

Community health monitoring of the Trident Copper Project in Zambia



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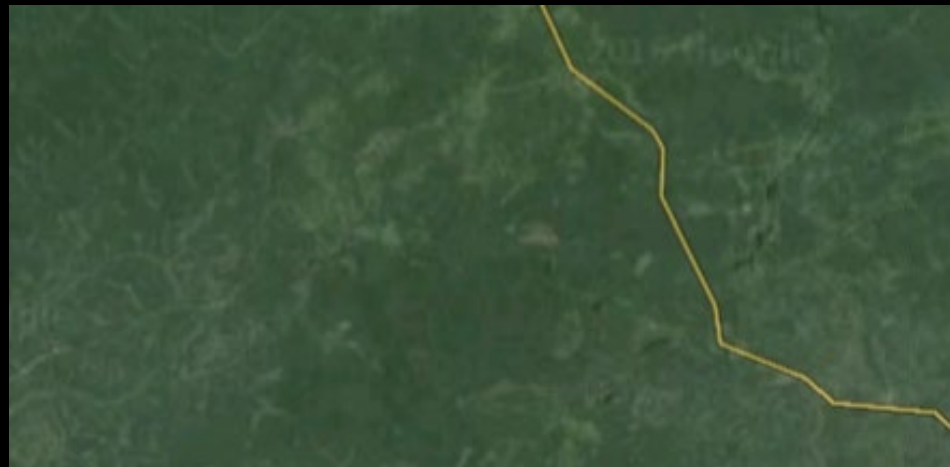
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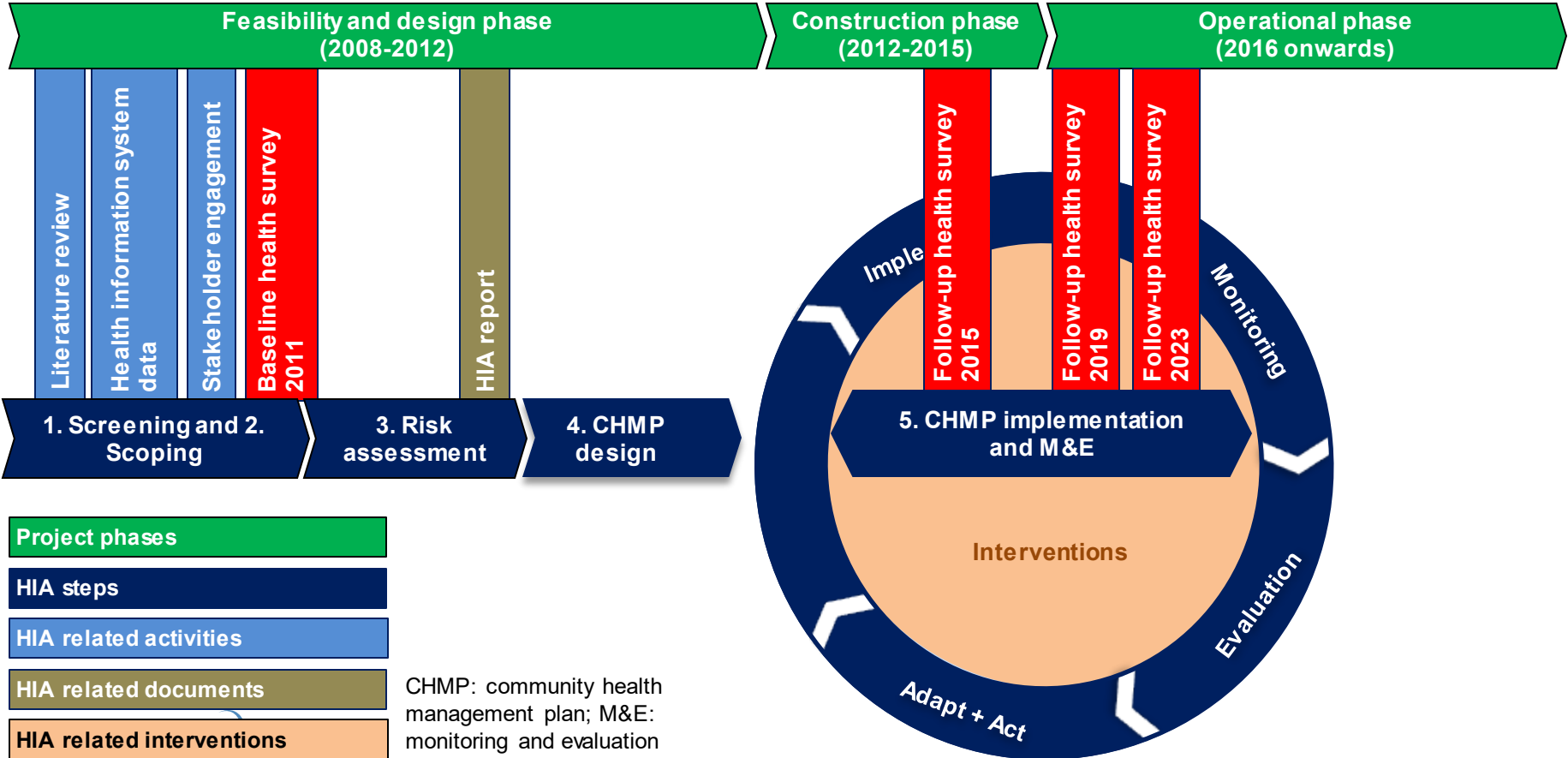
2011





