



World Food
Programme

SAVING
LIVES
CHANGING
LIVES



Fill the Nutrient Gap Namibia

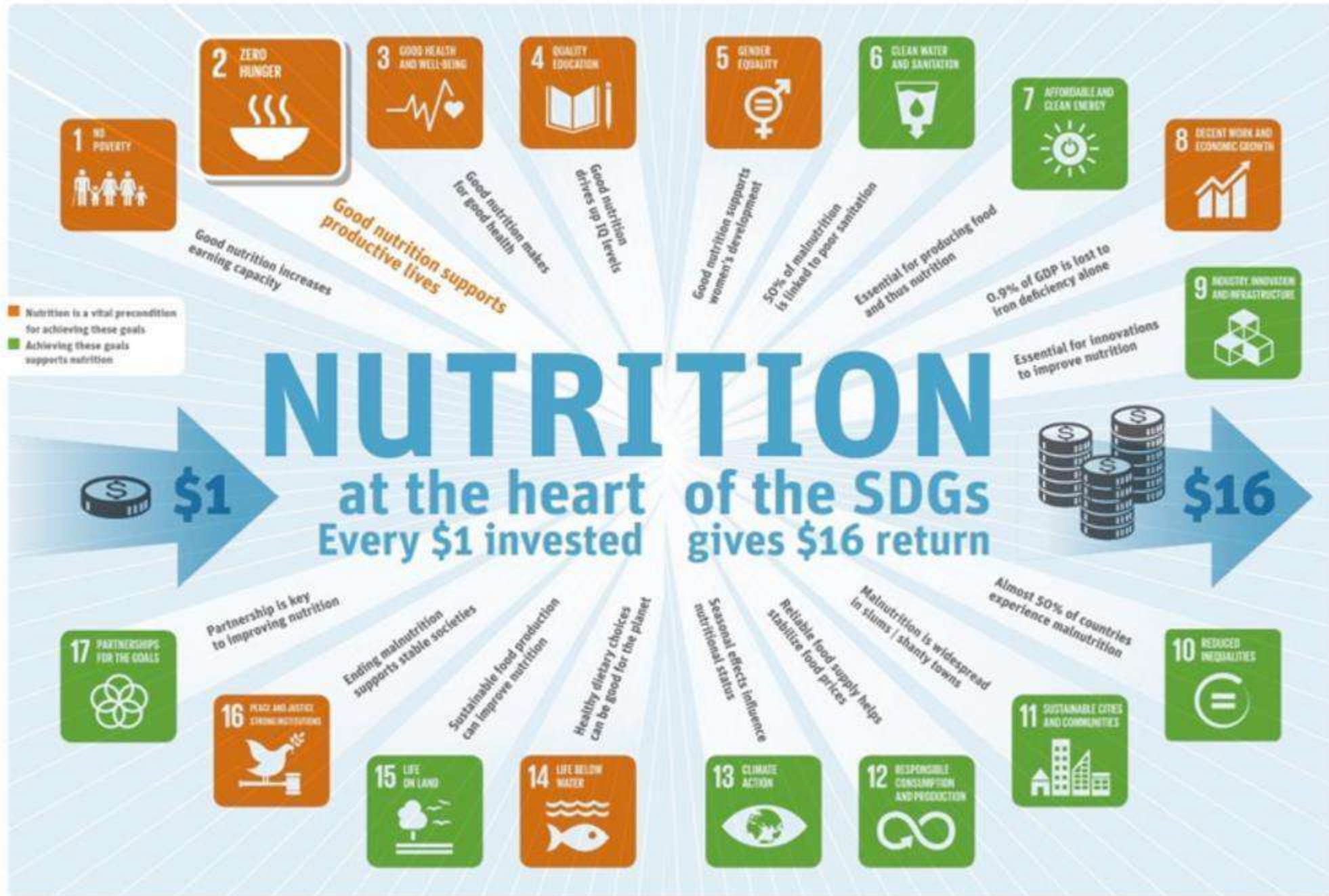
Recommendations developing workshop – Wednesday 28th July 2021

Main findings on health, vulnerabilities, social protection and school feeding



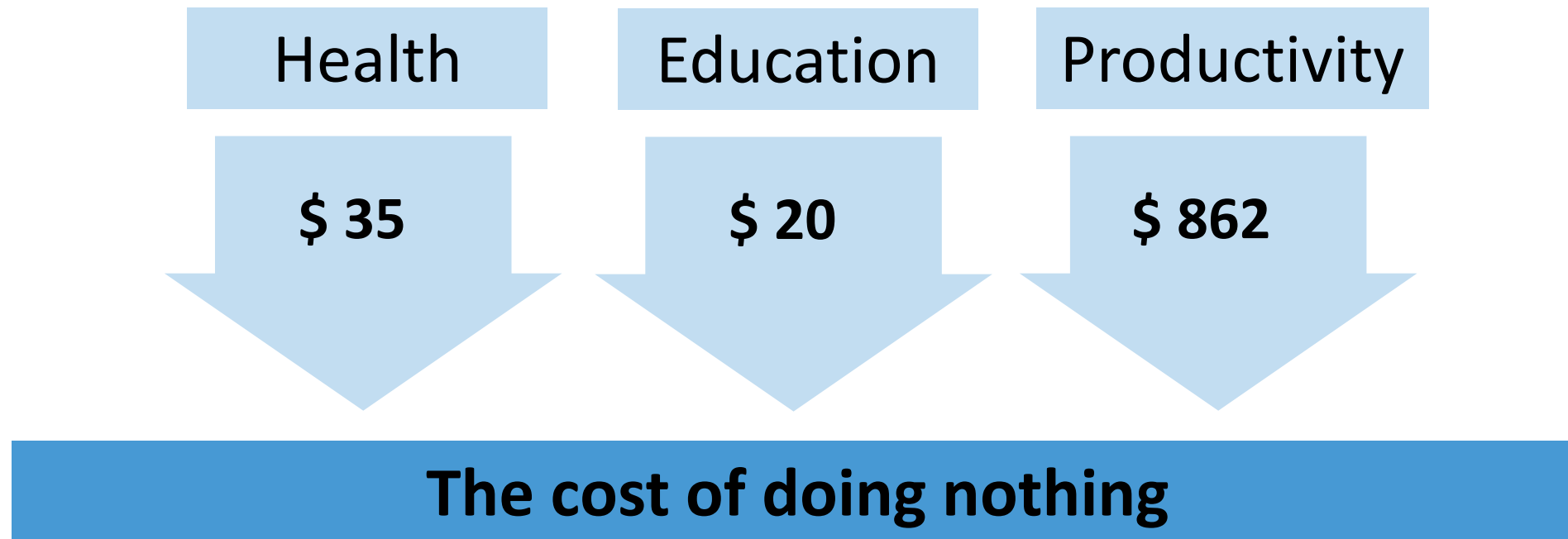
Supported by
giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH





Undernutrition costs the Namibian economy ca. \$917m every year – 6.3% of GDP

The impact of undernutrition on...



Ending all forms of malnutrition...

What does it take?



Nutrition
sensitive

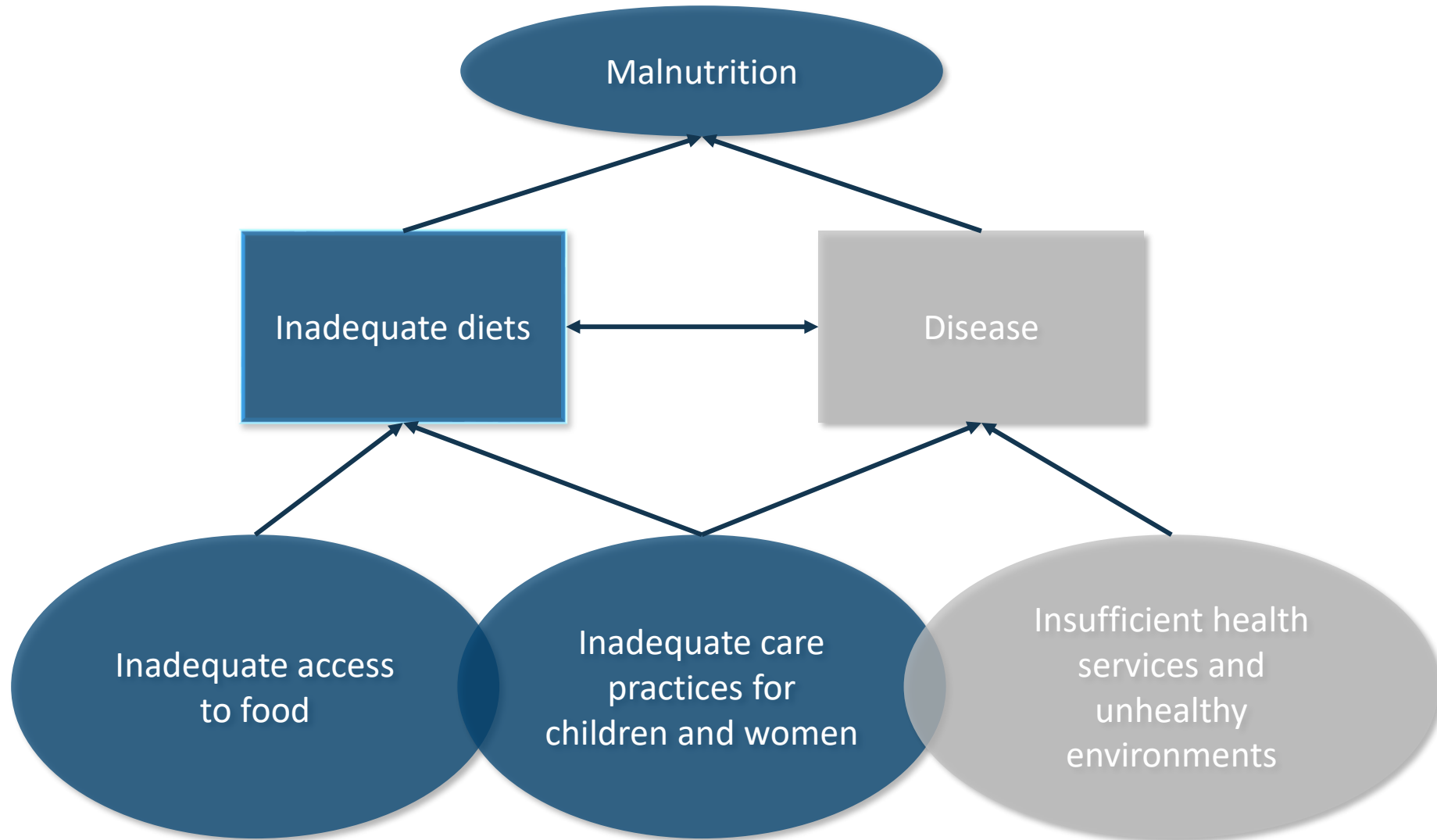
Life cycle

Multiple
sectors

Nutrition
specific

What is the **right ‘mix’** for a **specific context**?

A healthy diet that meets nutrient requirements Is a prerequisite for preventing malnutrition.



Recognising the need for shared understanding of issues, context and solutions, the Fill the Nutrient Gap (FNG) aims to:

- Identify the barriers to adequate nutrient intake.
- Explore options for improving access to nutritious diets.



Specific target groups in a specific context



Multi-sectoral input and involvement



Food systems based approach

Two components of the analysis



Secondary data analysis and review

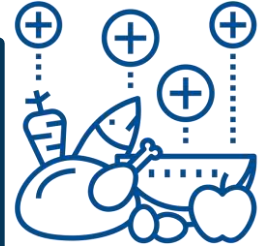


Characterize the food system & identify possible entry points

Linear programming on Cost of the Diet

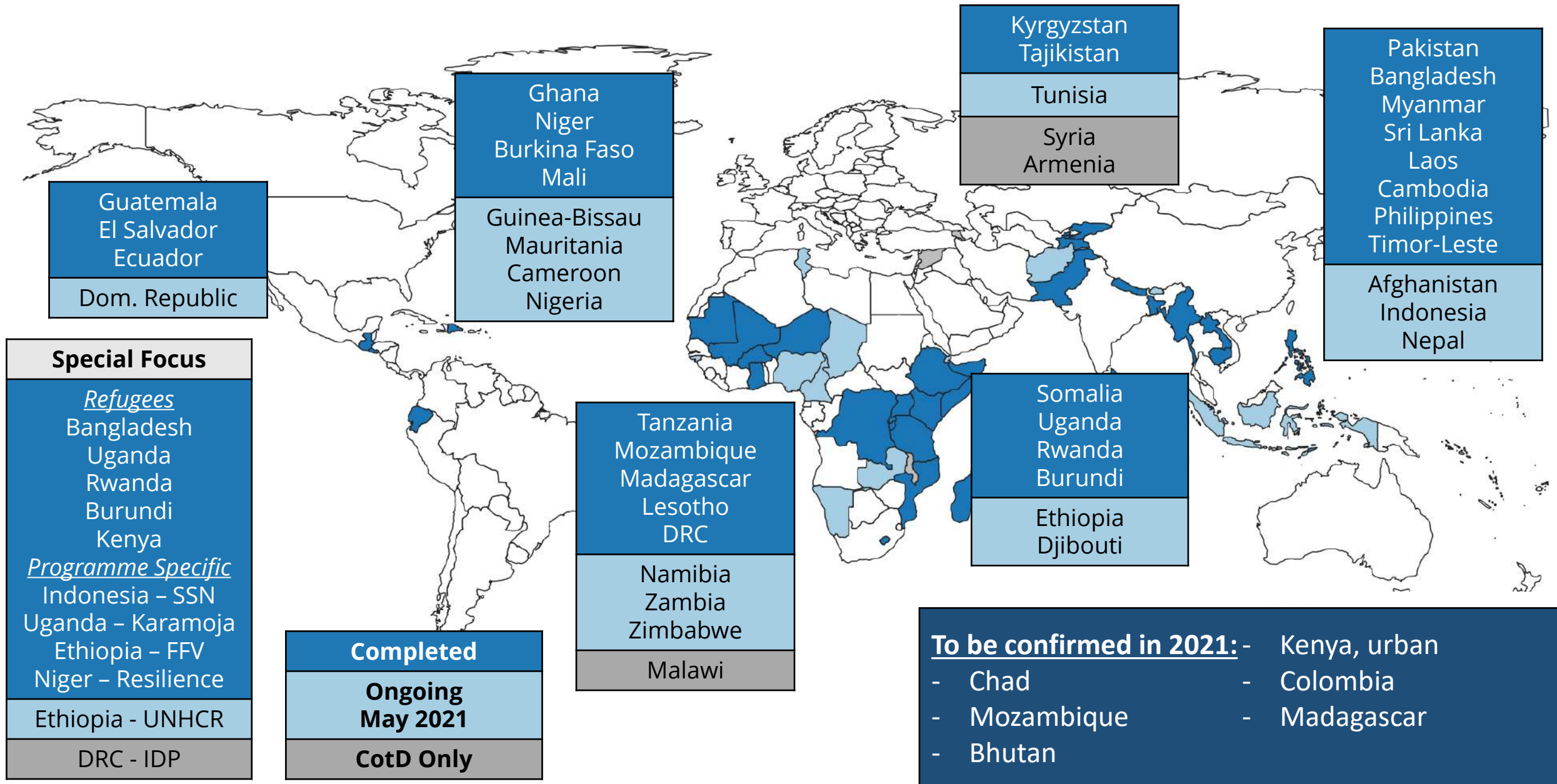


Estimate the minimum cost and affordability of a nutritious diet

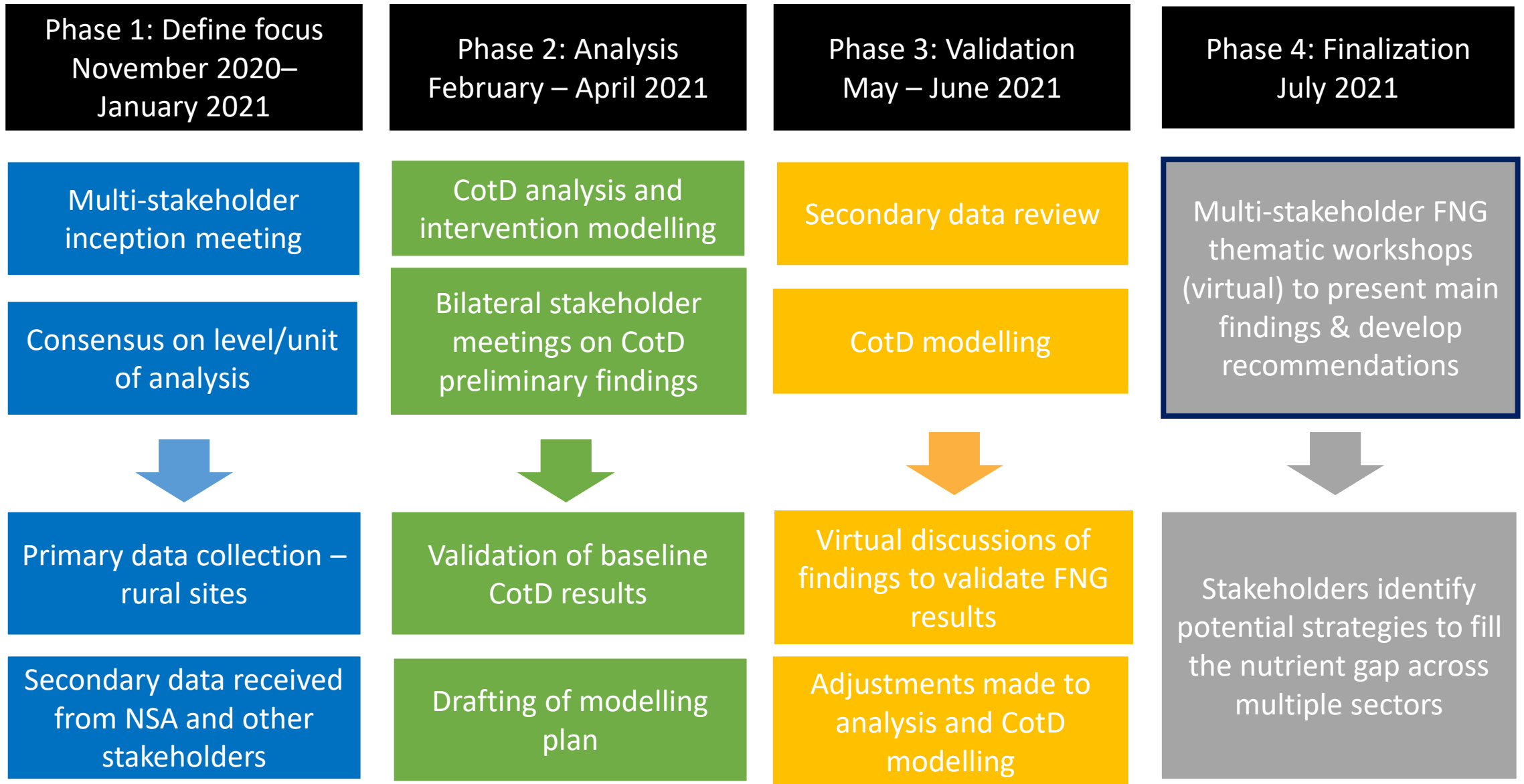


1. Understand the challenges
2. Model interventions to improve access and affordability of nutritious diets
3. Inform a prioritization of interventions across sectors

Where we work: FNG Around the World

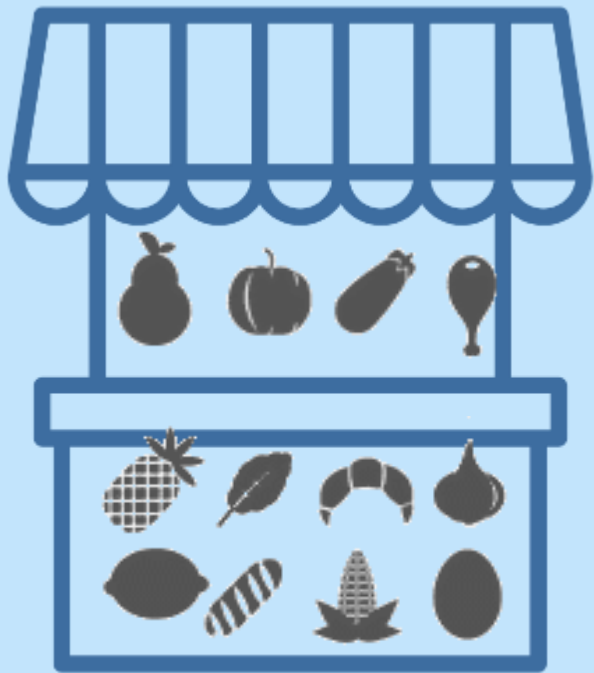


FNG Engagement Process in Namibia



Cost of the Diet estimates the cost of meeting nutrient requirements using locally available foods

**Market Survey
Data: Food
prices and
Availability**



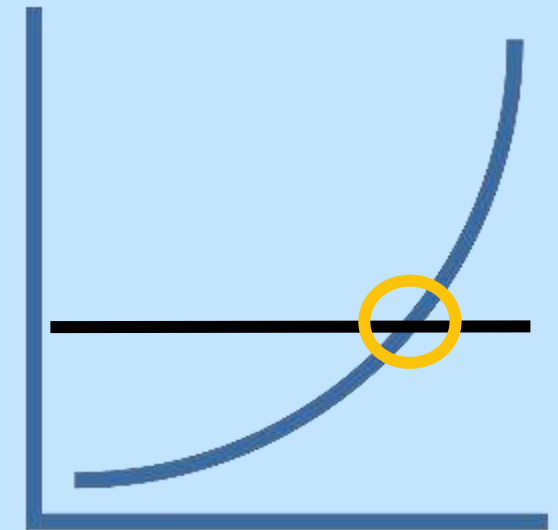
**Linear Programming
used to optimise
food combinations
and model diets**



