with affordability
  - 1969: South Korea launches a similar concept for the Internet – the PC Bang: drove GDP per Capita growth to 14% per annum between 1970 and 2000, compared to South Africa's growth of 4% per annum over the same period.
- South Africa's numerous attempts failed – a "first world" business model in a "third world" community did not work – the model worked very well in all BRICS, South Korea, and some African countries (e.g. Ethiopia 2019).

Click for BBC Documentary

ZENZELENI.NET – A very poor community trying to help itself by building its own ICT infrastructure, with great difficulty, sacrifice, and too few dedicated supporters. How can this model be scaled up nationally and made more effective?

Key observations:

- The community network is located in the Mankosi Village in the Eastern Cape: Population approximately 6,000; average income per person: ZAR388 per month, 55% of which comes from social grants. **ICT price target (5%) is ZAR19.4 per month**.
- The Zenzeleni Community Network was initiated in 2012 with research, technical and other support from the University of the Western Cape, the Association for Progressive Communications (APC), the Internet Service Providers Associations ISPA and WAPA (see WAPA Report), and others. Zenzeleni.net is a registered ISP.
- A 3G mobile connection provided the initial backhaul connectivity with meshed Wi-Fi local distribution over an area of some 30 km^2.
- This allowed up to 87% reductions in the cost of voice calls (VoIP derived voice services), and data cost reductions of between 20 and 40 times.
- The challenge remains increasing the backhaul capacity: up to 6,000 individuals sharing a 3G connection, while their wealthier compatriots enjoy FTTH and anticipate the introduction of 5G services suggests that much more help is needed.

1. OFFER: A "Political" solution to the challenges faced by politicians of ALL ideological persuasions - they could do with some success – solutions that promote the successes of the DTPS, ICASA, USAASA and of course WAPA

2. OFFER technological/economic solutions to the mainstream ICT Industry – they could do with help in diverting negative perceptions and costly litigation

3. OFFER solutions for pro-poor ICTs – it is a +30-million market: ***Disruptive Innovation*** market entry theories

4. OFFER solutions to society – if their aspirations and opportunities are not improved, they will follow the destructive historical paths described by Aristotle about 2,400 years ago, and Walter Scheidel 2-years ago…..

5. OFFER solutions for education – South Africa will not survive the 4IR if the nation does not develop future technological competencies – see ICT4SDG4

6. OFFER solutions for the full range of Sustainable Development Challenges – failure will result in South Africa's descent towards a failed state in which everyone will be losers – especially SMEs like the WAPA fraternity

7. OFFER solutions to WAPA members that will promote profitable business expansion while providing an alternative to selling their homes to pay for plane tickets to Australia!

South Africa's triple threats of Inequality, Poverty, Unemployment are said to be a "Ticking Timebomb": We have the tools to diffuse the bomb, but do we want to use them and "just do it"?

1. There are numerous tried, tested, and successful models to connect very poor individuals and communities to the modern Information Society, all we need is the will to just do it:
   - Every rural and urban community has an Eskom power line near it – why don't we want to install low cost high value fibre on these overhead lines? Can WAPA members do this if the ESKOM powerline wayleaves are released?
   - Wireless ICTs entered our shores in 1898 – and we're still waiting to implement a "Spectrum Policy Direction" in 2019?
     - 450MHz, 700MHz, and 800MHz UHF spectrum bands cover great distances with progressively higher capacities, why do we continue to think that they must serve the wealthy segments of our population first and almost exclusively?

2. The time for "talk shops" is over – the time for serious action-oriented talking has arrived:
   - How can WAPA strengthen its efforts to influence ICT Policy and Regulation for its own and it's nation's growth?
   - What can WAPA members, and their ISPA colleagues, do if they were allocated the UHF bands of 450MHz and 700MHz as a start? What can WAPA do to influence ICT policy and regulations towards that eventuality?
   - What could WAPA members do if all broadband capacities (wayleaves?) on low and medium volt ESKOM lines were released for affordable private sector SME use? ESKOM power lines have tentacles to virtually everywhere!
   - How can WAPA reinforce its participation in the 5G discourse, moving towards a technologically neutral future with expanded spectrum opportunities, and a strict focus on South African users and WAPA member survival?

Disruptive Innovation: A theory developed for SMES like WAPA – Featured in WEF Africa 19 – Christensen has immense ideas for **Africa**, **South Africa**, and **WAPA** – many opportunities ....

1. WAPA, and ISPA, are viable working SME/SMMEs, contributing significantly to the national economy

2. SME/SMMEs the world over are known to be the principal economic drivers of all nations: In China, SMEs account for over 80% of the labour force, and 60% of GDP (OECD Report 2016)

3. Black SME/SMMEs in South Africa struggle for survival, and punch way below their weight in jobs and the economy, failure rates are in the 90% bracket

4. BUT: WAPA and ISPA SMEs are perceived to be "all white, all male", while "all black SMEs", particularly in the ICT sector, are deemed to be failures

5. The most successful non-white SME/SMMEs in the country, especially in the ICT sector, are said to be foreign immigrants, Kenyans, Nigerians, Pakistanis, Somalis, Zimbabweans – a trigger for the tragic xenophobic phenomenon …..

6. How can WAPA change these perceptions, contribute towards the success of black South African SME/SMMEs in the ICT sector, and profit from doing so?

This sensitive and/or survivalist conversation is well overdue in South Africa – can it begin at WAPA? Doing nothing is a very bad option….