2015

HIA for the Kalumbila Copper Mine





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Survey methods

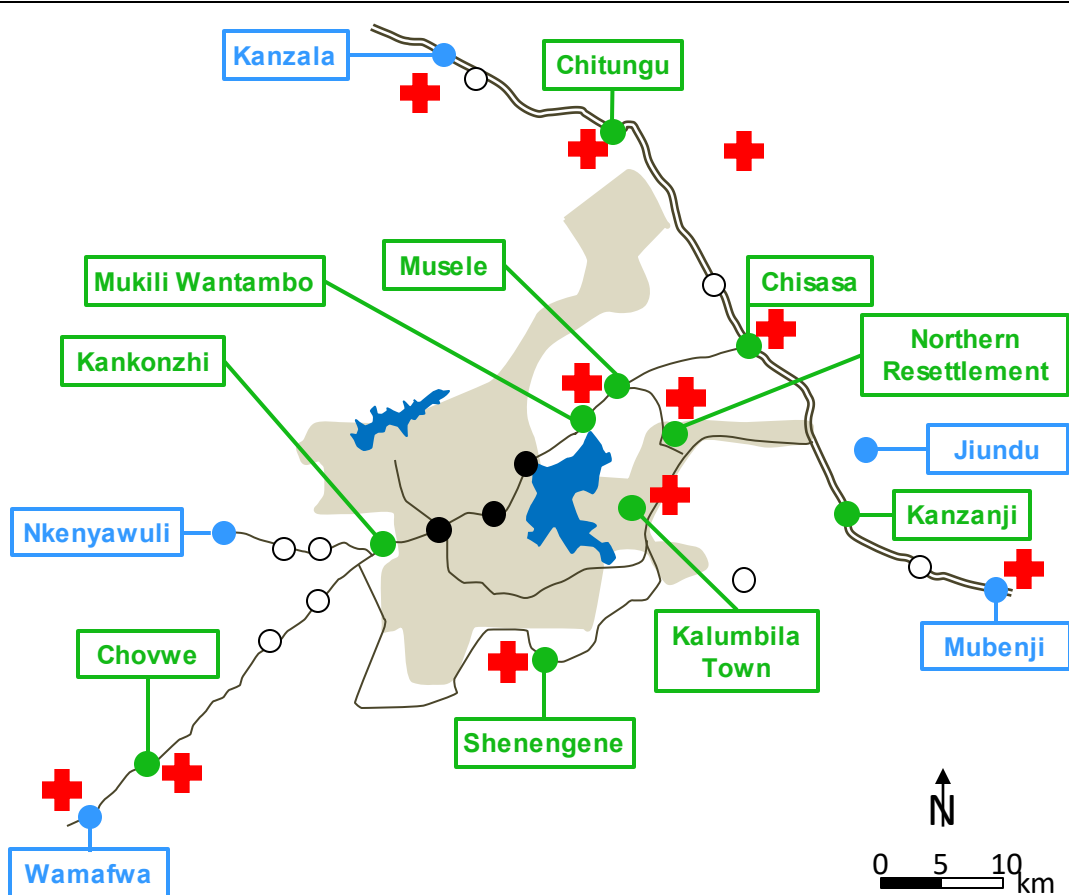
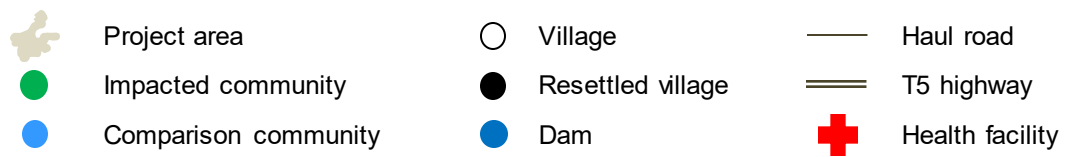
Impacted communities / sites