**Lowest cost food
combination
meeting nutrient
requirements of
model household**



**Diet cost compared
to household food
expenditure to
estimate how many
could afford it**



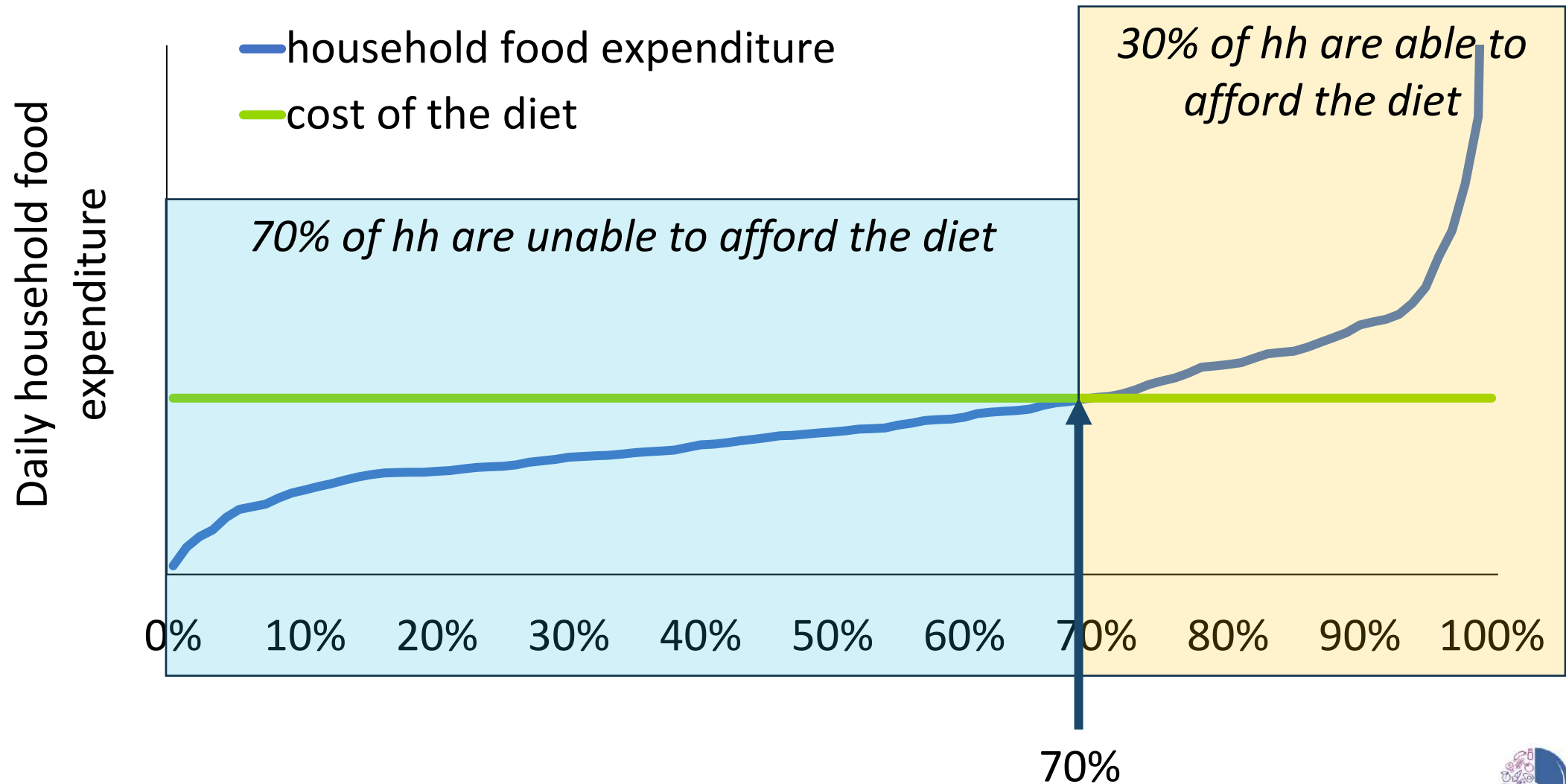
Size and composition of a model household

5 person household

1. Child 6-23 months (breastfed)
2. School-age child
3. Adolescent girl
4. Breastfeeding woman
5. Adult man



How we calculated non-affordability of a nutritious diet (example)



Sources of price data used in the Cost of the Diet analysis

Food Prices

January 2021

CPI Data

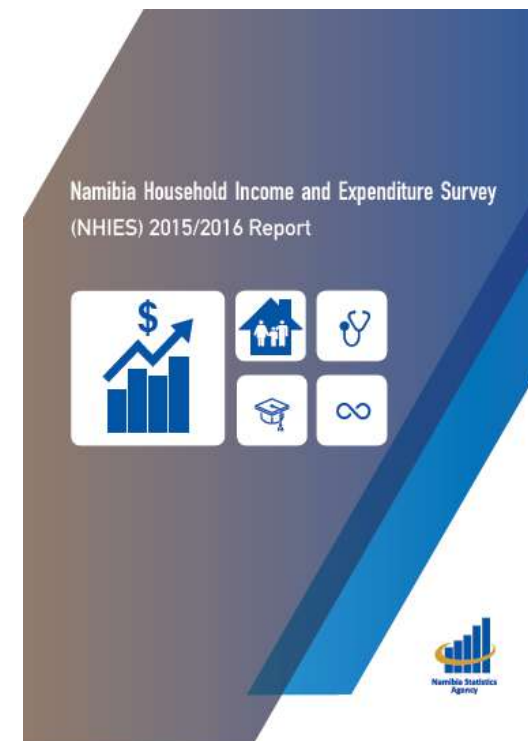
- Used to capture the average situation in the country
- Nationally representative
- Mostly representative of urban access
- 8 major towns

Rural Price Data

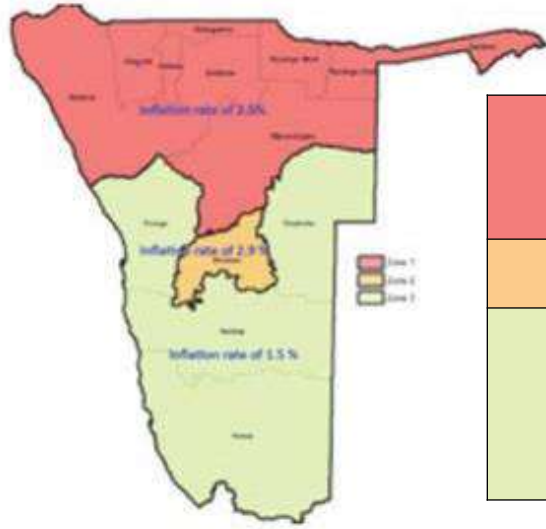
- Used to gather insights into the rural, remote situation in Namibia
- Oversampling of rural areas
- Convenience and purposive sample
- 25 rural sites surveyed

Food Expenditure

2015-16 adjusted to January 2021



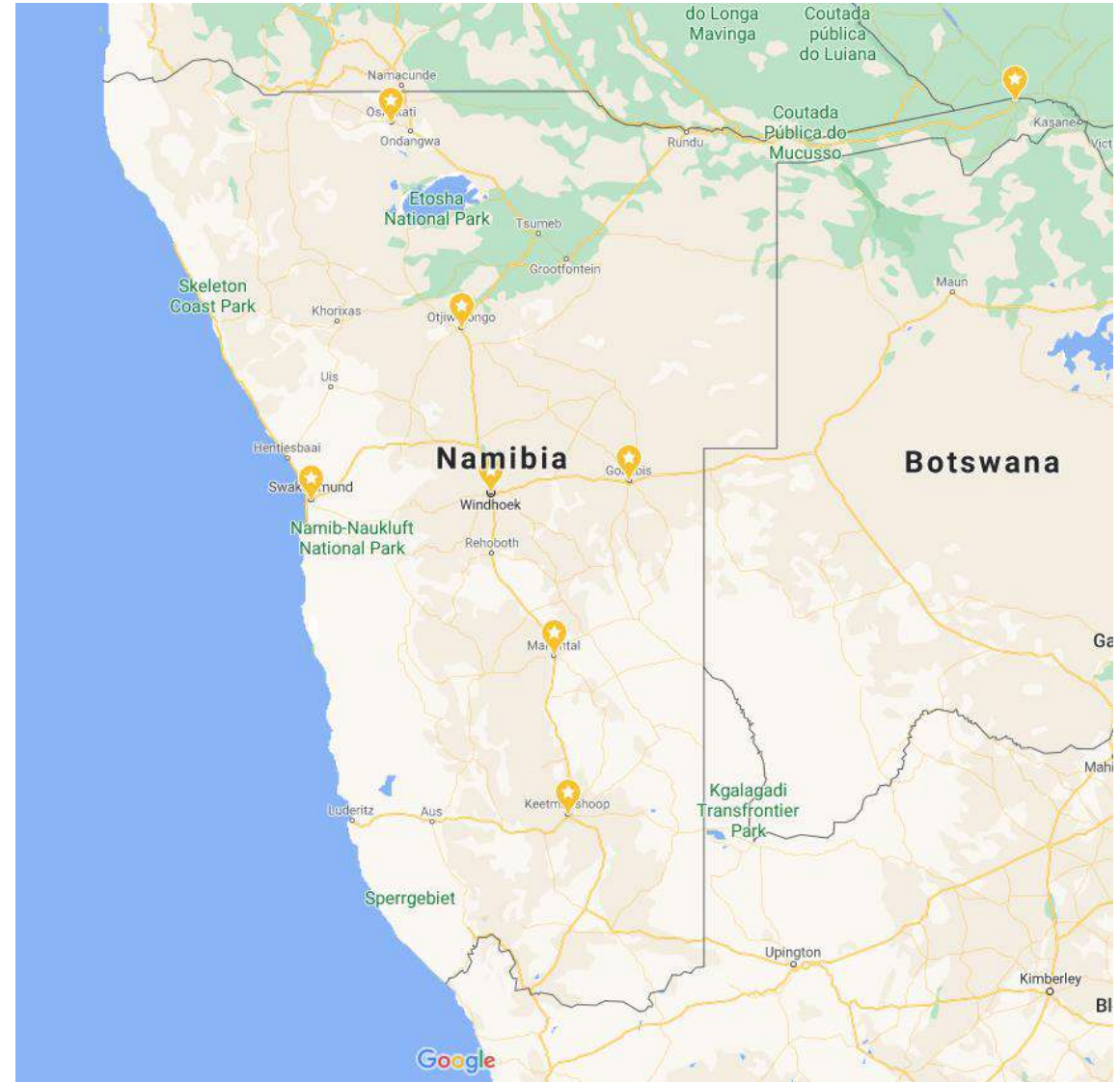
Consumer Price Index data covers eight towns over three zones



ZONE 1	Oshakati
	Katima Mulilo
	Otjiwarongo
ZONE 2	Windhoek
	Swakopmund
ZONE 3	Gobabis
	Keetmanshoop
	Mariental

CPI Data

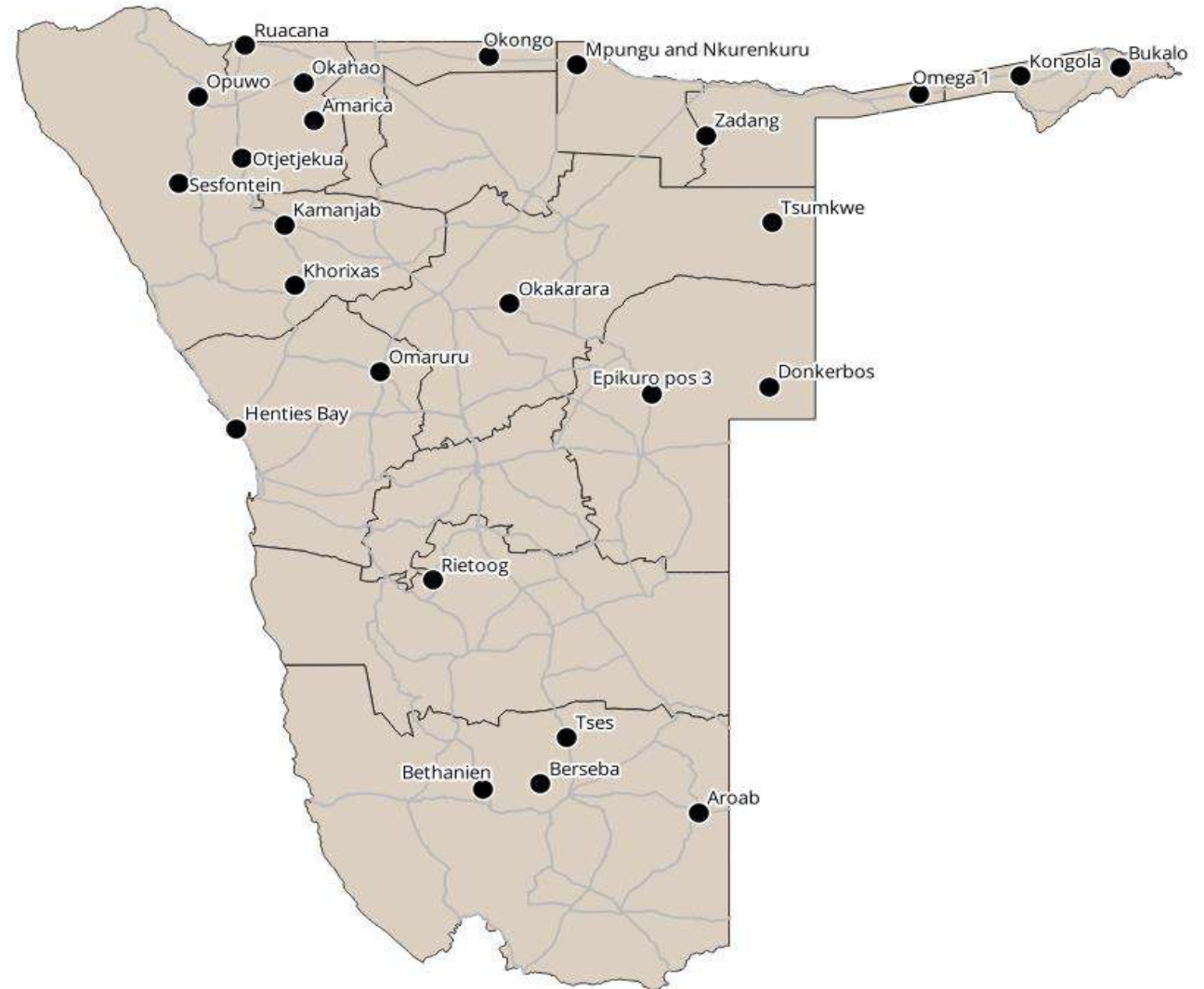
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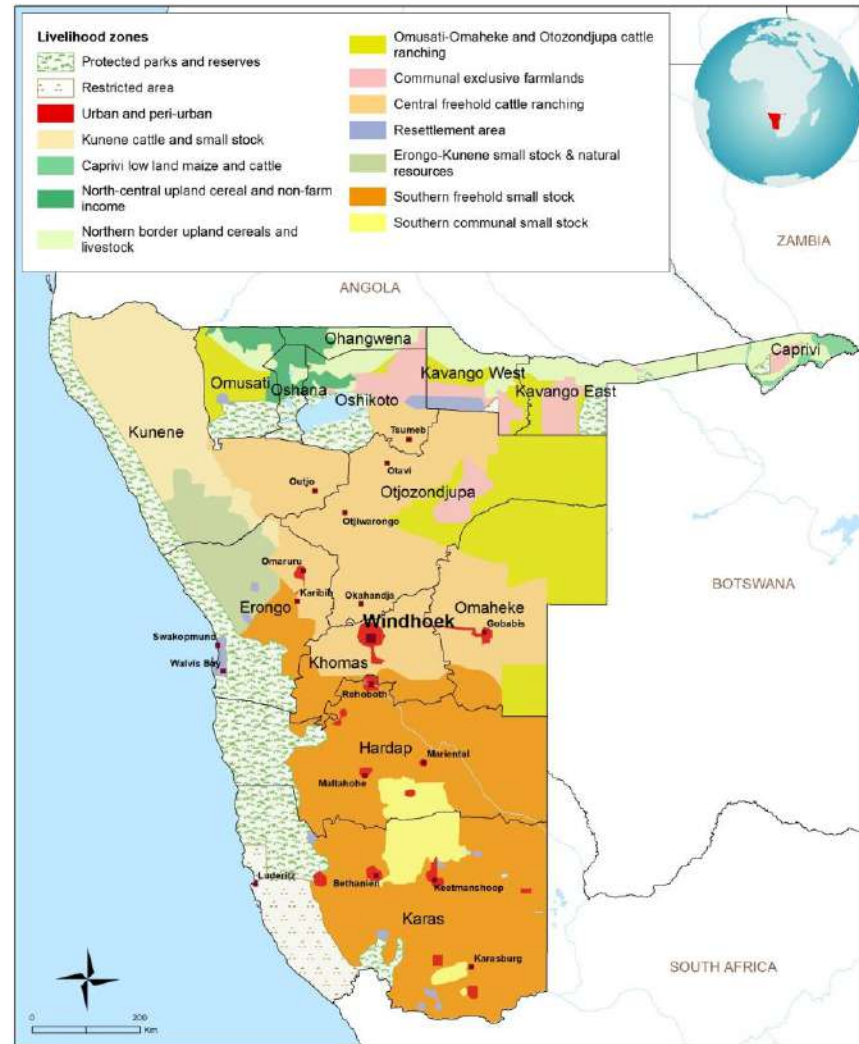
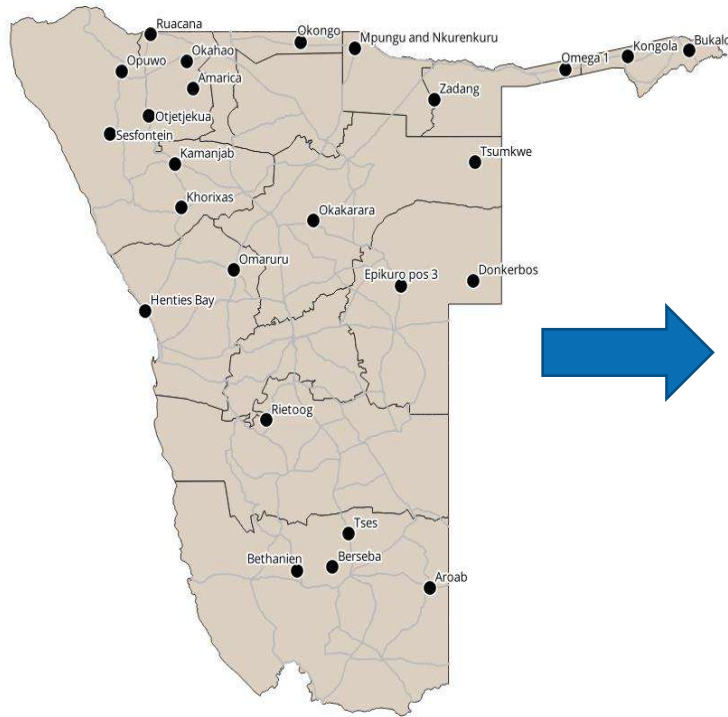
Primary food price data were collected from twenty-five rural sites

Rural Price Data

- Used to gather insights into the rural, remote situation in Namibia
- Oversampling of rural areas
- Convenience and purposive sample
- 25 rural sites surveyed



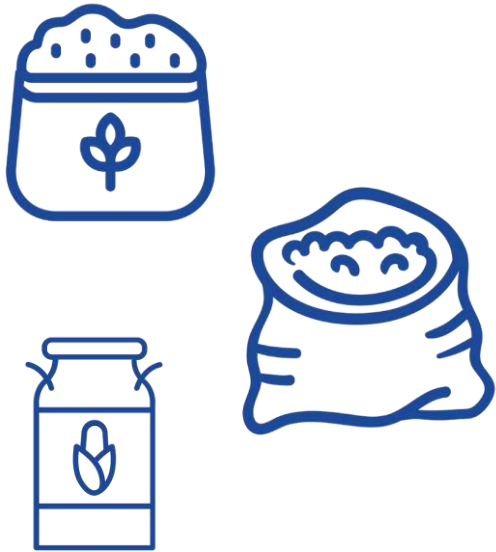
Primary food price data were aggregated by livelihood zone according to GPS coordinates



LHZ	Livelihood zone name	Town or village name
1	Kunene cattle and small stock	<i>Opuwo</i>
		<i>Sesfontein</i>
2	Omusati-Omaheke-Otjozondjupa cattle ranching	<i>Otjetjekua</i>
		<i>Amarika</i>
		<i>Zadang</i>
		<i>Khorixas</i>
		<i>Tsumkwe</i>
		<i>Okakarara</i>
		<i>Donkerbos</i>
		<i>Berseba</i>
4	Southern communal stock	<i>Tses</i>
5	Central freehold cattle ranching	<i>Kamanjab</i>
		<i>Omaruru</i>
		<i>Epikuro pos 3</i>
6	Southern freehold small stock	<i>Rietoog</i>
		<i>Bethanien</i>
		<i>Aroab</i>
7	Northern border upland cereals and livestock	<i>Ruacana</i>
		<i>Okahao</i>
		<i>Okongo</i>
		<i>Bukalo</i>
		<i>Kongola</i>
		<i>Omega 1</i>
		<i>Mpungu and Nkurenkuru</i>
P	Protected park area /urban/peri-urban	<i>Henties Bay</i>

Cost of the Energy Only and Nutritious diets

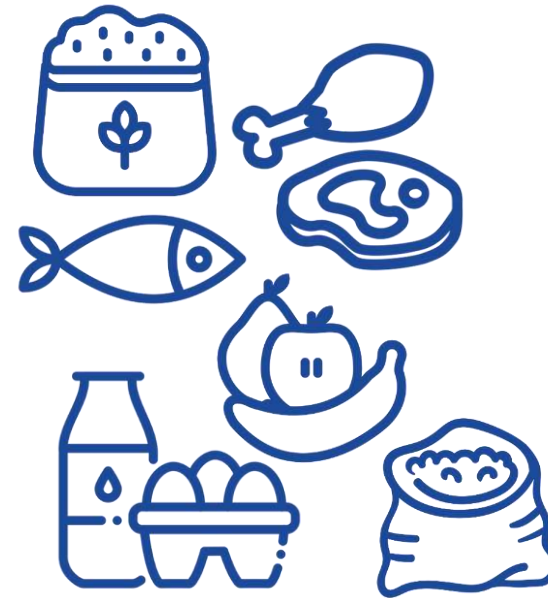
Energy Only Diet



Made up of energy dense foods, with 1 or 2 food groups:

- Maize
- Oil
- Wheat flour

Nutritious Diet



Made up of nutrient-dense and staple foods, multiple food groups:

- Legumes
- Vegetables
- Fish
- Meat
- Eggs
- Dairy
- Grains

Staple-Adjusted Nutritious Diet

WHAT IT IS

- An economic benchmark of the lowest possible cost to meet nutrient needs
- Based on what is available in markets
- Selection meets nutrient needs and has lowest possible cost
- Adjusted to reflect basic local staple food preferences

WHAT IT IS NOT

- **Does not reflect current dietary habits**
- **Not designed to provide recommendations of what people should eat:**
 - **ingredients not selected to make a nice recipe**
 - **only most optimal foods are selected – little variation**