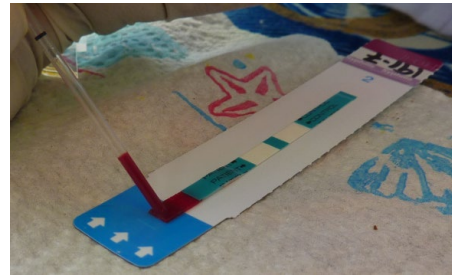
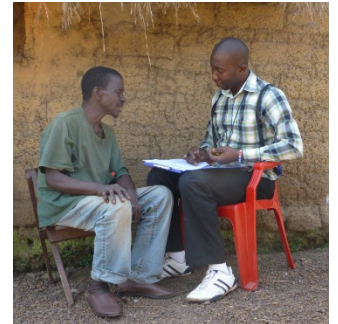
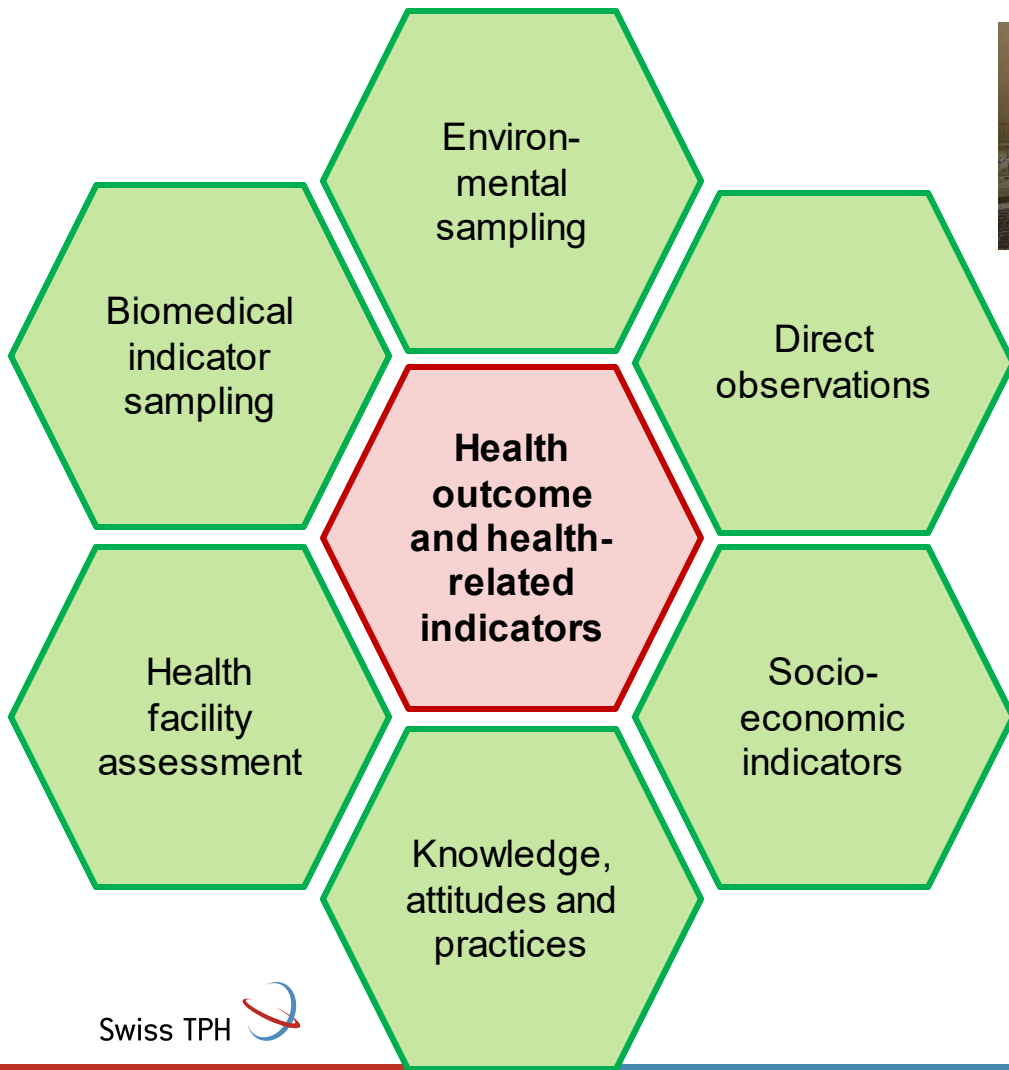
Considered directly impacted by the mine through e.g. resettlement, high influx, health interventions, etc.