Adjusting nutritious diets to reflect staple food preferences

Millet



Maize



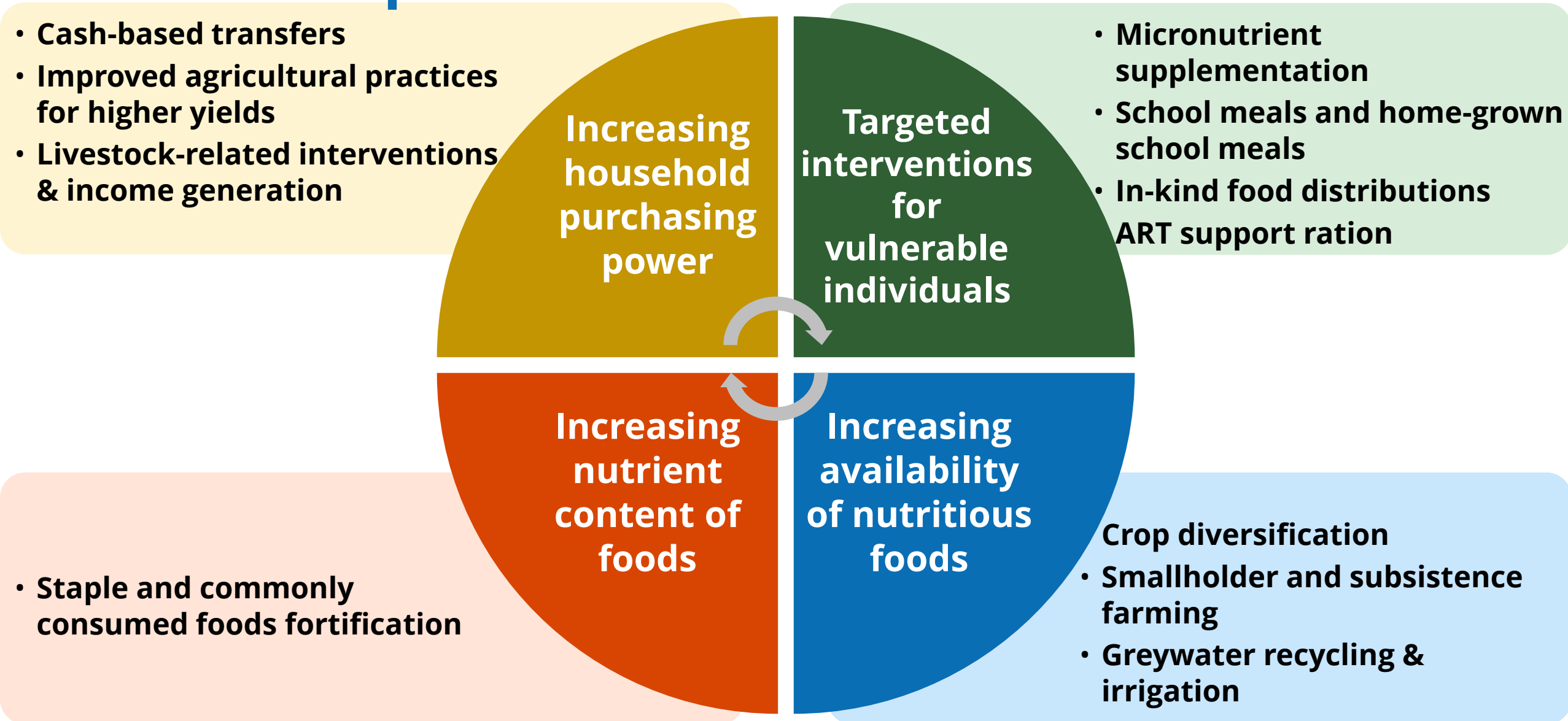
Sorghum



Wheat flour



Interventions from different sectors could improve access to nutritious diets





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Key Message 1

Health and Nutrition overview

Progress has been made in improving public health, but mortality related to dietary causes (incl. hypertension, stroke, diabetes) are on the rise.

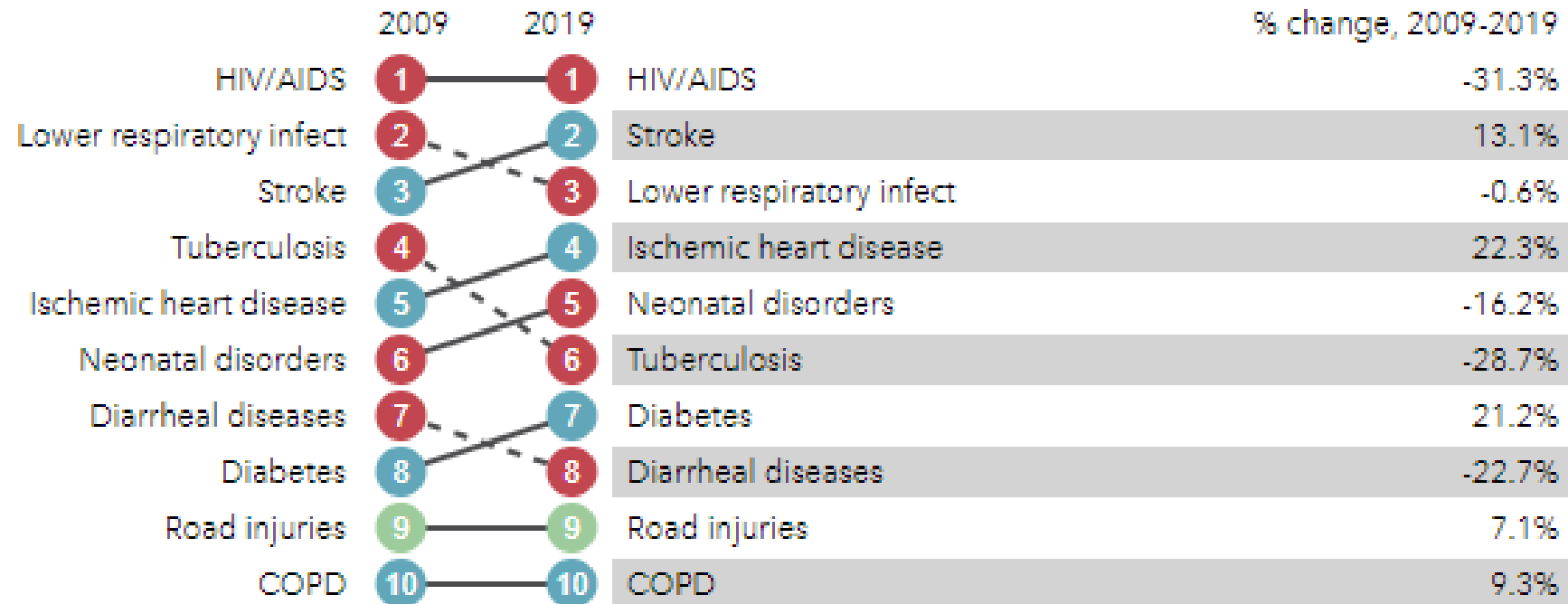
Malnutrition is an issue that affects all wealth groups.

Burden of Disease





















What causes the most deaths?

- Communicable, maternal, neonatal, and nutritional diseases
- Non-communicable diseases
- Injuries

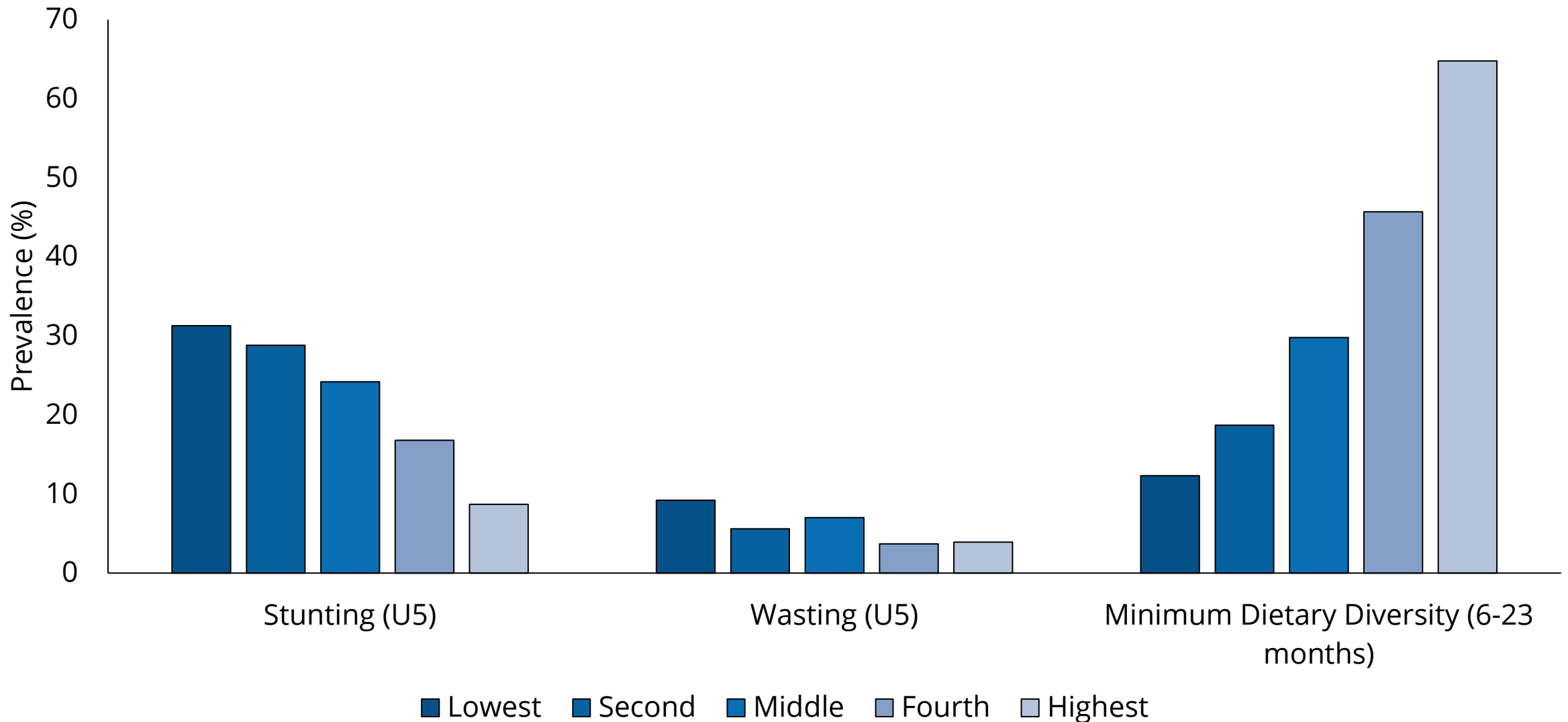
Namibia



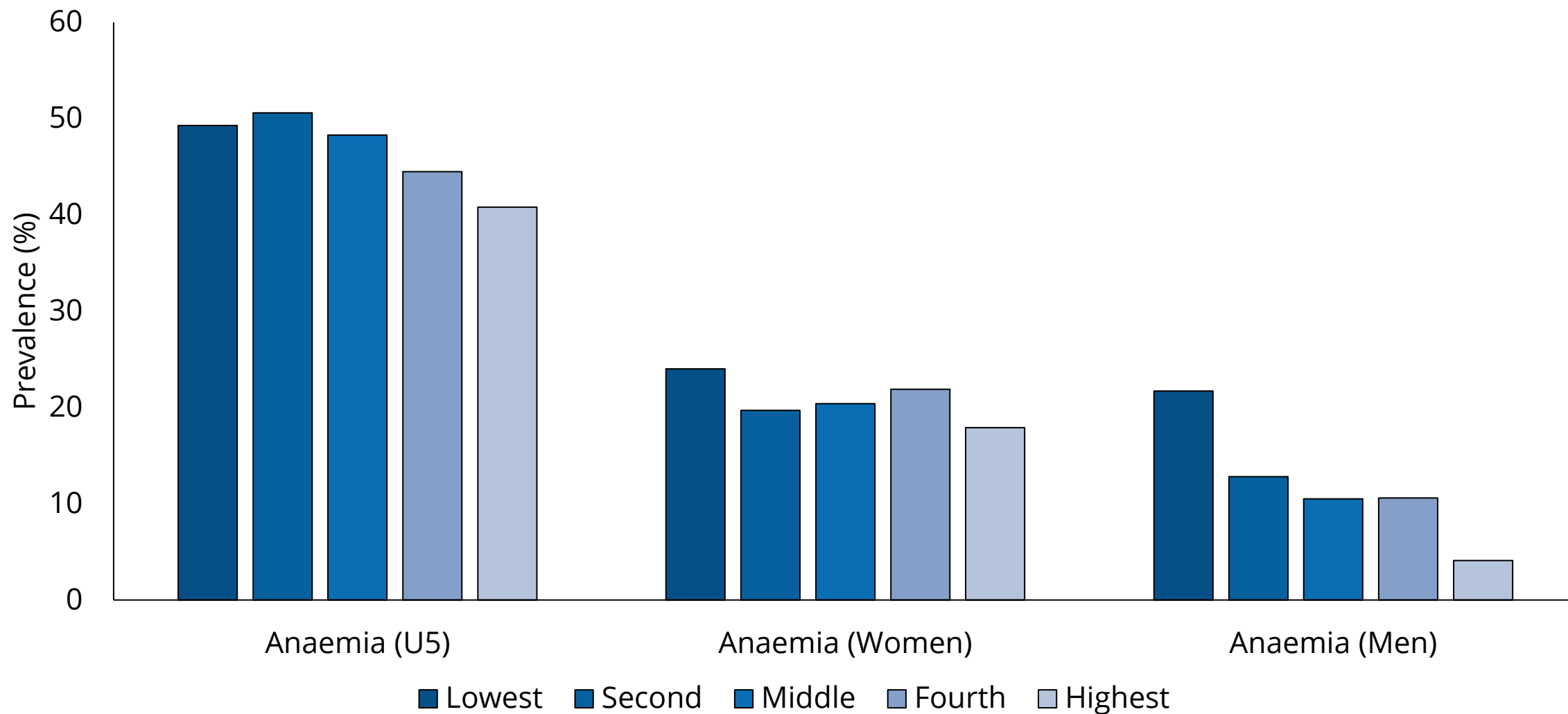
Top 10 causes of death and change 2009-2019, all ages, number

	Stunting & Wasting		Anaemia		Overweight & Obesity	
Current Situation	 <p>Stunting: 24%</p>	<p>Wasting: 6%</p> 	 <p>Women (15-49): 21%</p>	 <p>Children: 48%</p>	<p>Children: 7%</p> 	 <p>Women (15-49): 32%</p>
Vulnerable Groups & Trends	<p>Stunting by wealth quintiles:</p>  <p>Lowest: 31%</p> <p>Highest: 9%</p>	<p>Stunting by location:</p>  <p>Rural: 28%</p>  <p>Urban: 17%</p>	<p>Pregnant women: 26%</p> 	<p>Breastfeeding women: 22%</p> 	<p>Wealth quintiles (women):</p>  <p>Lowest: 13%</p> <p>Highest: 44%</p>	 <p>Rural: 22%</p>  <p>Urban: 40%</p>
	 <ul style="list-style-type: none"> Limited Progress since 2007 (29%)  <ul style="list-style-type: none"> High variation between districts in stunting (from 13% in Khomas up to 37% in Ohangwena) 		 <ul style="list-style-type: none"> WHO estimates are slightly rising since 2010 for non-pregnant women  <ul style="list-style-type: none"> Prevalence in pregnant women are relatively stagnant 		 <ul style="list-style-type: none"> On the rise since 2006 for all groups  <ul style="list-style-type: none"> Women of the older age groups (40-49) have the highest rate: 53% 	

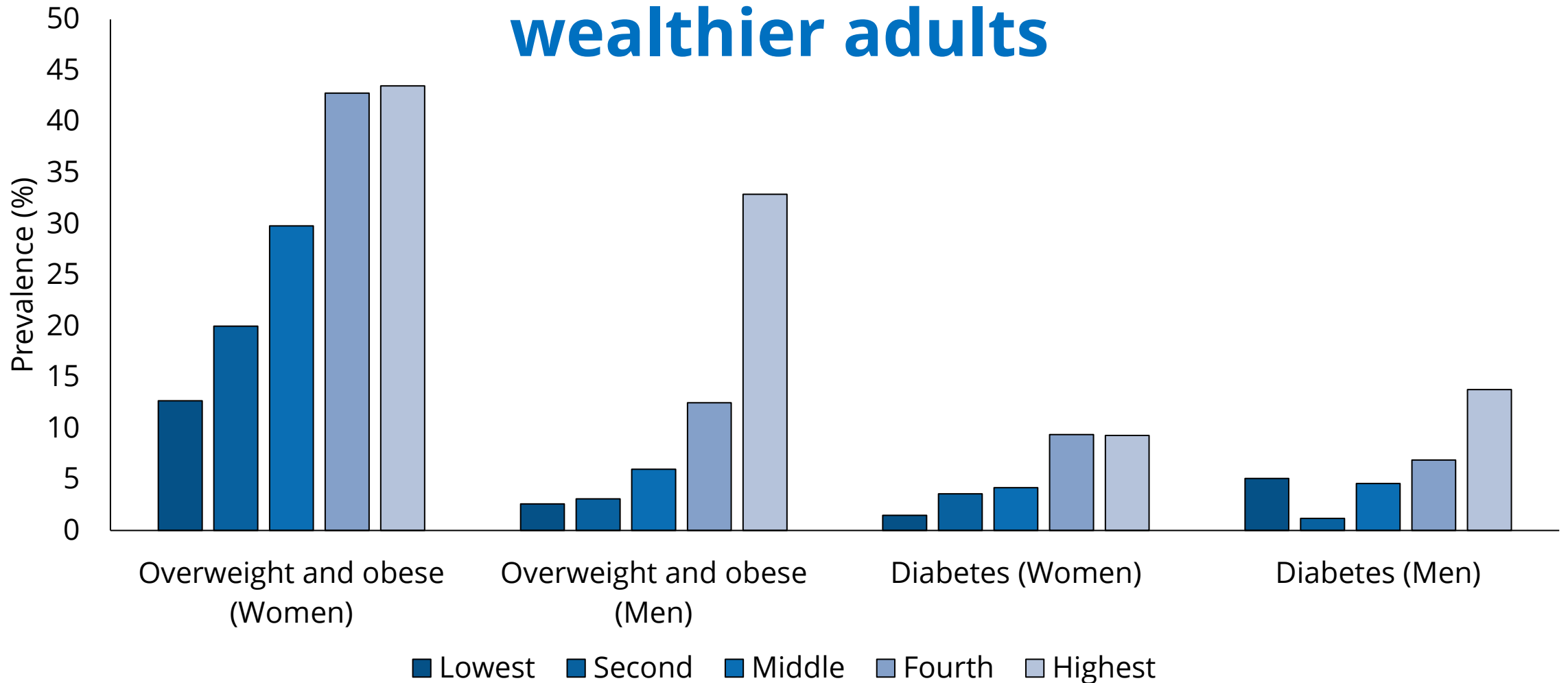
Nutrition outcomes and nutrient intake in young children is associated with wealth



Micronutrient deficiencies are an issue for almost all individuals and across wealth groups

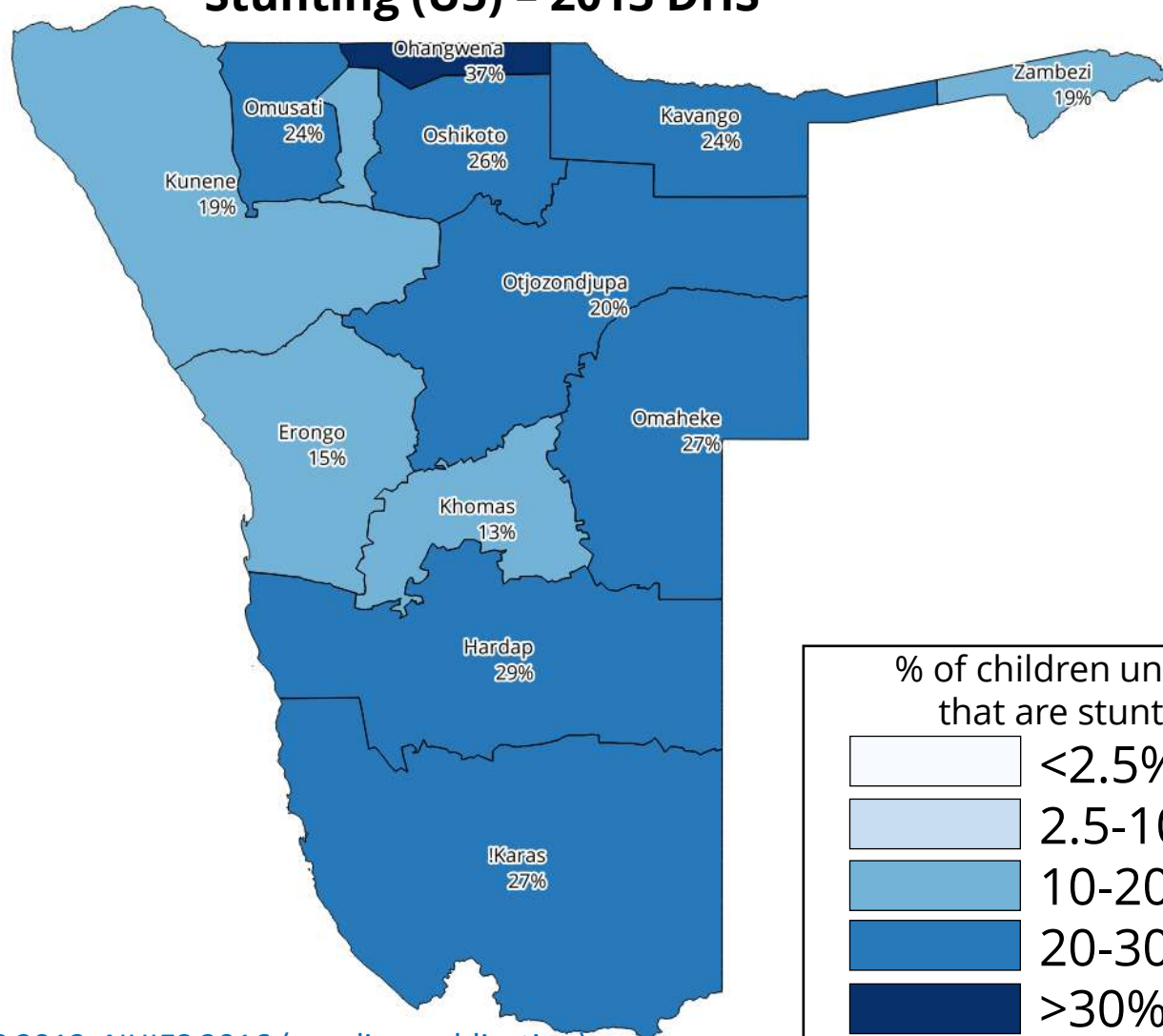


Overweight/obesity & diabetes prevalence suggests unhealthy eating patterns among wealthier adults

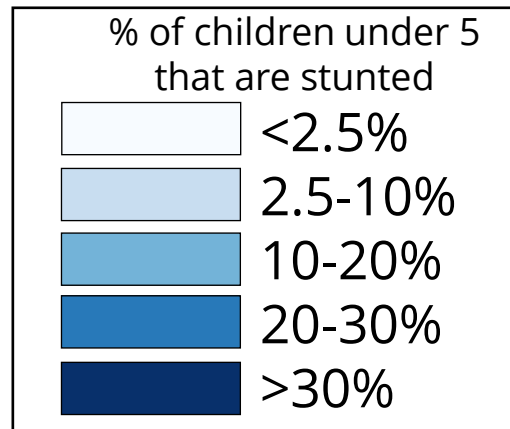
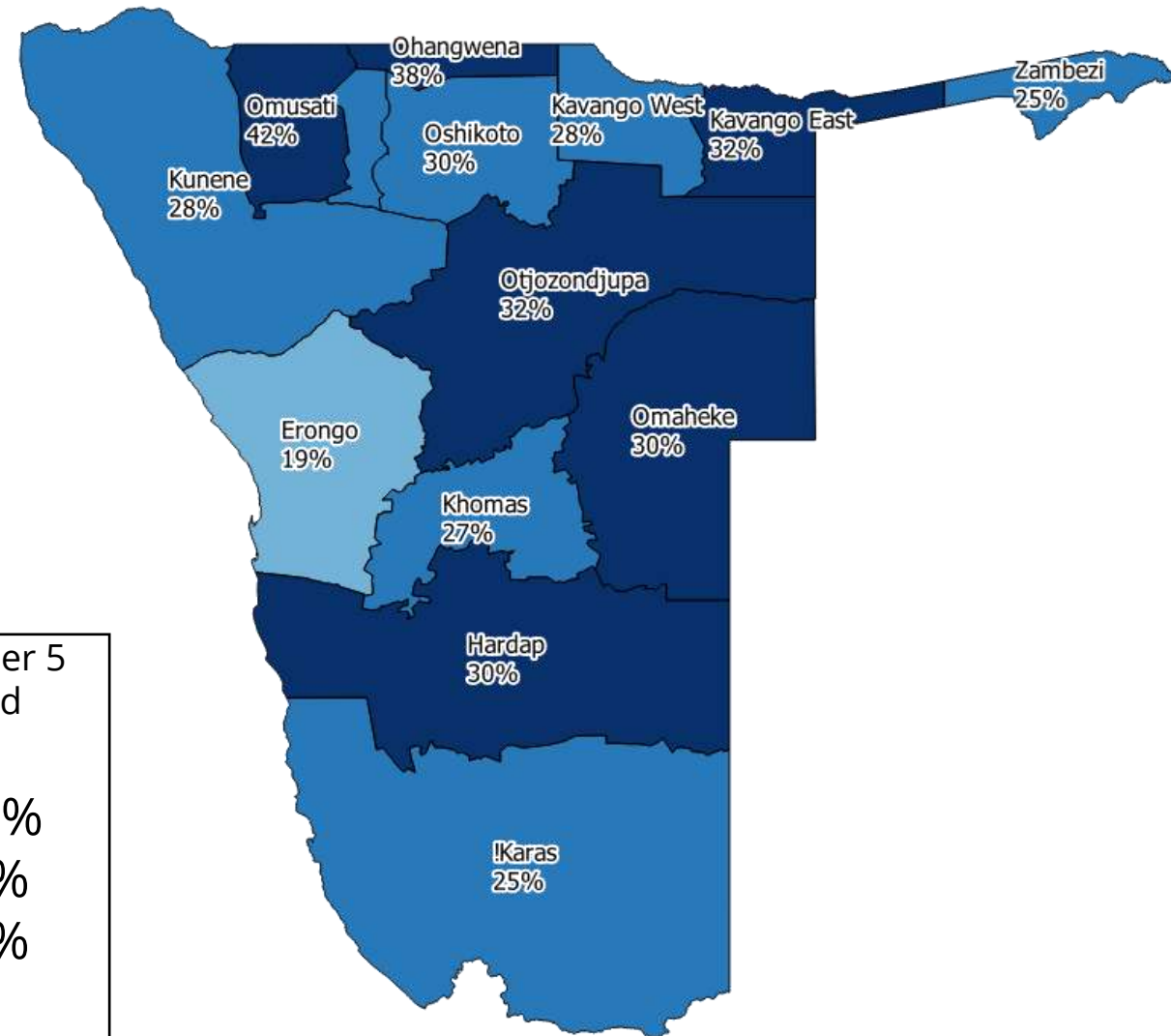


Stunting in children is stagnant or increasing in prevalence and is high with few exceptions

Stunting (U5) – 2013 DHS



Stunting (U5) – 2015/16 HIES



The lowest cost nutritious diet

The nutritious diet could cost on average 103 Namibian Dollars for a 5 person household per day.

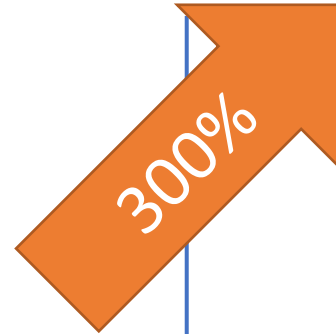
It can be up to four times more expensive to meet nutrient requirements within Namibia, depending on location.

A nutritious diet is three times more expensive than a diet that meets only energy needs



Minimum cost of the
energy-only diet
31 N\$
per household per day

Rural sites range 20 – 68 N\$



Minimum cost of the
nutritious diet
99 N\$
per household per day

Rural sites range 62 – 246 N\$



The nutritious diet includes fresh foods from several different food groups

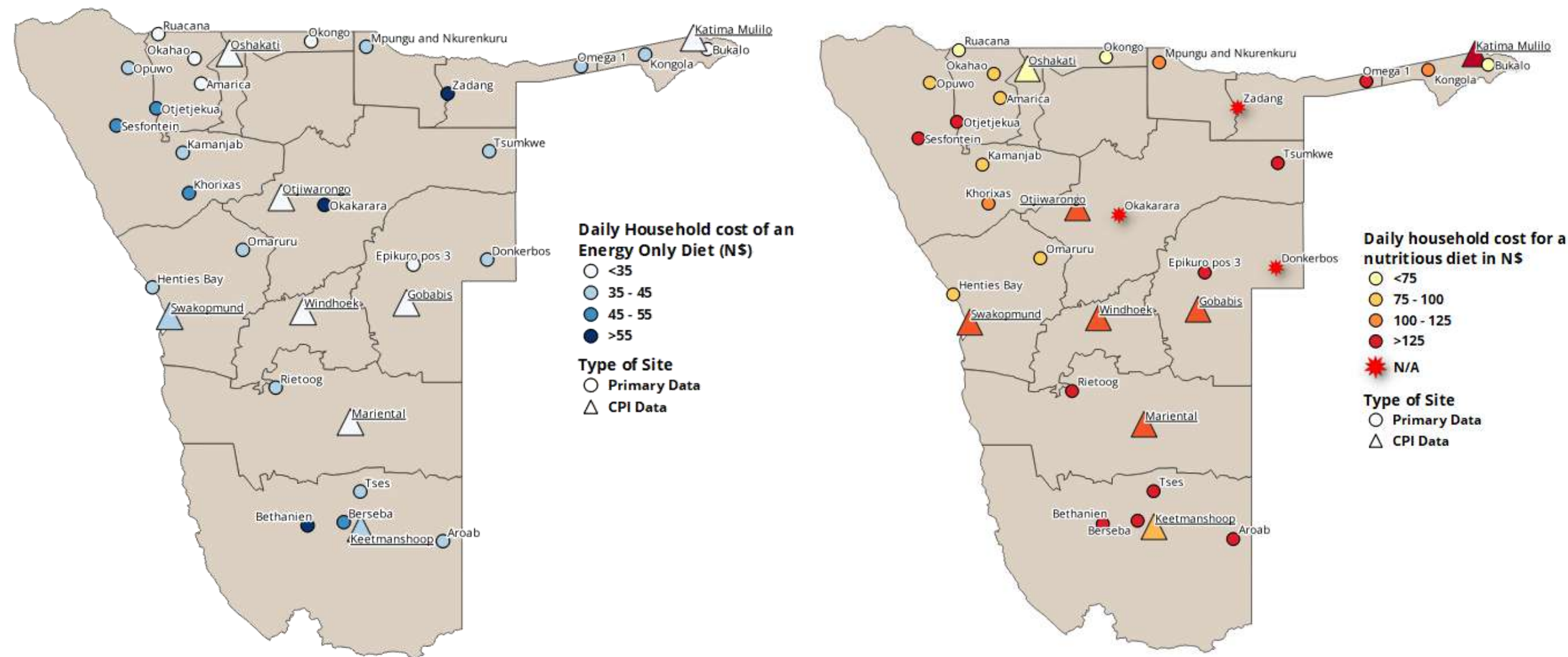
Energy Only



Nutritious Diet

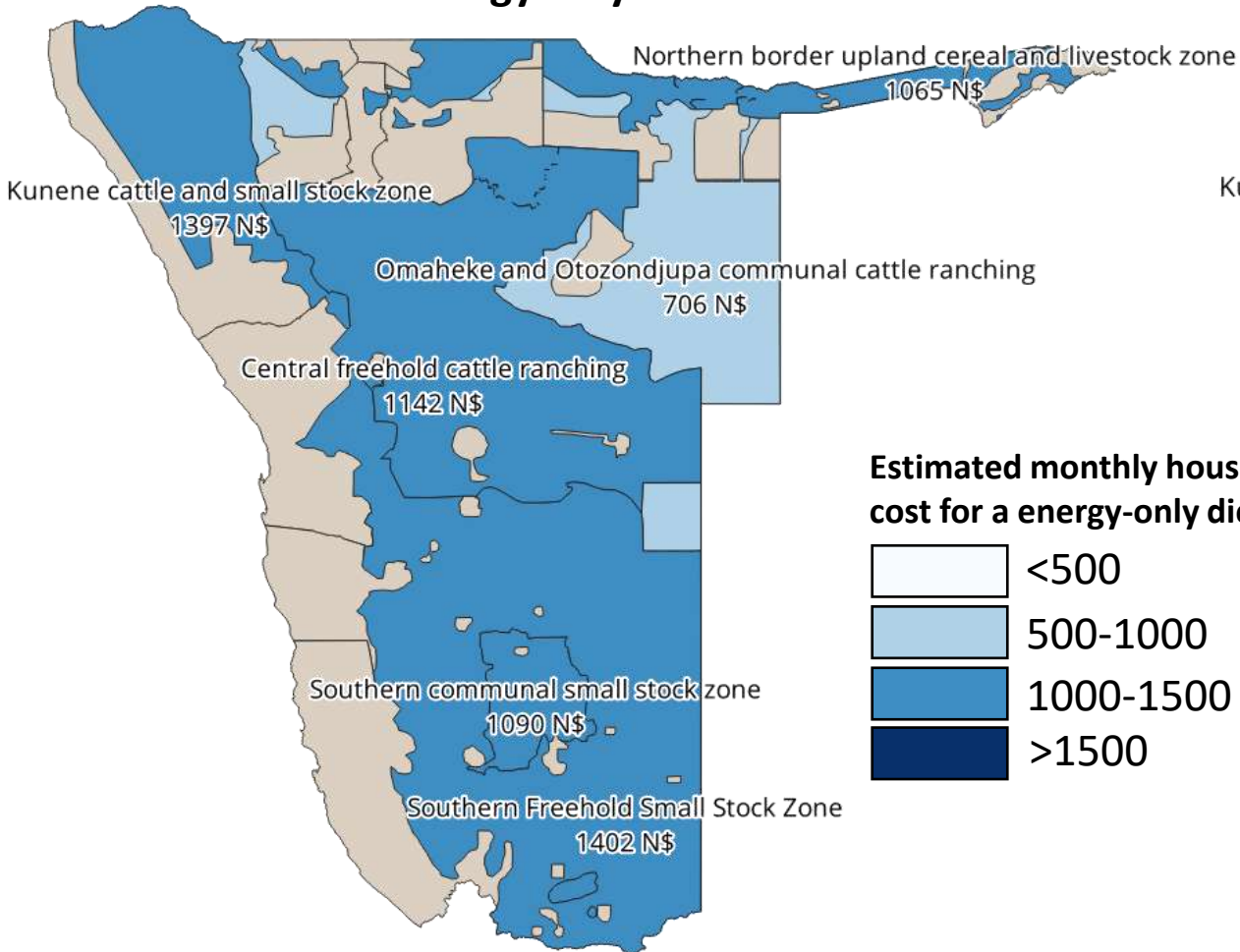


The cost of both diets are lowest in the North and more expensive in remote areas

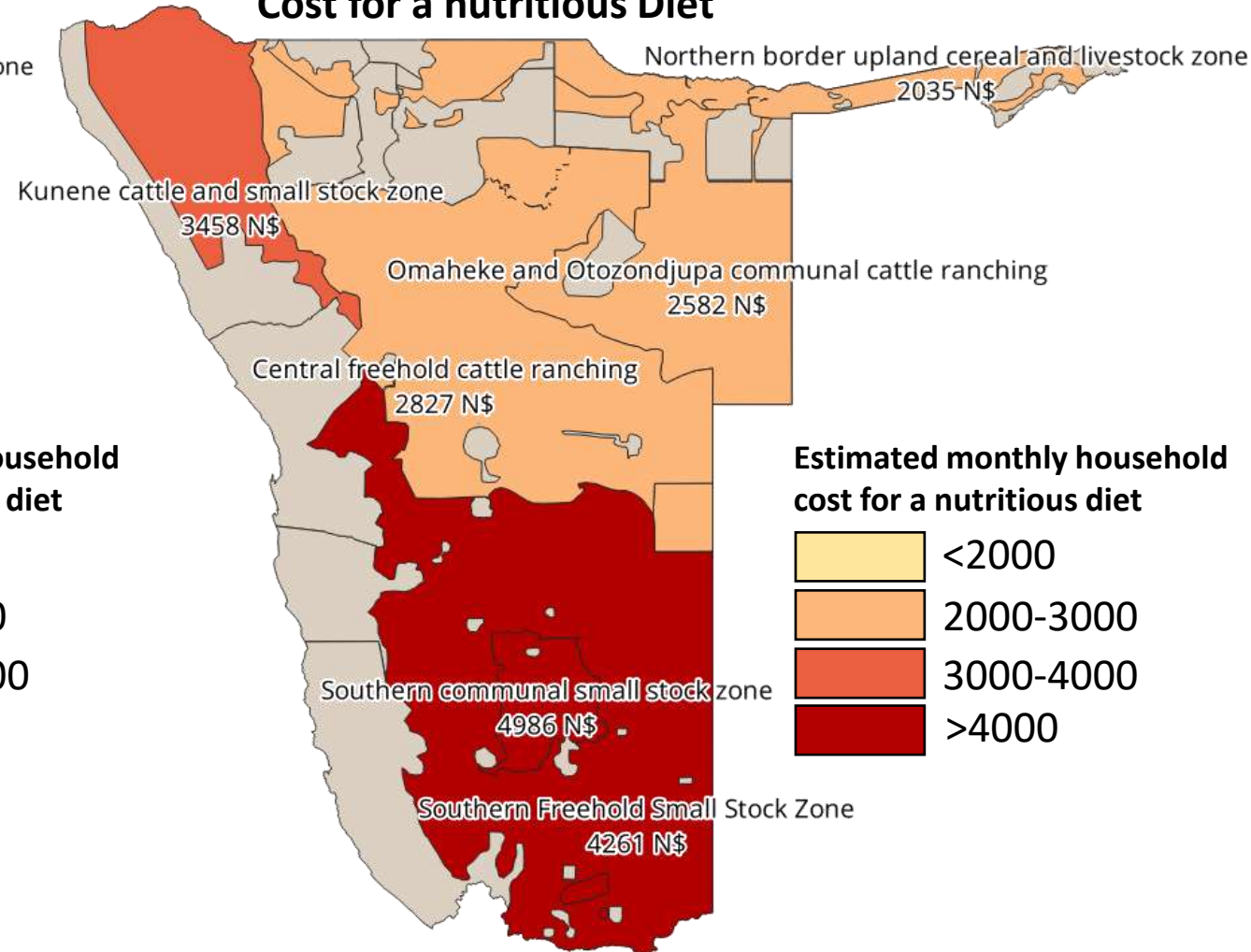


Meeting Nutrient needs is more expensive in Southern and Kunene Livelihoods

Cost of an energy only diet



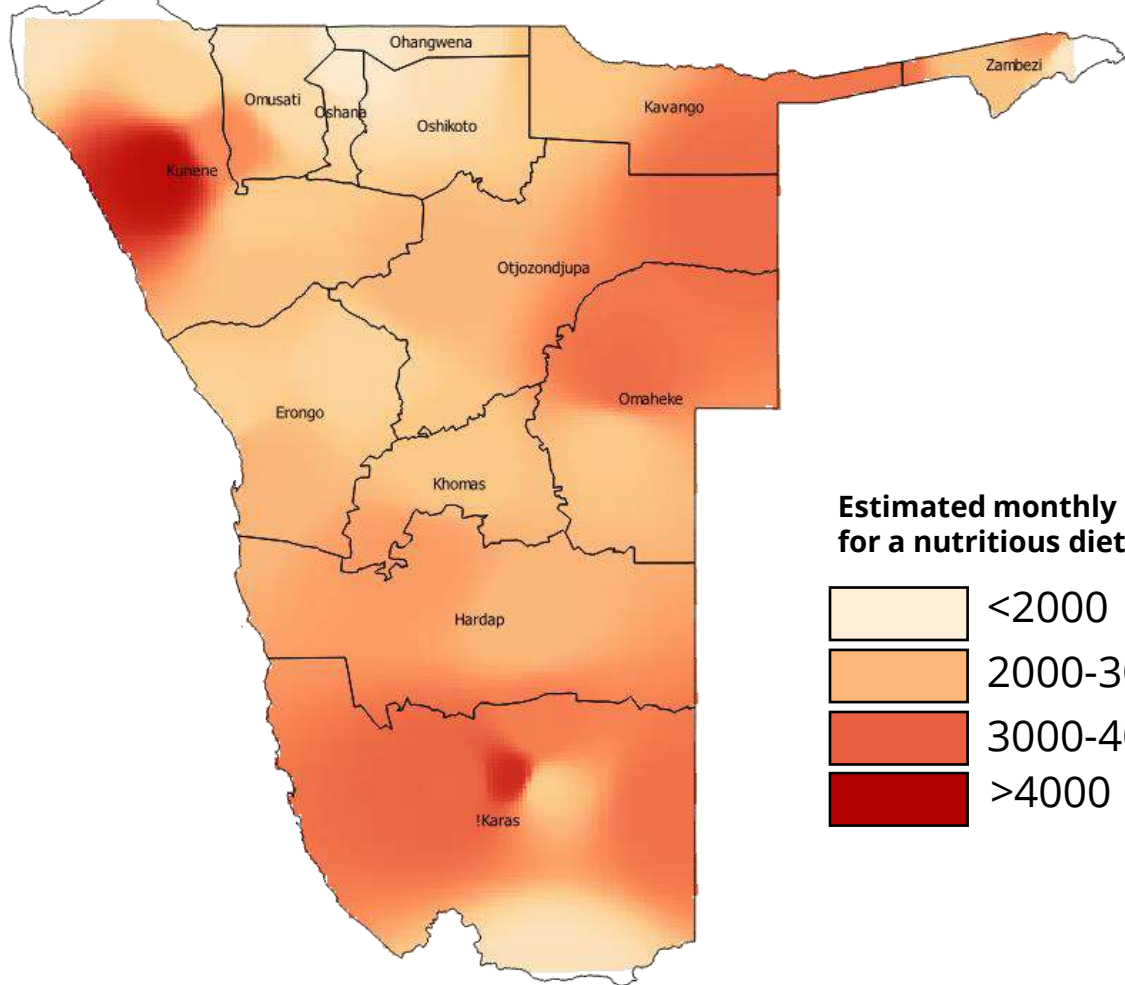
Cost for a nutritious Diet



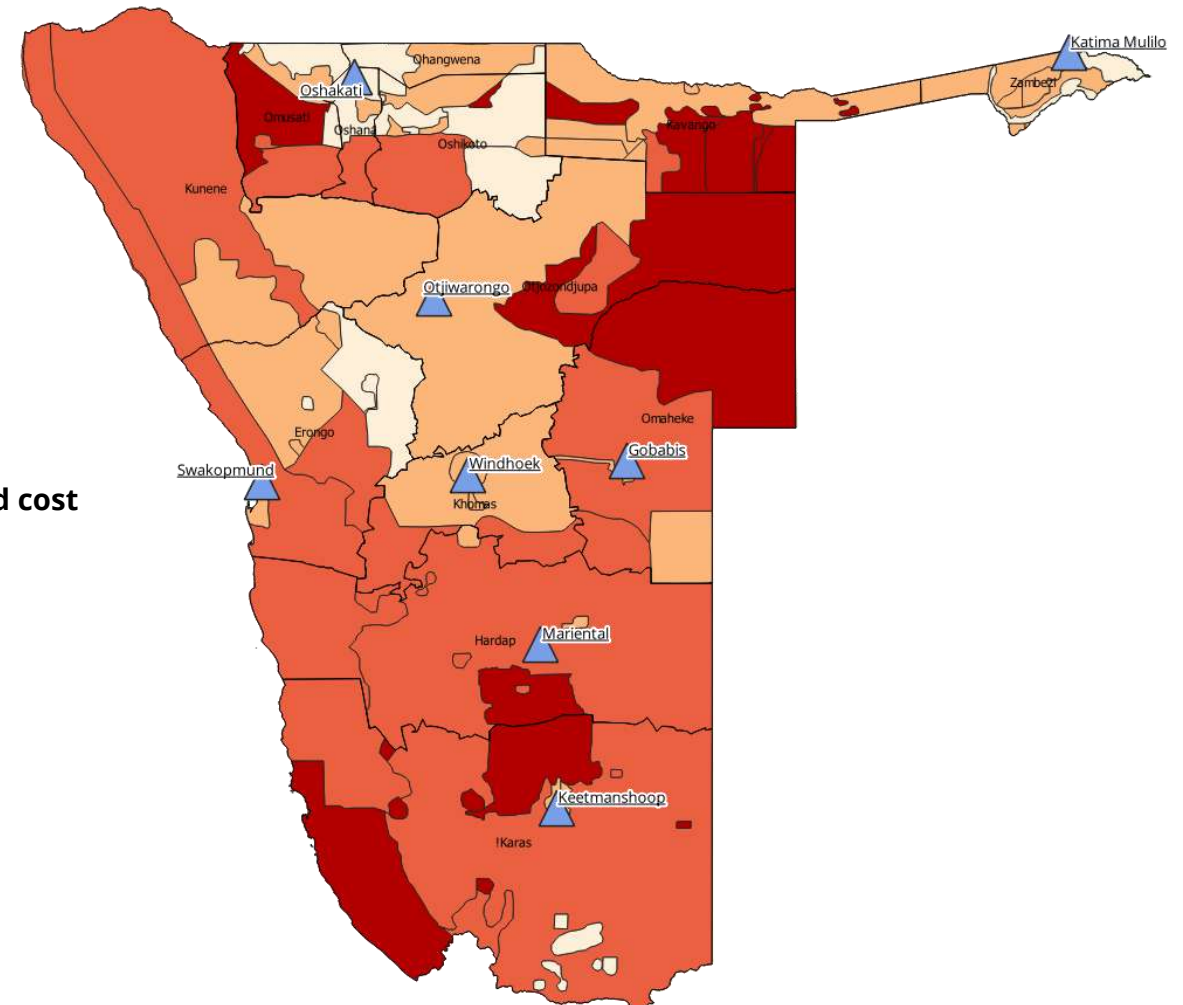
Note: CotD analysis based primary food prices averages, regrouped based on livelihood zones boundaries