Comparison communities / sites

Considered not/less impacted by the mine (although spill-over effects)

→ The same communities were surveyed every year





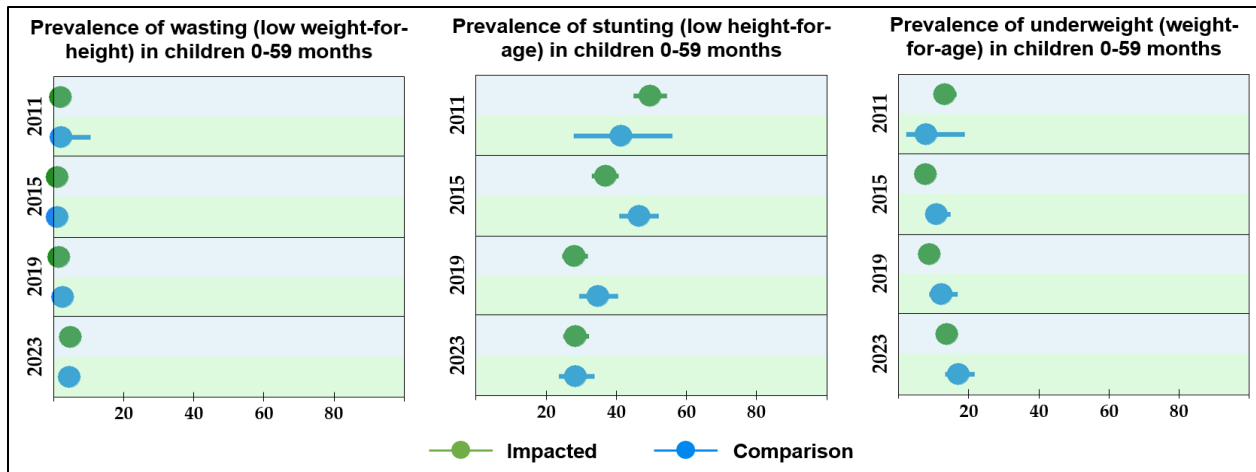


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Results: selected indicators