Interpolation allows us to generate more granular distribution and derive average cost by livelihood

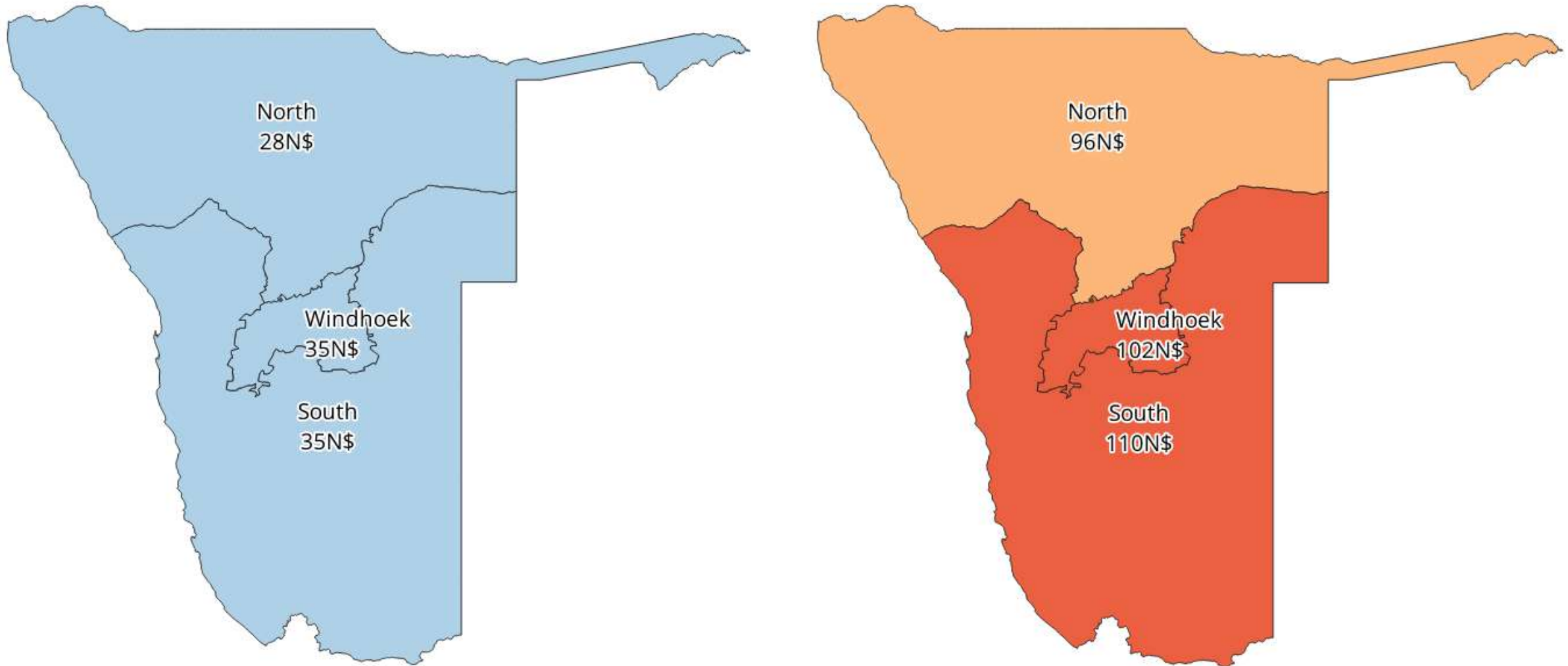
Interpolated Cost Distribution



Estimated Average Cost by Livelihood Zone



The southern CPI zone has on average higher prices for a nutritious diet than the other two areas





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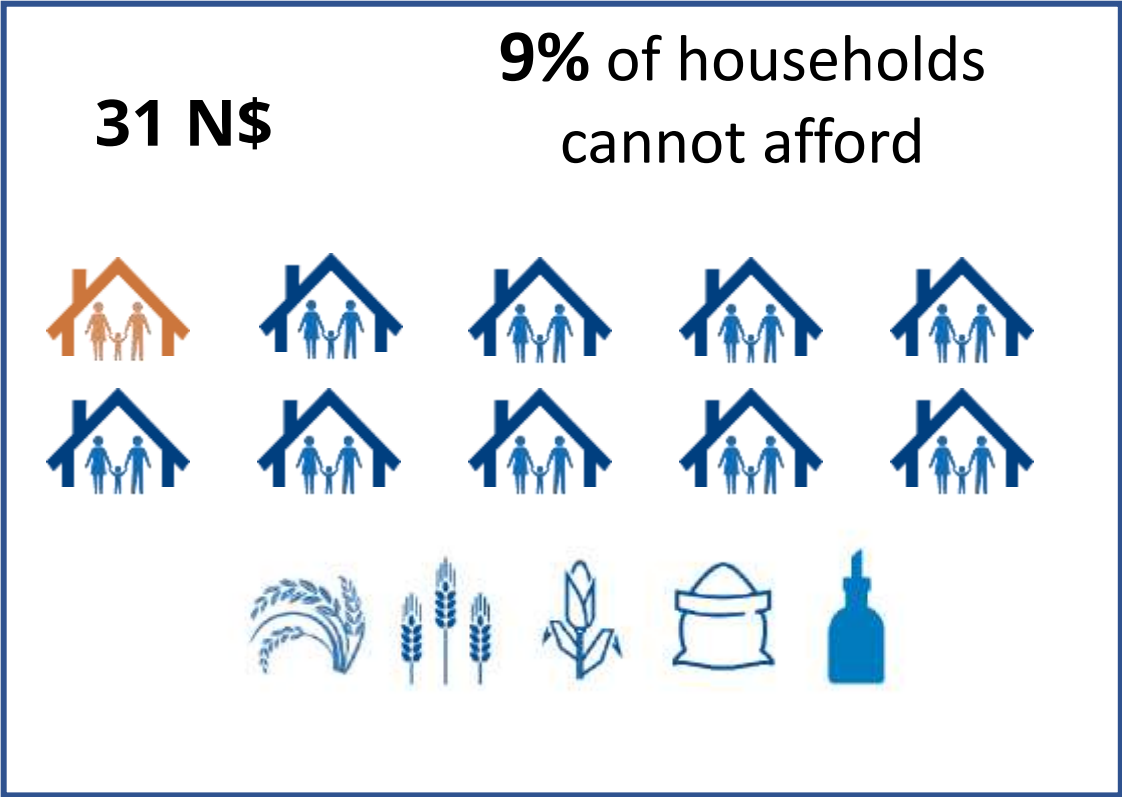
Key Message 3

Economic access to a nutritious diet

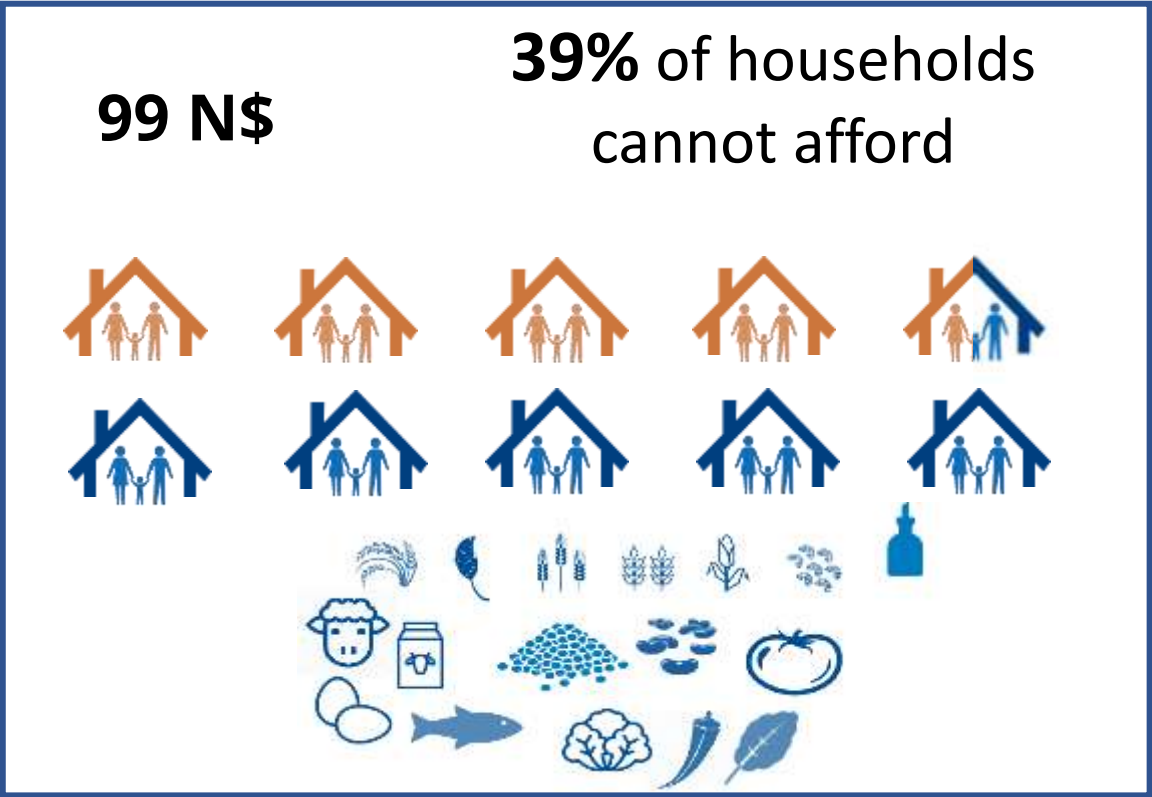
Currently, at least one in three households would not be able to afford the nutritious diet.

Rural households are most at risk of being unable to afford the diet, with non-affordability higher than 70% in certain provinces.

One in three households would be unable to afford the lowest cost nutritious diet



Energy-only Diet



Nutritious Diet

CotD 2021, CPI data; NHIES 2015-16 (weights based on population of CPI cities)

A household in Namibia is missing at least....

Lowest Quintile
(20%)

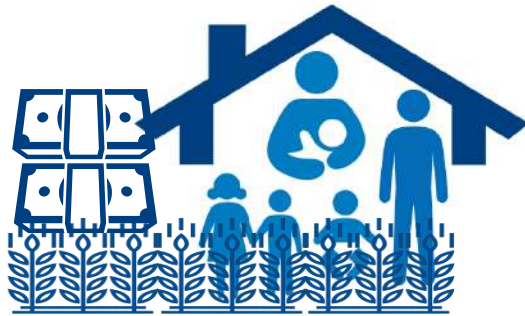


1761 N\$/ month

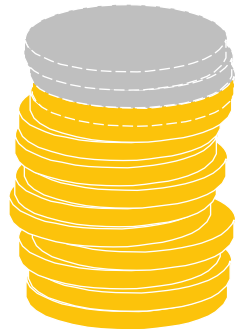


(56% of total cost)

Second Quintile
(40%)



454 N\$/ month



(26% of total cost)

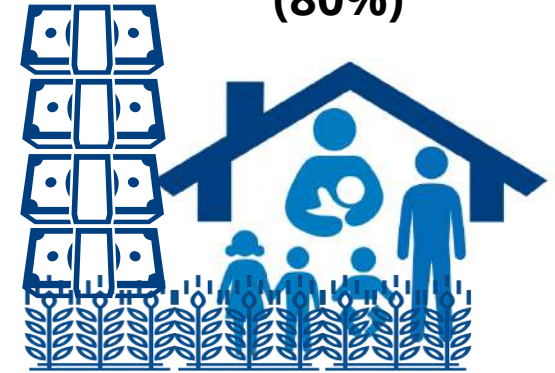
Third Quintile
(60%)



no gap

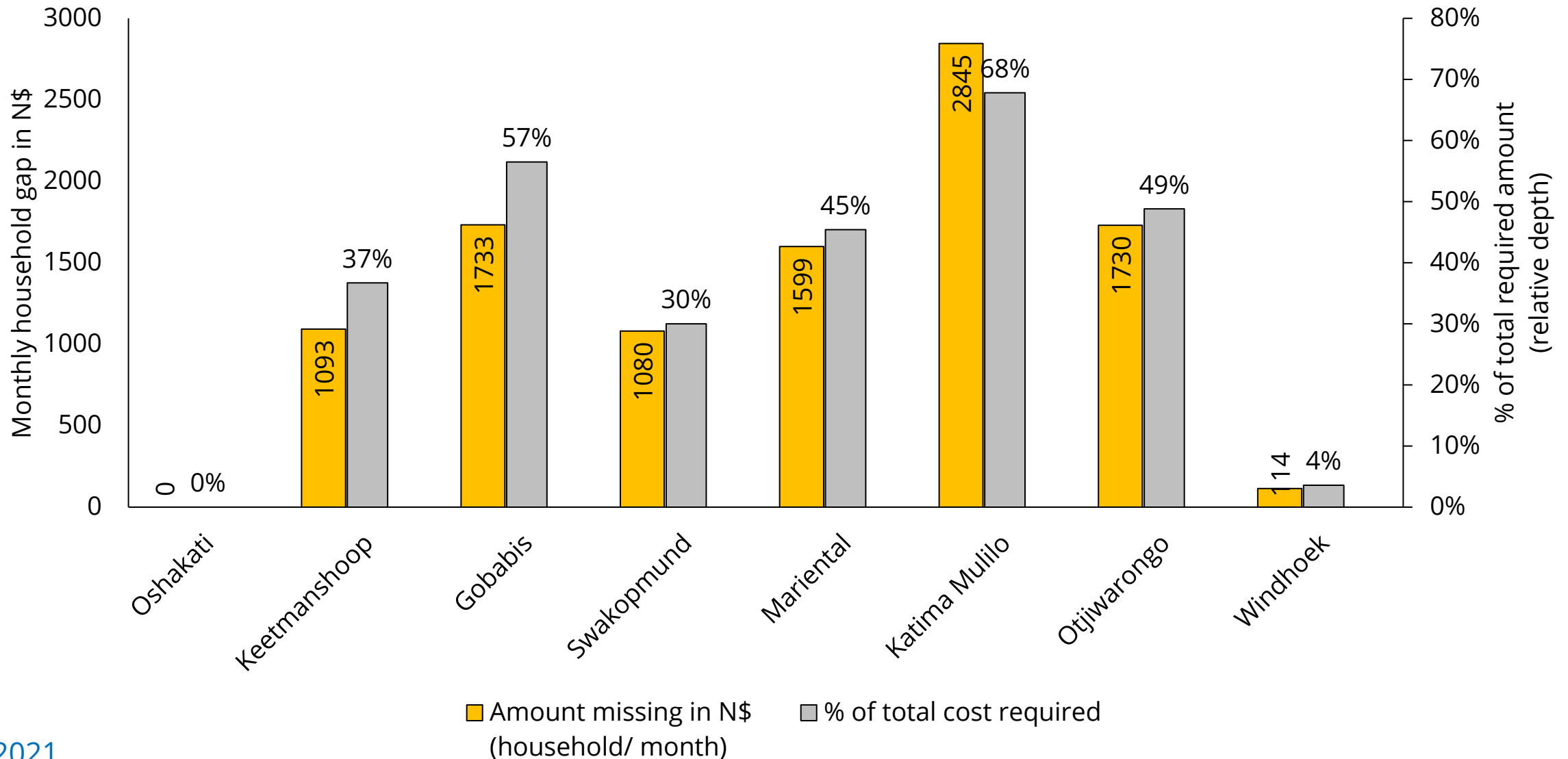


Fourth Quintile
(80%)

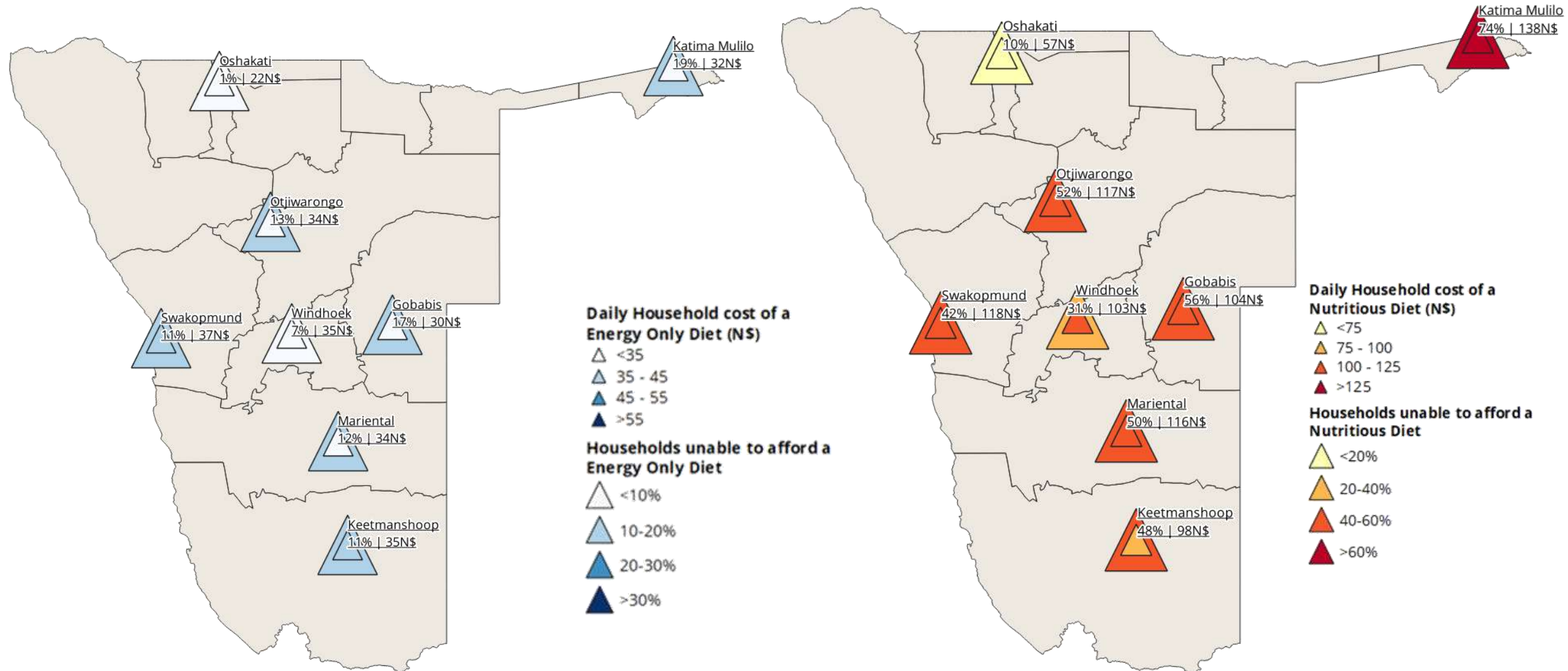


...to buy a minimum cost nutritious diet

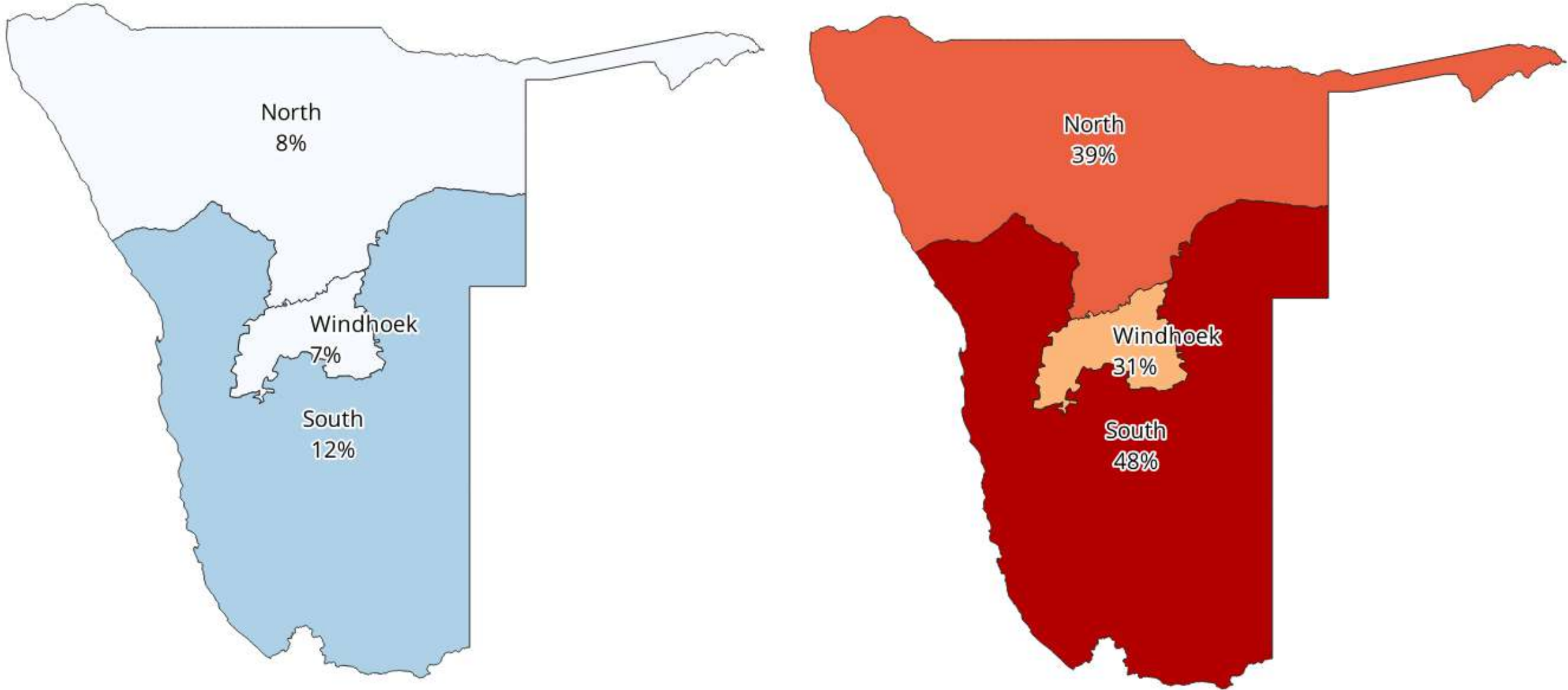
In some towns the poorest 30% are missing more than half of total amount needed in



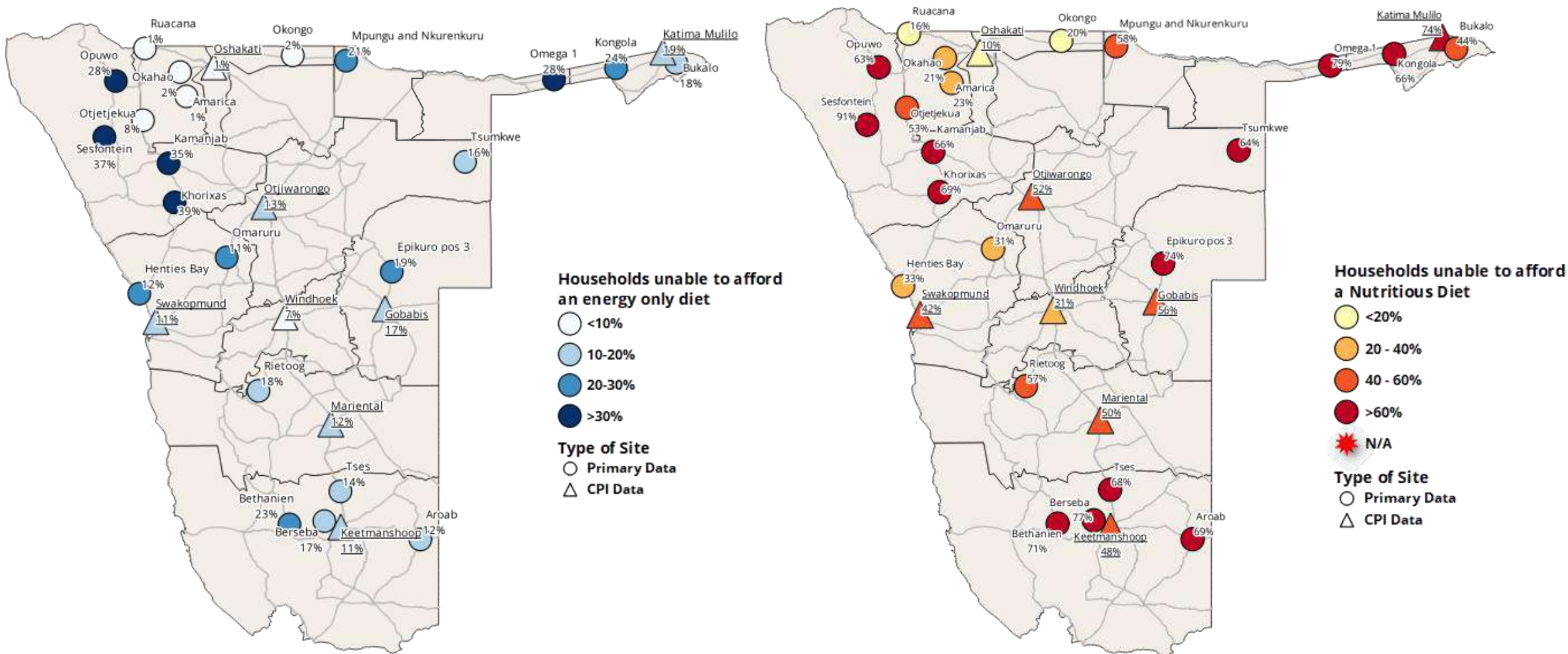
Analysis of CPI data shows variation in cost and non-affordability across the country



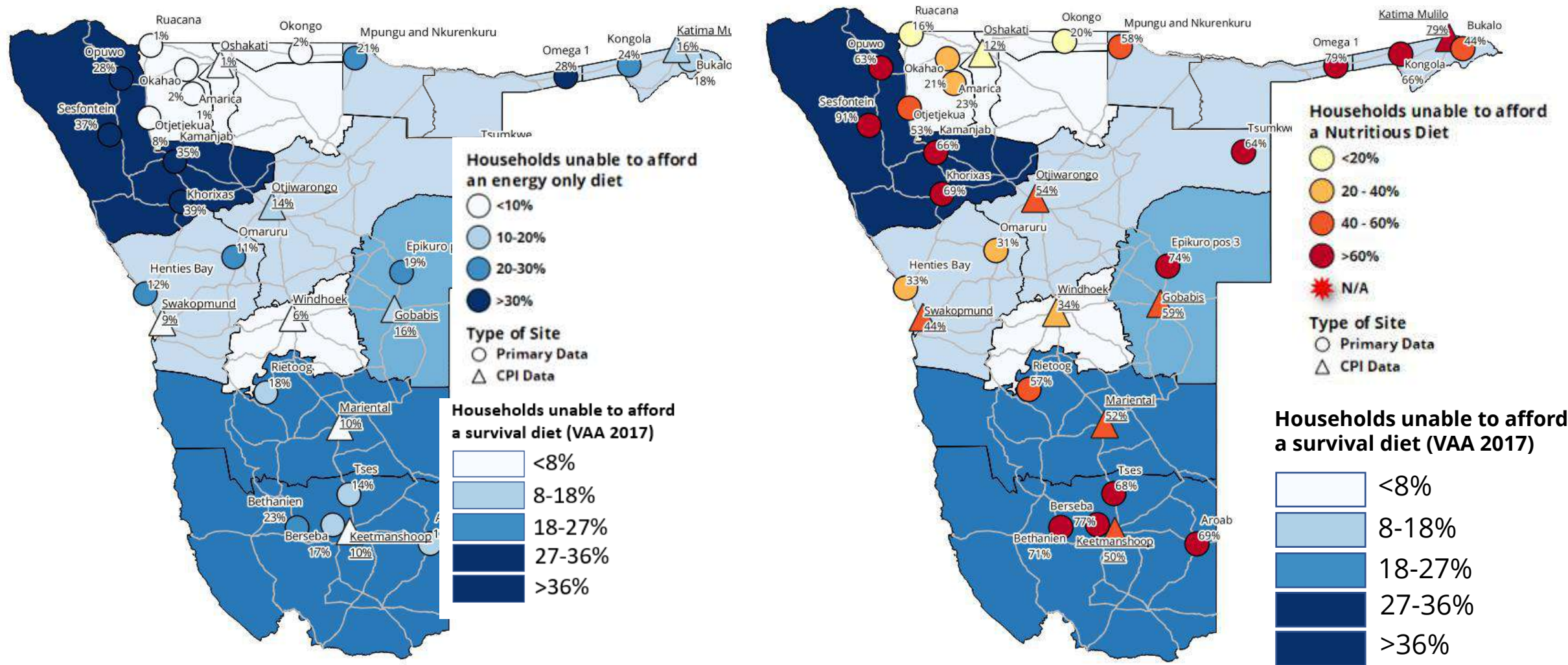
Non-affordability is highest in the south, due to higher food prices and lower income or food expenditure



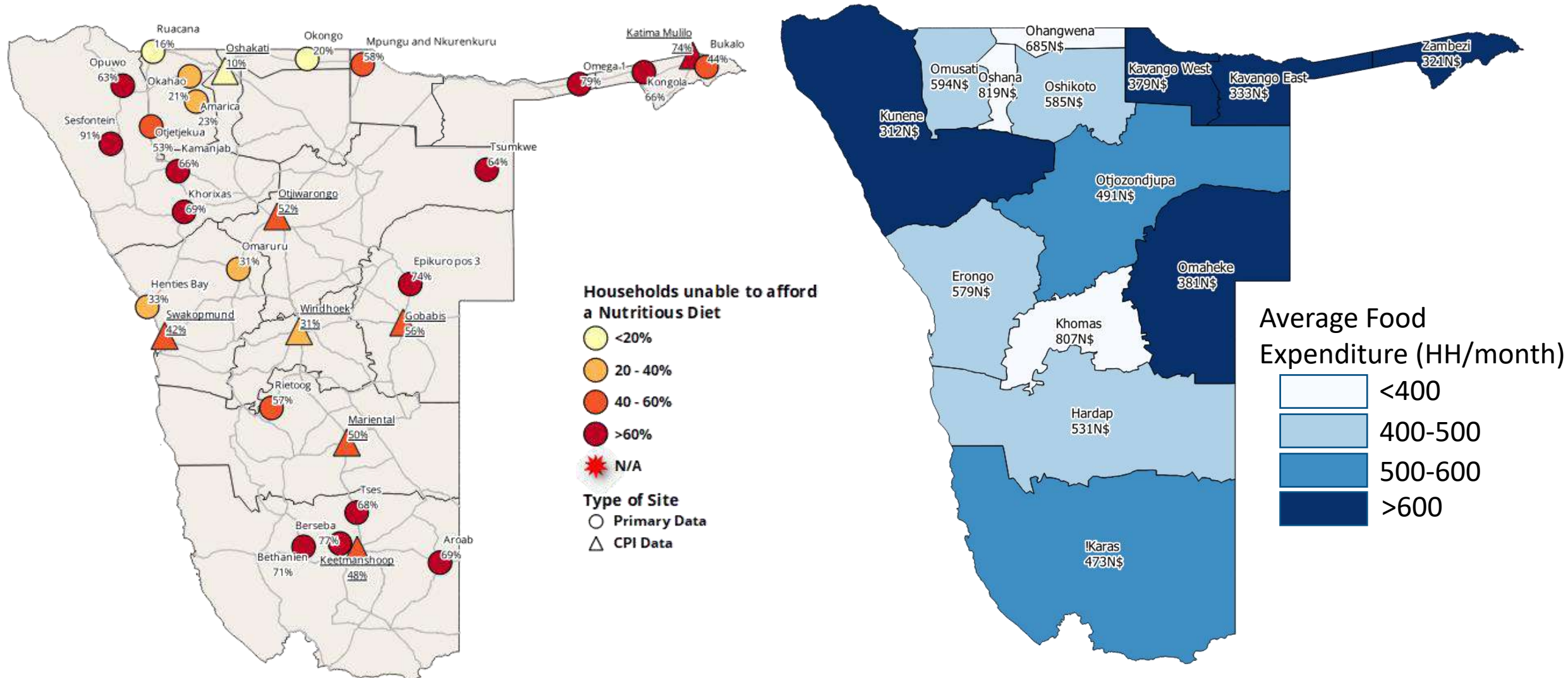
Non-affordability for both diets is lowest in Oshakati and Windhoek, highest in Katima Mulilo



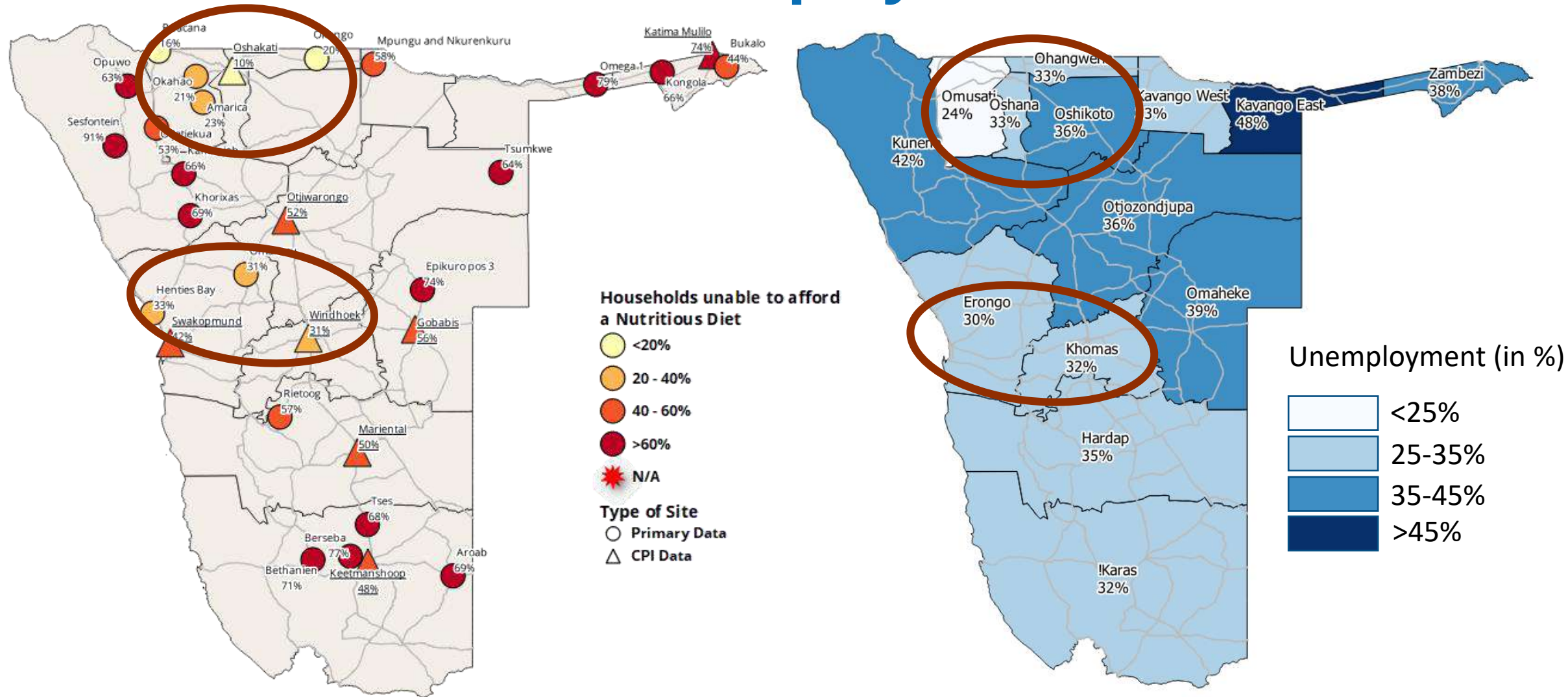
Non-affordability of both diets is higher in areas where more households cannot afford a survival diet



Non-affordability is to a large degree determined by food expenditure



Non-Affordability is lowest in areas with lower unemployment





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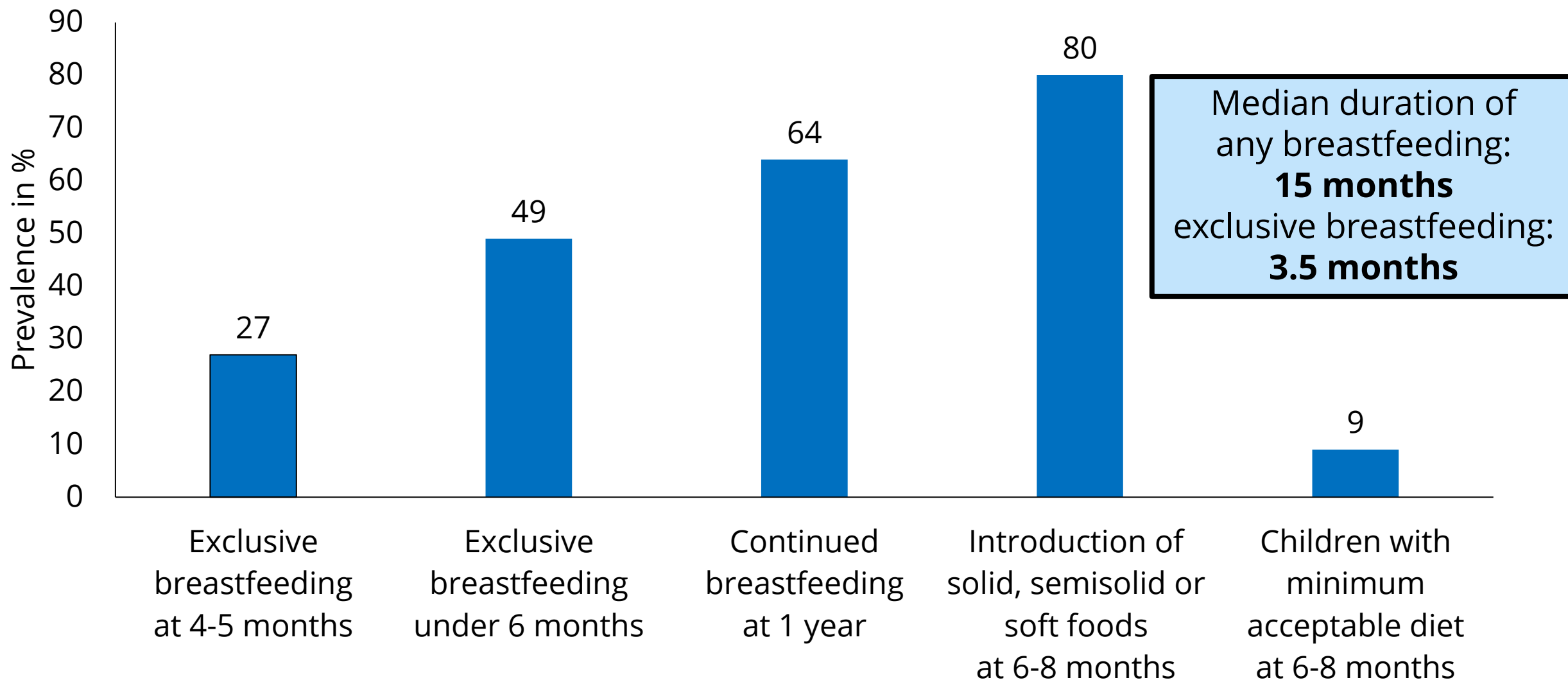
Key Message 6

Infant and Young Child Feeding Practices

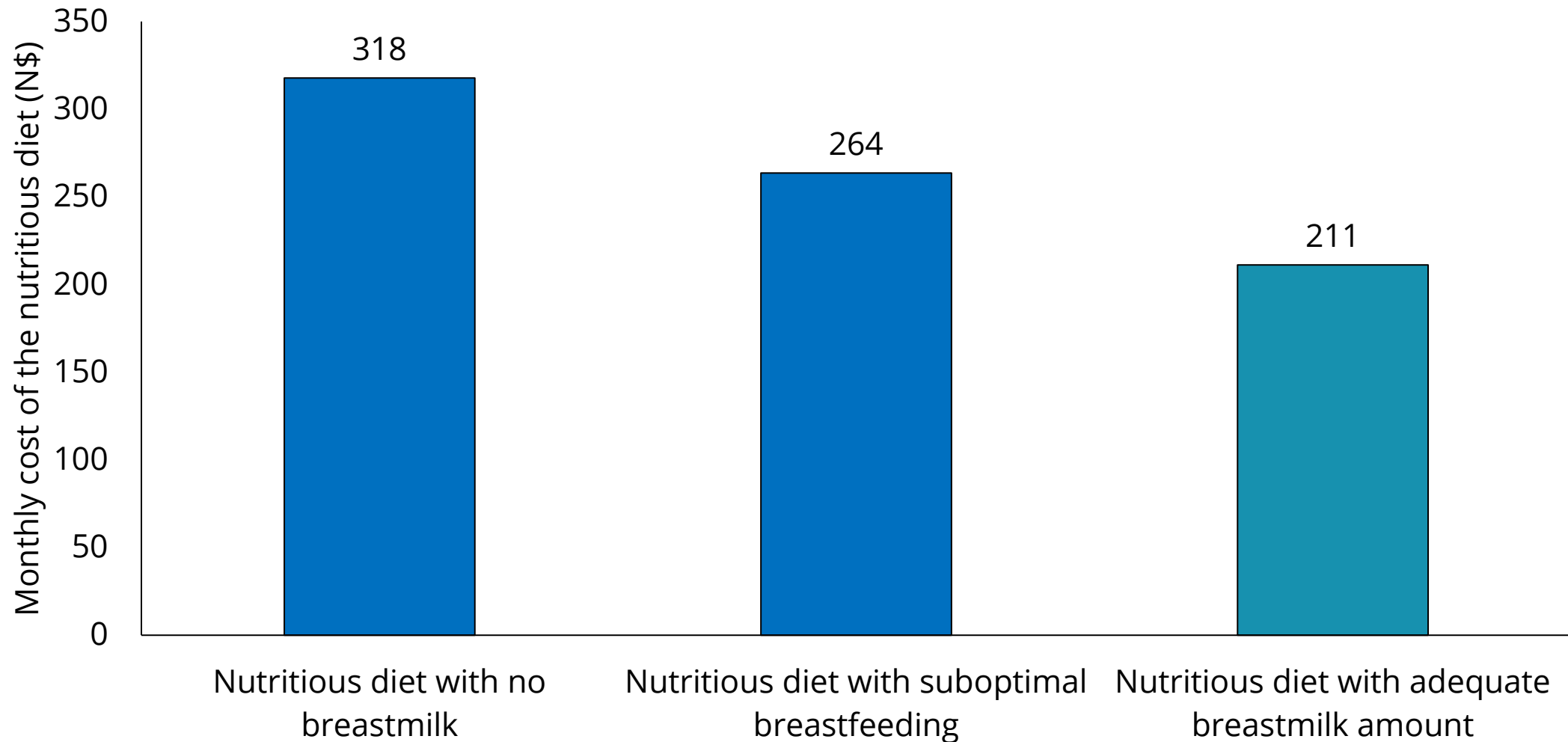
Breastfeeding practices are suboptimal, exclusive breastfeeding rates are below global targets.

Dietary diversity is low and associated with the amount of household budget spent on food.