Nutritional indicators in children aged under 5 years



Acute malnutrition

Seemingly low but important increases in 2023

Chronic malnutrition

Decrease since baseline & steady levels since 2019

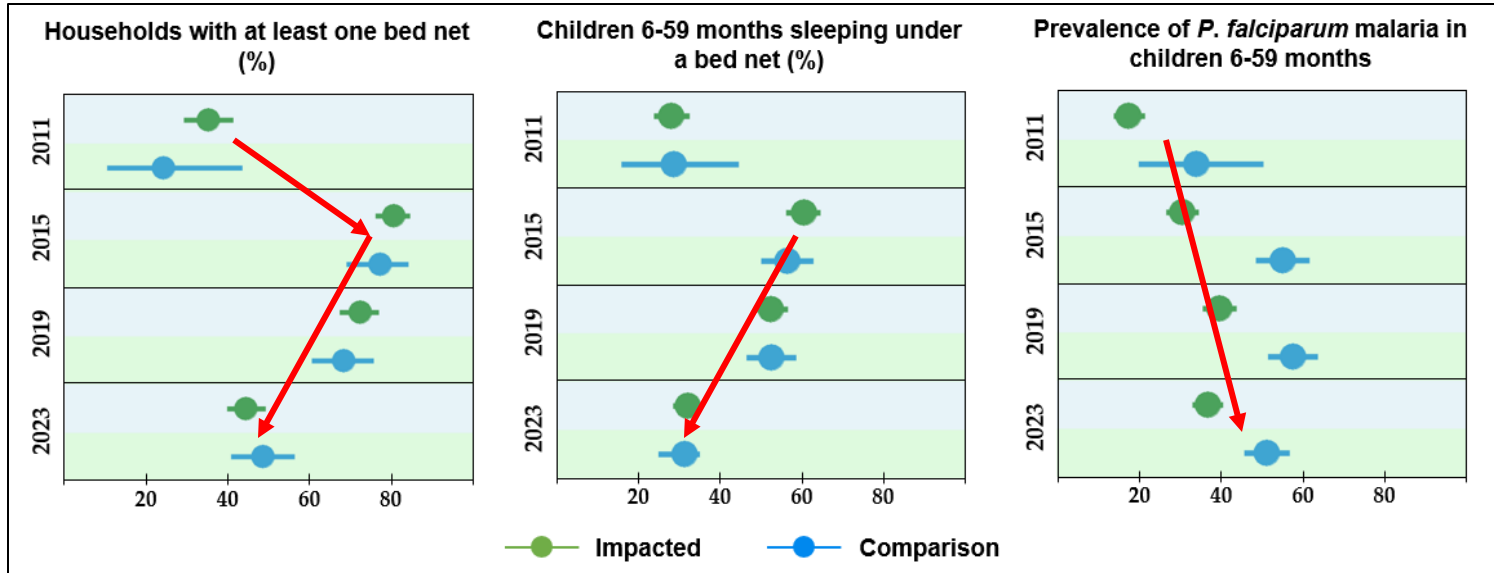
Underweight

Slight increases since 2019

- Overall, there has been improvement in the nutritional status of children since 2011, esp. chronic malnutrition.
- However, the indicators are still below standards of a normally nourished population.