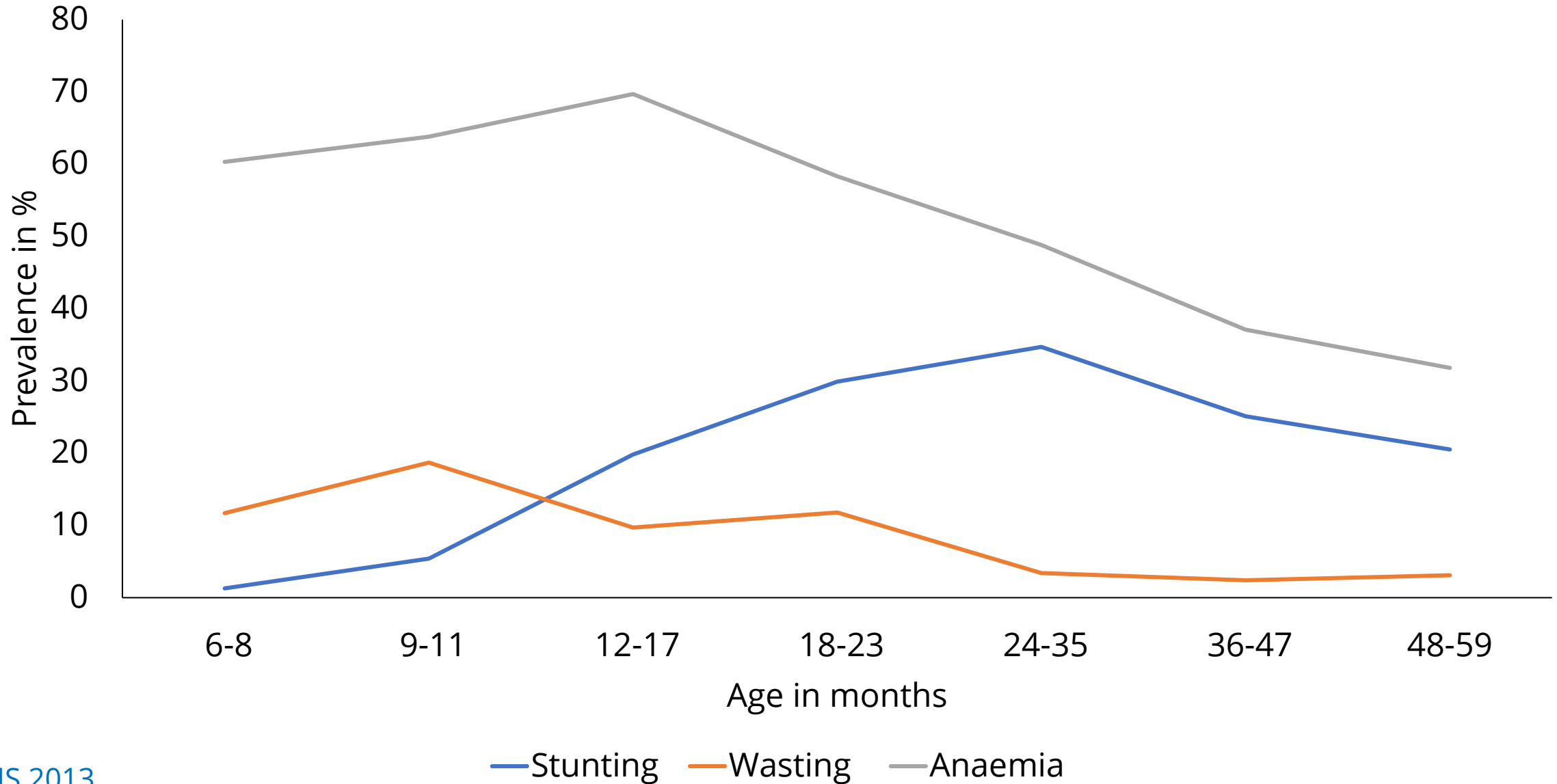
Breastfeeding and age-appropriate feeding practices are suboptimal, particularly regarding adequate diversity



Optimal breastfeeding practices decrease the cost of the diet for children 12 to 23 months

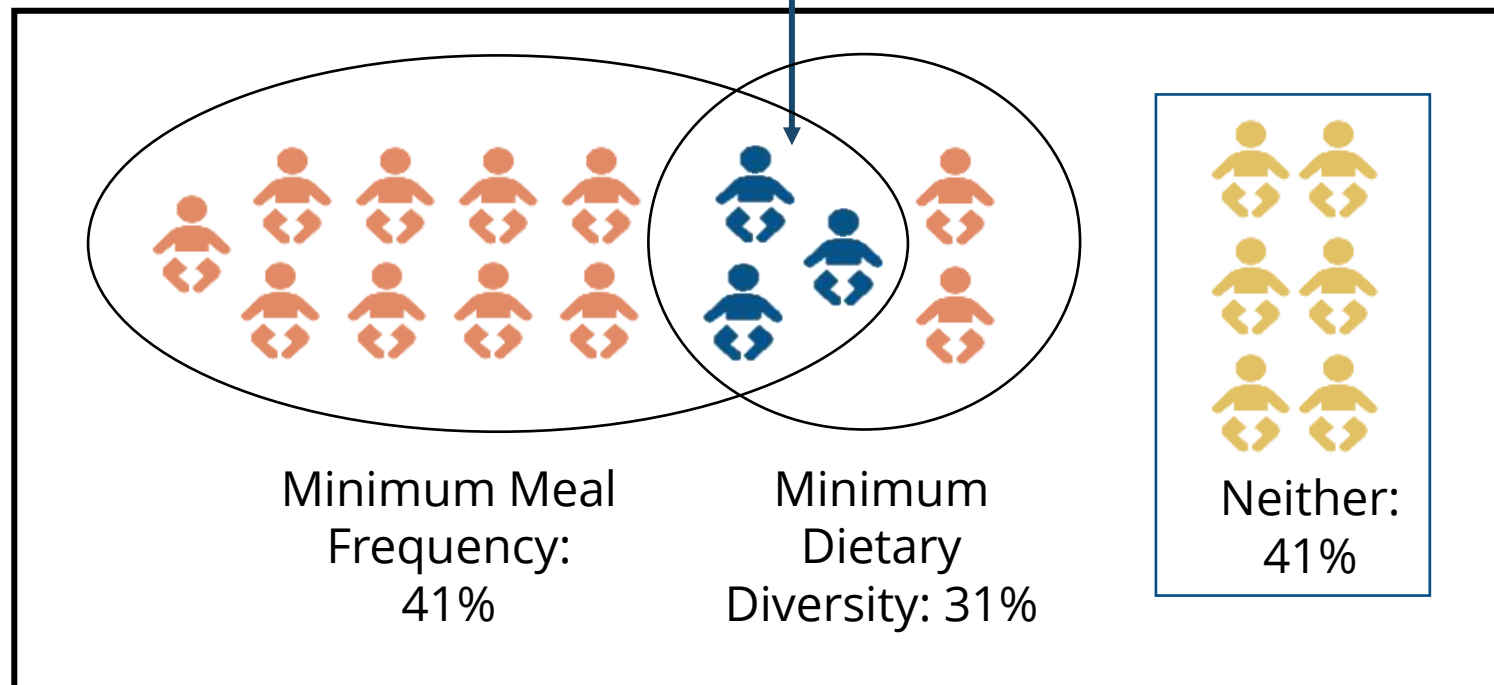


Stunting increases as children start to consume solid and semi-solid foods



Only one in eight children receives both: the appropriate frequency and dietary diversity of foods

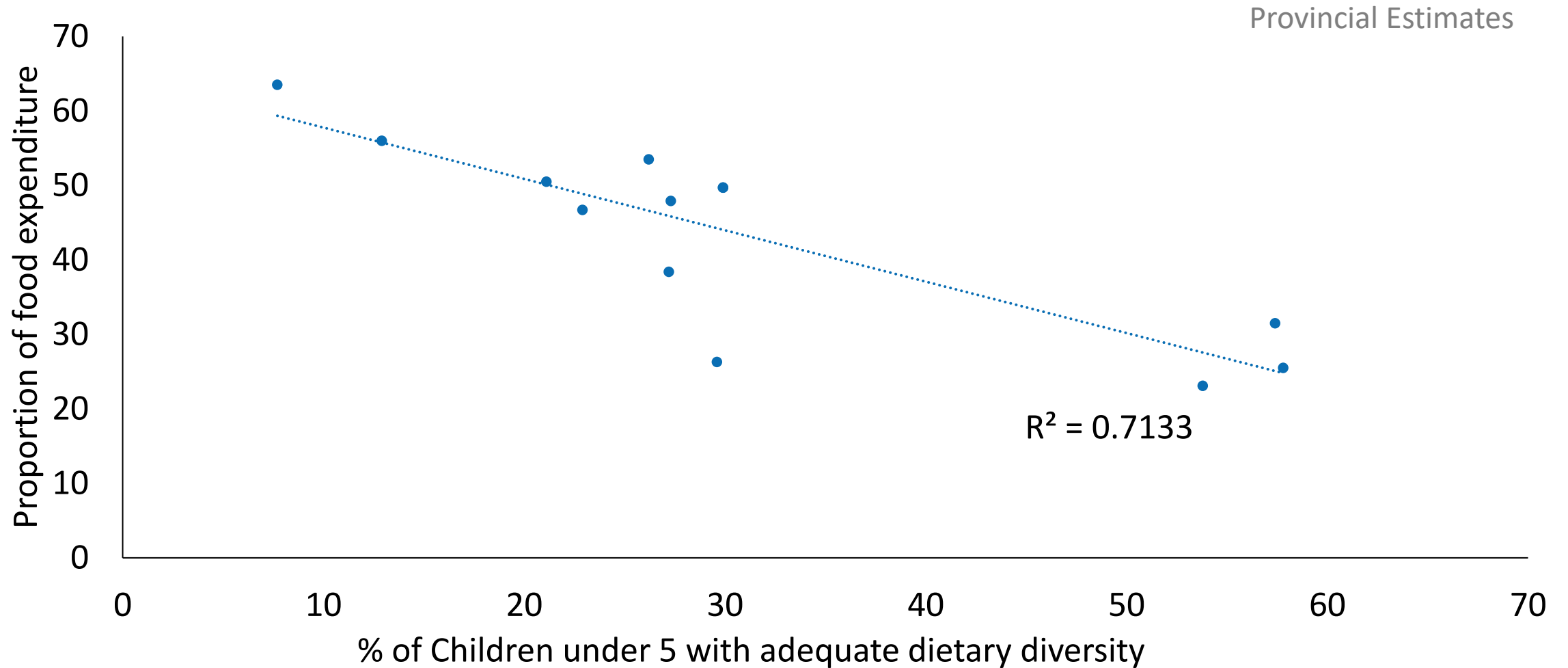
13% of children 6-23 months have
a Minimum Acceptable Diet (MAD)



Contributing factors

- Burdensome workload for women
- Access and availability of food, including nutritious food

Households that spend a larger amount of their income on food show lower percentage of children with adequate dietary diversity





FNG

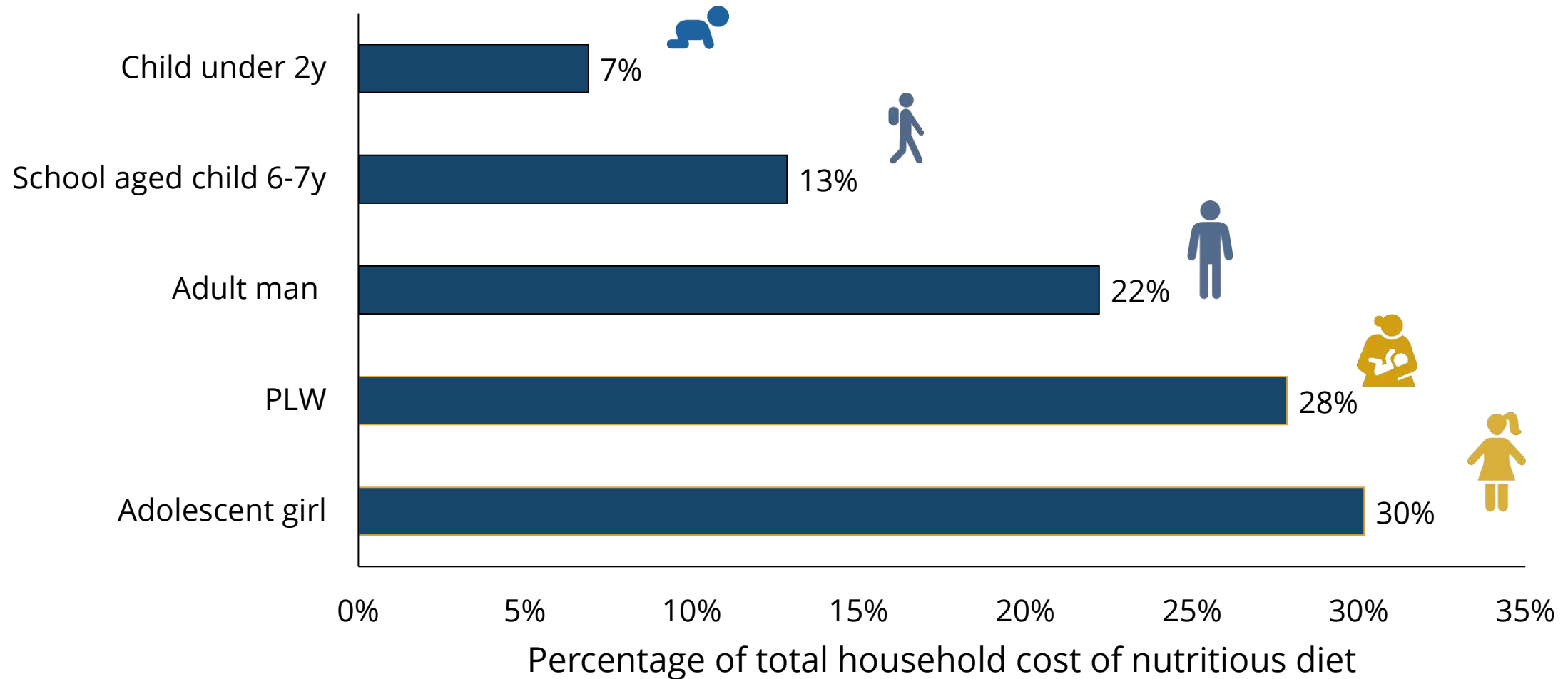
Key Message 7

Adolescent Girls & Women of Reproductive Age

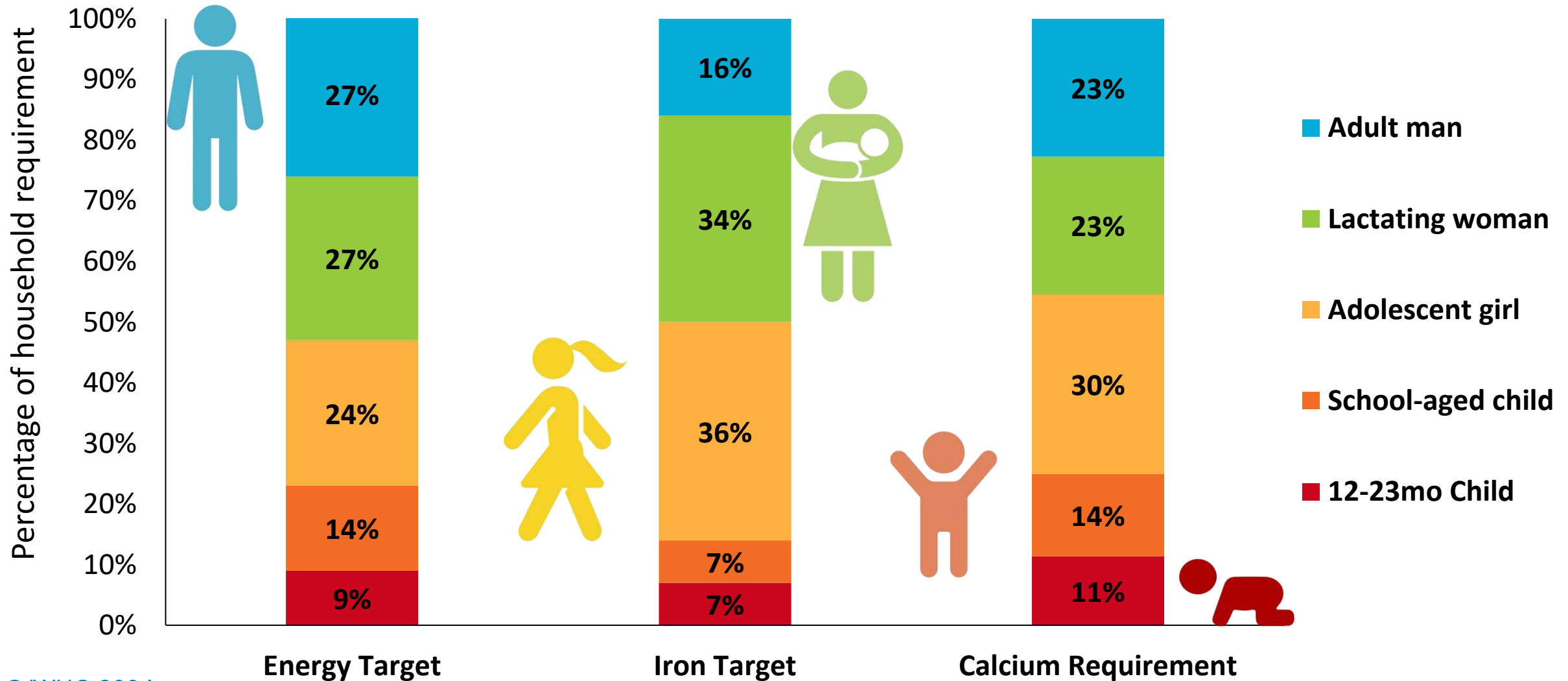
The cost of nutritious diets for adolescent girls and breastfeeding women is highest compared to other individuals and face a higher risk of not meeting micronutrient needs.

Targeted nutrition specific interventions could help meet these higher nutrient needs.

Diets are most expensive for adolescent girls and pregnant and lactating women, driven by higher micronutrient needs



Micronutrient and energy requirements are not distributed in the same way across the household



Meeting the requirements for Calcium, Iron, Vitamin C and Pantothenic acid drives up the cost of the nutritious diet



**Iron, Calcium,
Vitamin C**
Folic acid, Zinc,
Vitamin B1



**Iron,
Calcium,
Vitamin C**
Pantothenic
acid, folic
acid

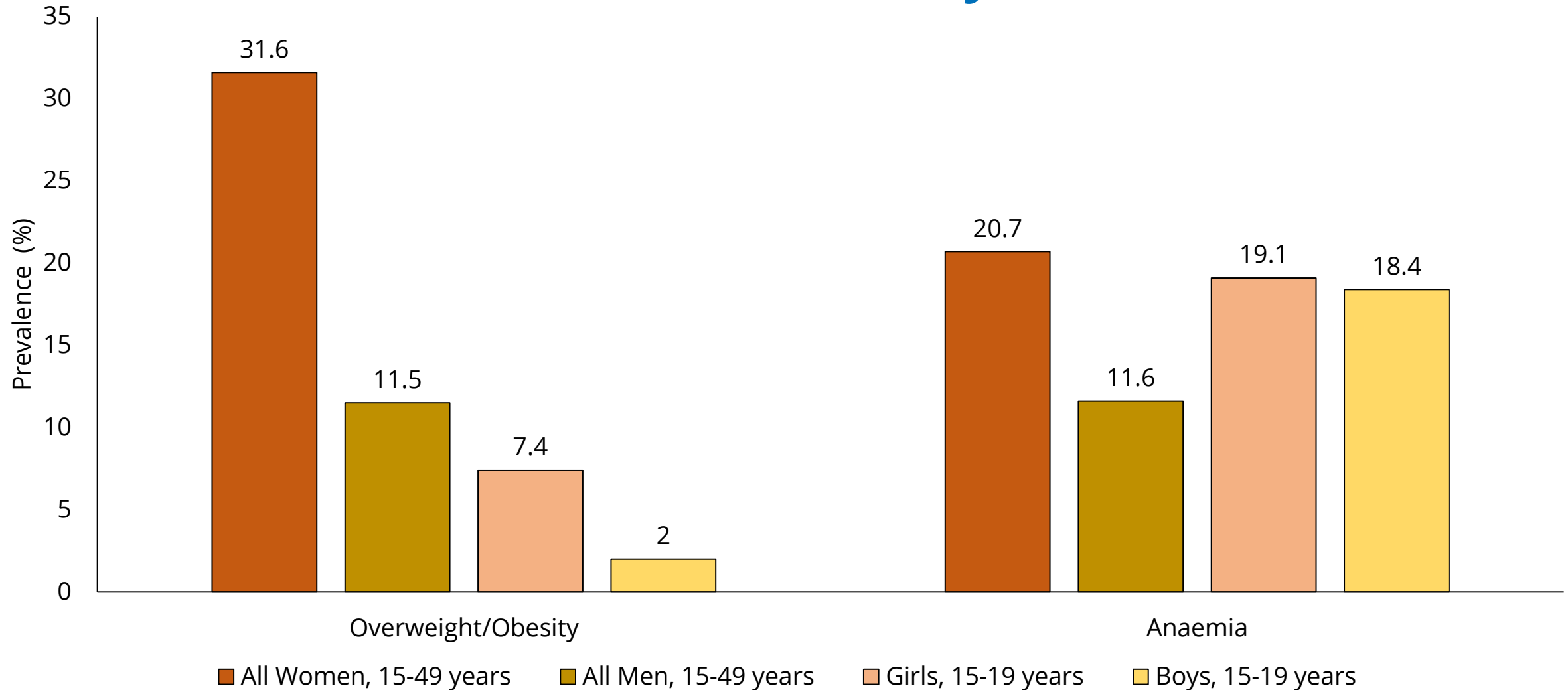


**Iron, Calcium,
Vitamin C**
Pantothenic acid,
Folic acid

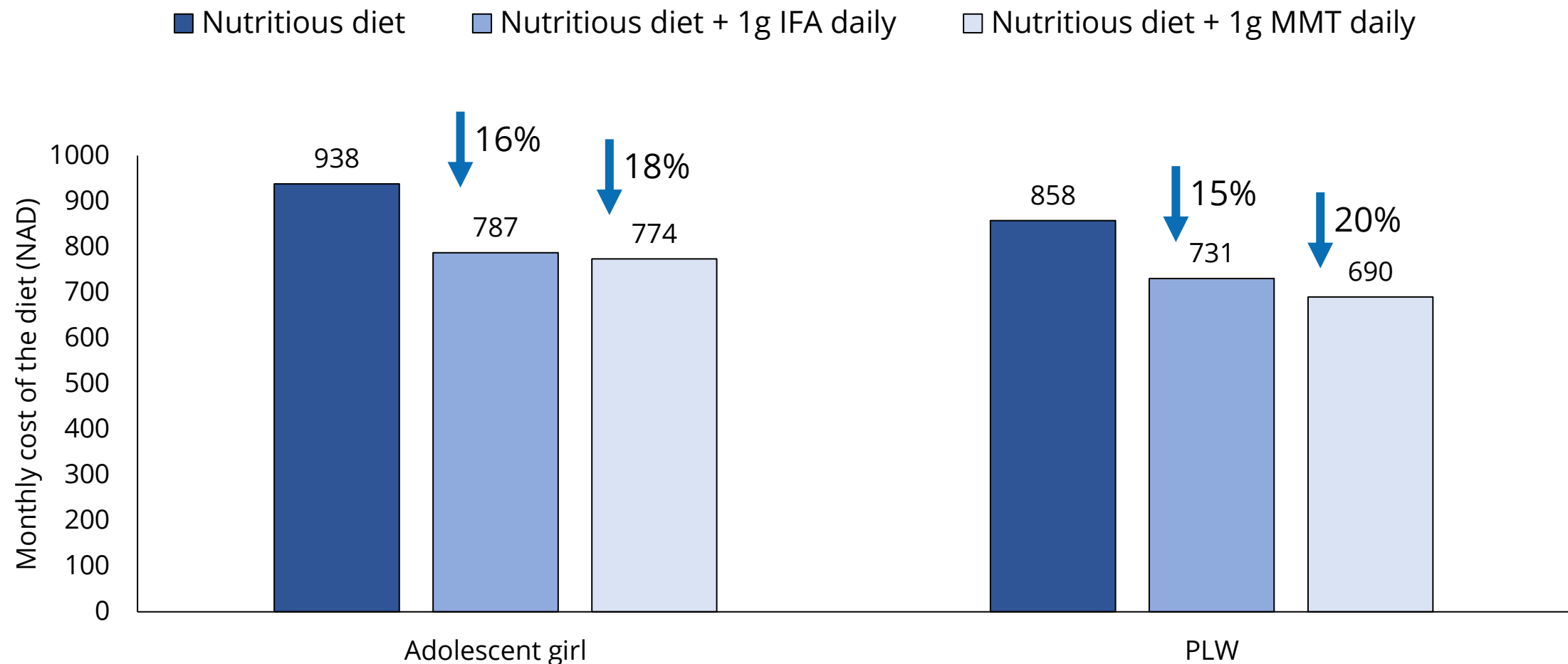


**Calcium,
Vitamin C**
Iron,
Folic acid

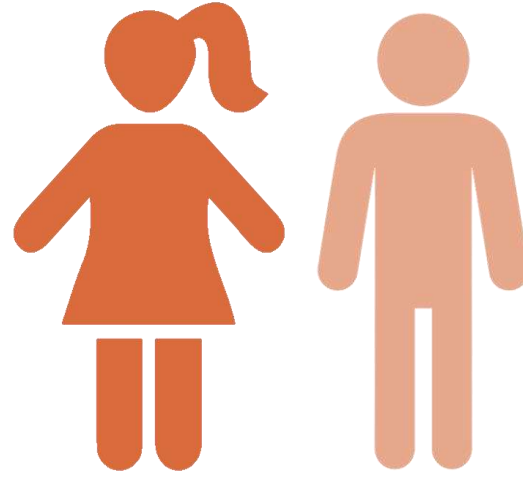
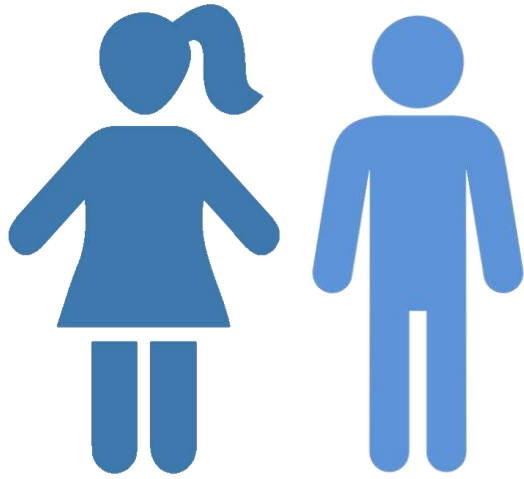
The prevalence of overweight and obesity show a strong gender component; anaemia is high in all women and adolescent boys