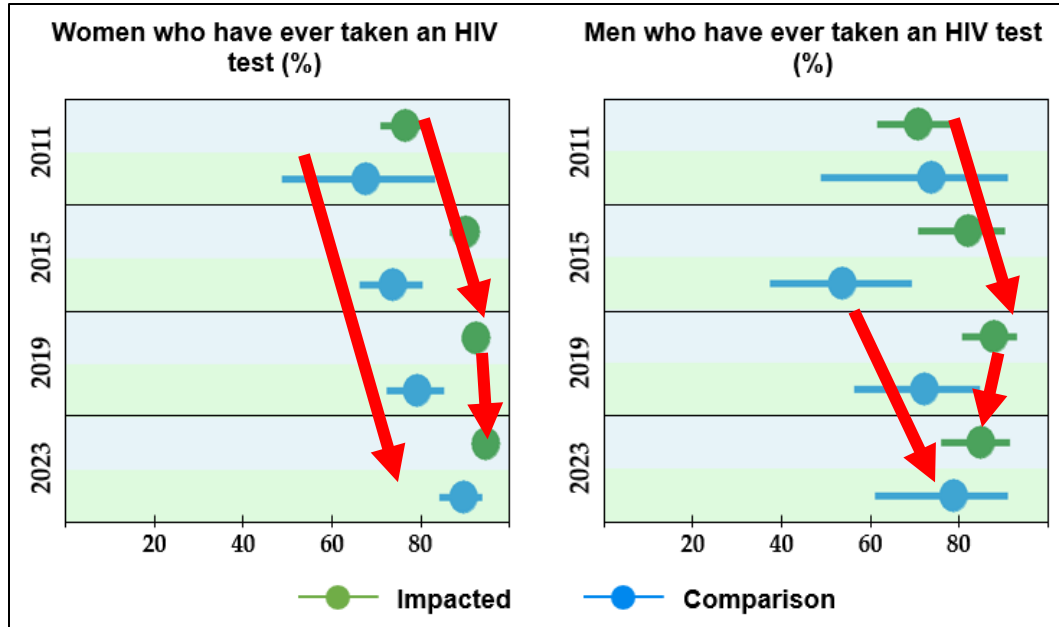


Malaria related indicators in children under 5 years of age



- Strong drops in ownership and utilization of bednets since 2019
- Mirroring country trends, malaria prevalence has increased since 2011
- Constantly significantly higher in comparison sites (except at baseline)

HIV testing uptake in women and men aged 15-49 years



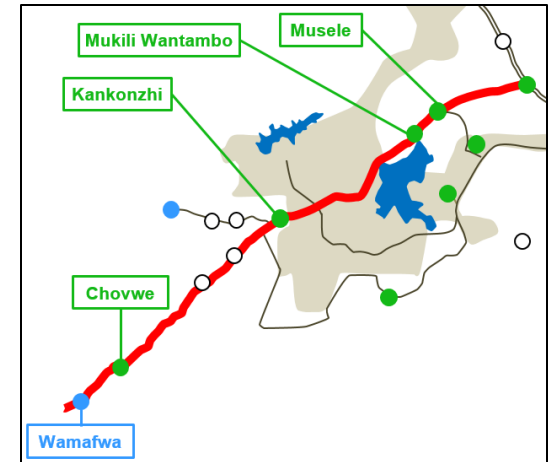
- Proportion of people 'ever tested' increased steadily but reached a plateau

→ ('Ever tested') vs. 'last test' or 'repeated testing'
→ Important to keep 'repeated testing' rates high

Syphilis prevalence

Sentinel Site	2015 FUHS		2019 FUHS		2023 FUHS	
	n	%	n	%	n	%
Kalumbila Town	30	6.7	32	3.1	54	5.6
N. Resettlement	43	2.3	36	2.8	34	5.9
Chisasa	66	3.0	77	3.9	72	8.3
Musele	95	0.0	86	10.5	81	11.1
Kankonzhi	39	5.1	39	7.7	44	13.6
Chovwe	32	6.3	37	5.4	35	8.6
Shenengene	32	9.4	34	2.9	41	4.9
Chitungu	36	5.6	38	0.0	47	10.6
Kasanzhi	38	10.5	37	5.4	37	8.1
Mukili Wantambo	-	-	-	-	34	17.6
Impacted Sites	411	4.4	416	5.3	479	9.4
Nkenyawuli	30	6.7	39	2.6	41	0.0
Wamafwa	34	2.9	35	5.7	41	24.4
Jiundu	-	-	-	-	42	2.4
Kanzala	32	3.1	70	1.4	50	4.0
Mumbezhi	35	2.9	41	7.3	58	8.6
Comparison Sites	131	3.8	185	3.8	232	7.8
Overall	542	4.2	601	4.8	711	8.9

- Overall, insignificant but important increase since baseline
- Certain higher prevalence villages (esp. also increases since 2019)
- Wamafwa, Chovwe, Kankonzhi, Mukili Wantambo and Musele: located along the same road axis



Summary findings

Comparison analyses

Indicators

Indicators	Baseline data year ¹	n	2023 vs. baseline data year ¹		Impacted vs. comparison communities	
			OR (95% CI)	p-value	OR (95% CI)	p-value
Determinants of health at the household level						
Household with solid housing structure	2011	993	1.57 (0.91-2.71)	0.108	1.58 (1.01-2.46)	0.046
Household with access to safe drinking water in the dry sea	2011	793	8.93 (2.58-30.9)	0.001	14.98 (4.41-50.85)	0.000
Household with access to safe drinking water in the wet sea	2011	793	10.69 (3.09-37.03)	0.000	15.0 (4.41-50.86)	0.000
Household with at least 1 person employed	2015	993	1.95 (0.87-4.37)	0.105	10.1 (5.14-20.0)	0.000
Health outcomes in women aged 15-29 years						
Prevalence of anaemia	2011		0.61 (0.25-1.48)	0.275	0.69 (0.25-1.39)	0.229
Prevalence of thinness	2015	1,211	0.96 (0.53-1.74)	0.887	0.78 (0.27-0.84)	0.100
Prevalence of overweight	2015	1,211	1.95 (0.87-4.40)	0.107	4.29 (2.10-8.74)	0.000
Prevalence of high blood pressure	2015	1,237	0.81 (0.52-1.27)	0.360	1.35 (0.92-1.97)	0.123
Prevalence of syphilis	2015	1,182	2.61 (0.95-7.22)	0.064	1.16 (0.42-3.18)	0.777
Health outcomes in children aged 9-14 years						
Prevalence of children with no parasites seen	2011	793	5.74 (1.90-17.30)	0.002	3.12 (1.07-9.14)	0.038
Prevalence of children with <i>S. haematobium</i>	2011	792	0.26 (0.11-0.60)	0.002	0.09 (0.04-0.17)	0.000
Prevalence of children with hookworm	2011	790	0.32 (0.15-0.71)	0.005	1.18 (0.57-2.43)	0.662
Health outcomes in children aged 0-59 months						
Prevalence of malaria	2011	1,283	2.4 (1.2-4.8)	0.013	0.41 (0.21-0.82)	0.011
Prevalence of anaemia	2011	1,259	0.68 (0.35-1.34)	0.267	0.48 (0.25-0.94)	0.031
Prevalence of wasting	2011	1,296	2.3 (0.29-18.2)	0.430	0.94 (0.12-7.6)	0.950
Prevalence of stunting	2011	1,296	0.56 (0.30-1.04)	0.064	1.40 (0.78-2.53)	0.260

¹Baseline data year represents the first year of data collection

Better since baseline

Worse since baseline

Better in the impacted

Worse in the impacted

Interp

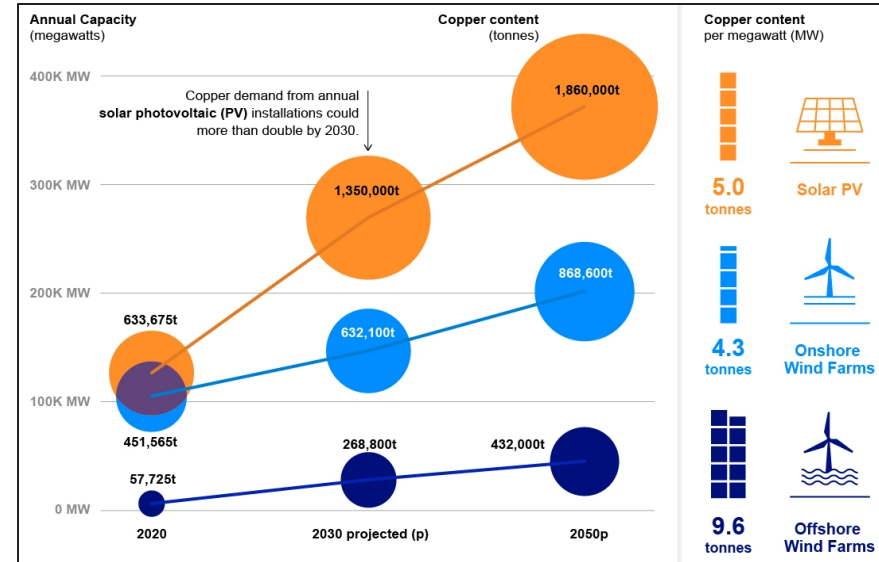
Conclusions – results

- Overall, three general* trends (*means not for all indicators):
 - Pre-dominantly improvements in determinants of health
 - Pre-dominantly improvements in health outcomes
 - Impacted communities are better off than comparison communities (inequity)
- Malaria remains a major challenge, locally and nationally
- The STI (incl. HIV) situation warrants close surveillance and continued high coverage of interventions is of utmost importance

Conclusions – Just Transition

- Demand in minerals and metals will increase heavily for the energy transition
- Health benefits not only in the green energy consumer regions, but also in the producer regions (incl. raw materials)

Projected copper demand



Let's continue the conversation!

Post questions and comments in the IAIA24 app.

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