Micronutrient supplementation can increase PLW and adolescent girls' access to key nutrients

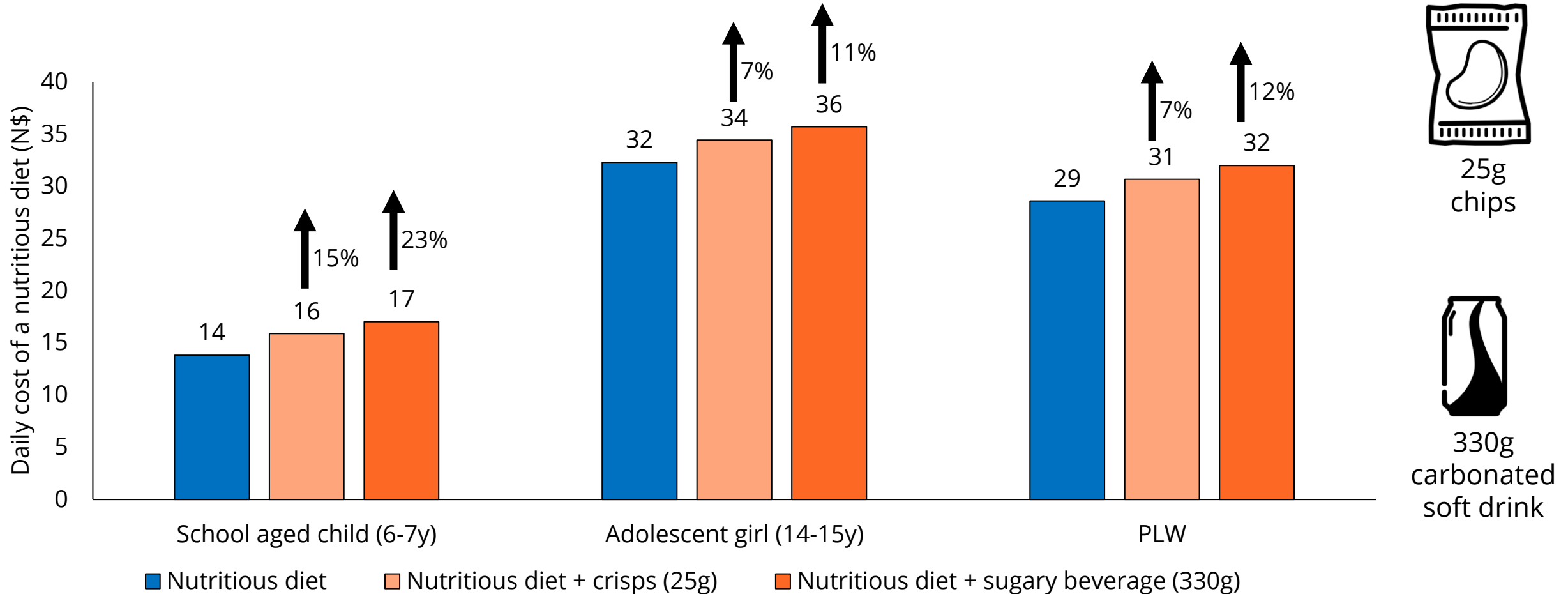


Almost one in two adolescents consumes carbonated soft drinks on a daily basis



47% of school-going adolescents report at least daily carbonated soft drink consumption

Consuming processed snacks or sugary drinks increases the cost of nutritious diets, especially for younger children





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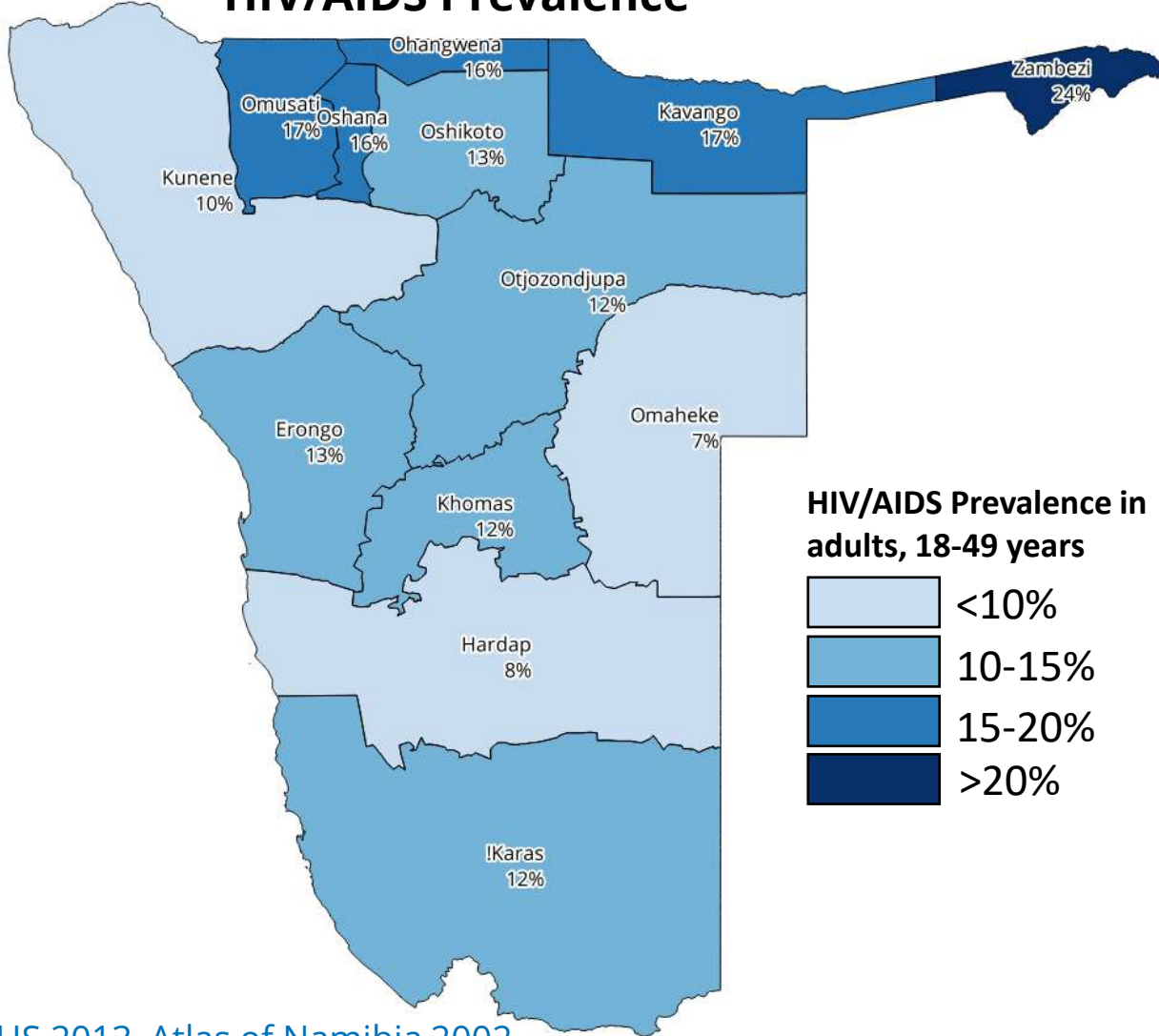
Key Message 8

HIV/AIDS / Food Insecurity

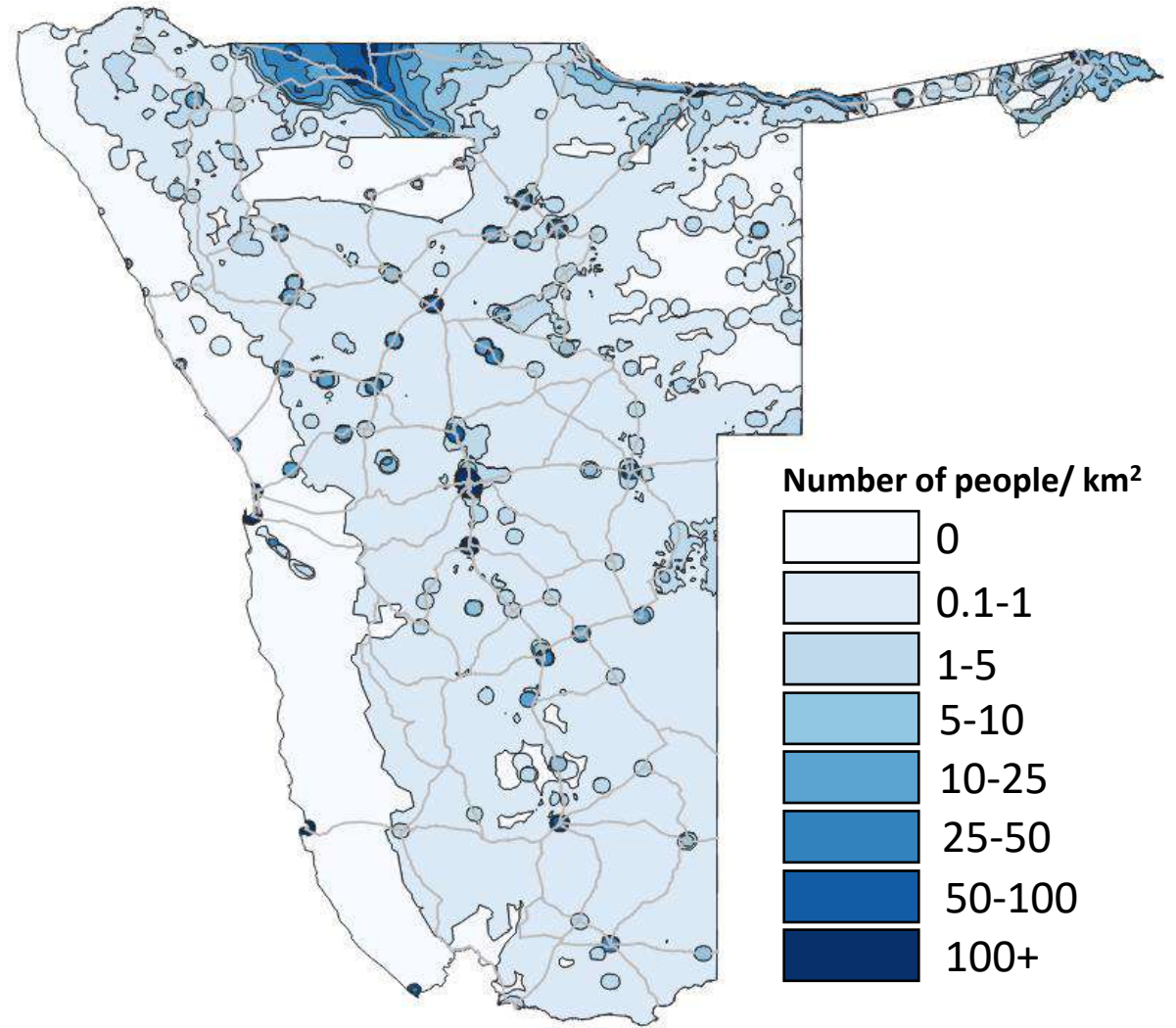
Prevalence of HIV AIDS is higher in areas with comparably lower food cost. But living with HIV/AIDS increases cost significantly.

People living with HIV in rural, remote areas are therefore very likely to not regularly consume a healthy, nutritious diet.

HIV/AIDS prevalence is higher in more densely populated provinces...

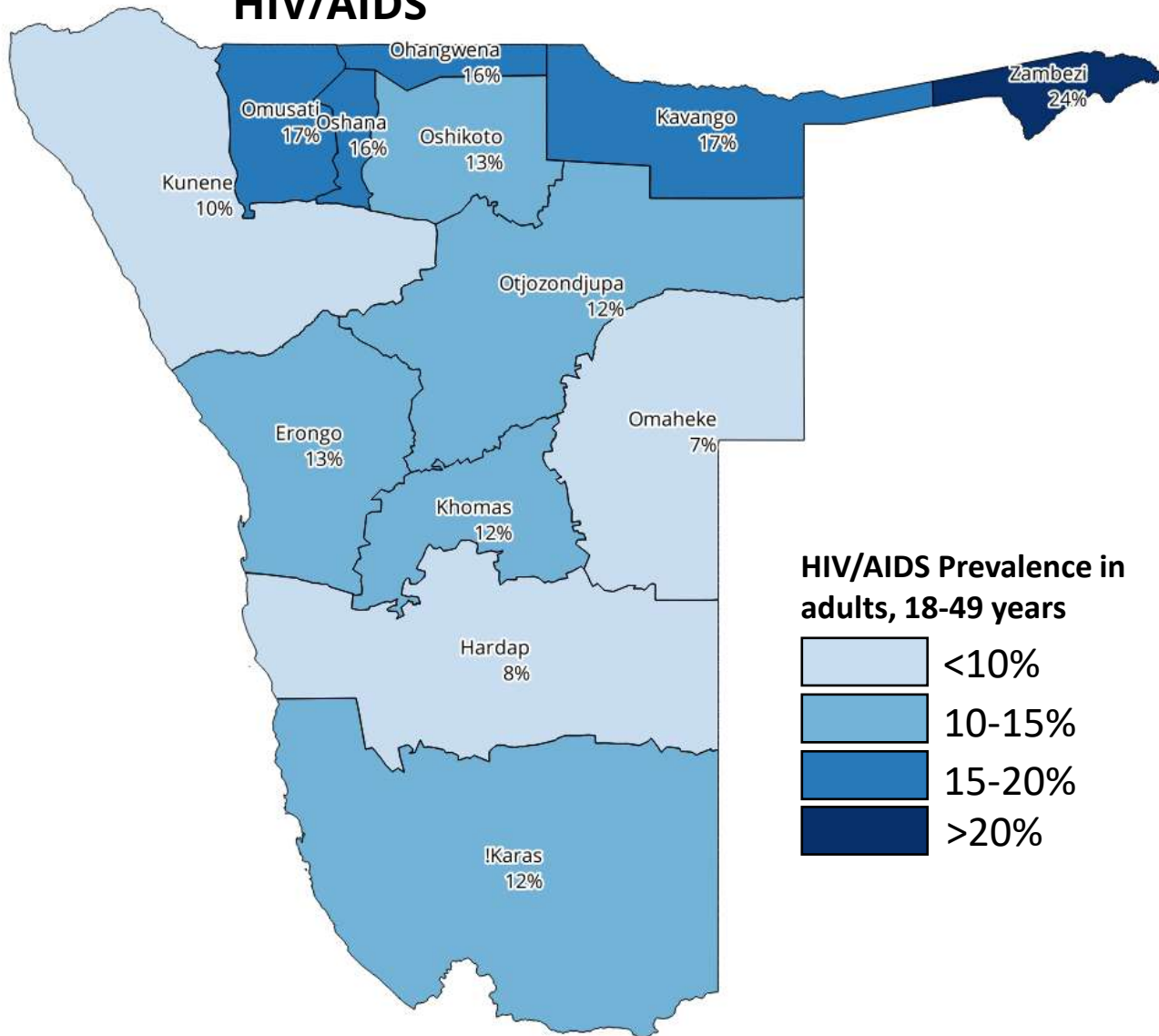


Population Density

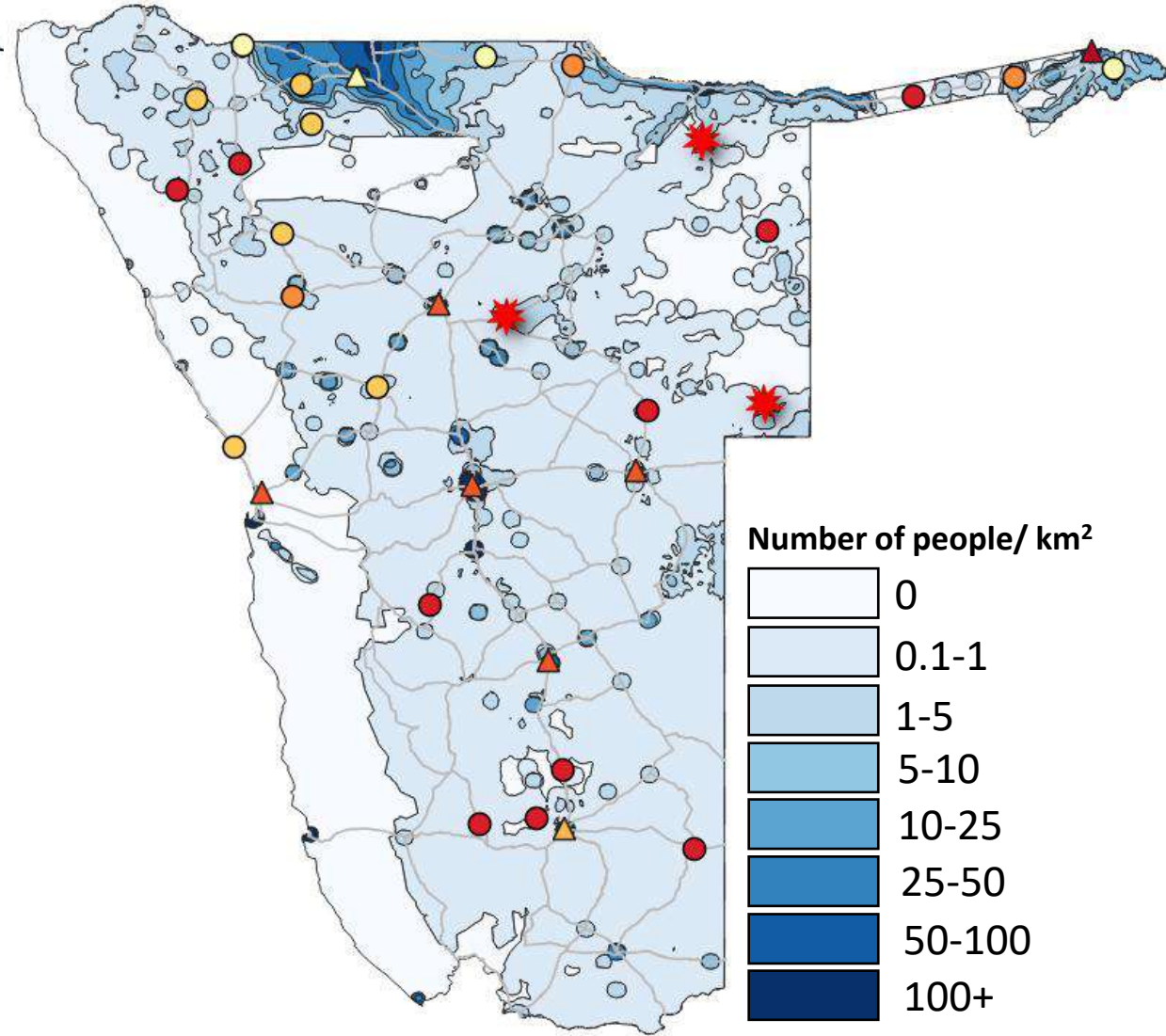
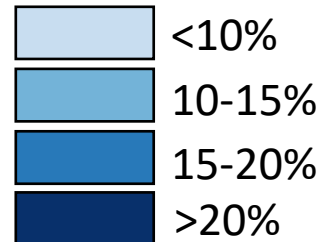


... which is where prices tend to be lower.

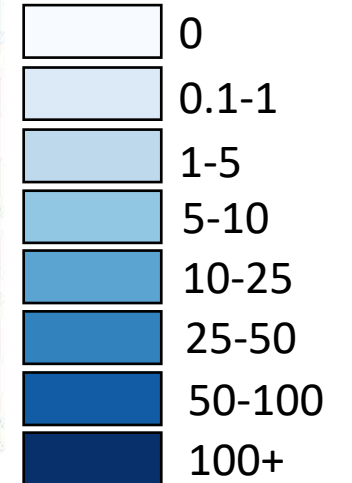
HIV/AIDS



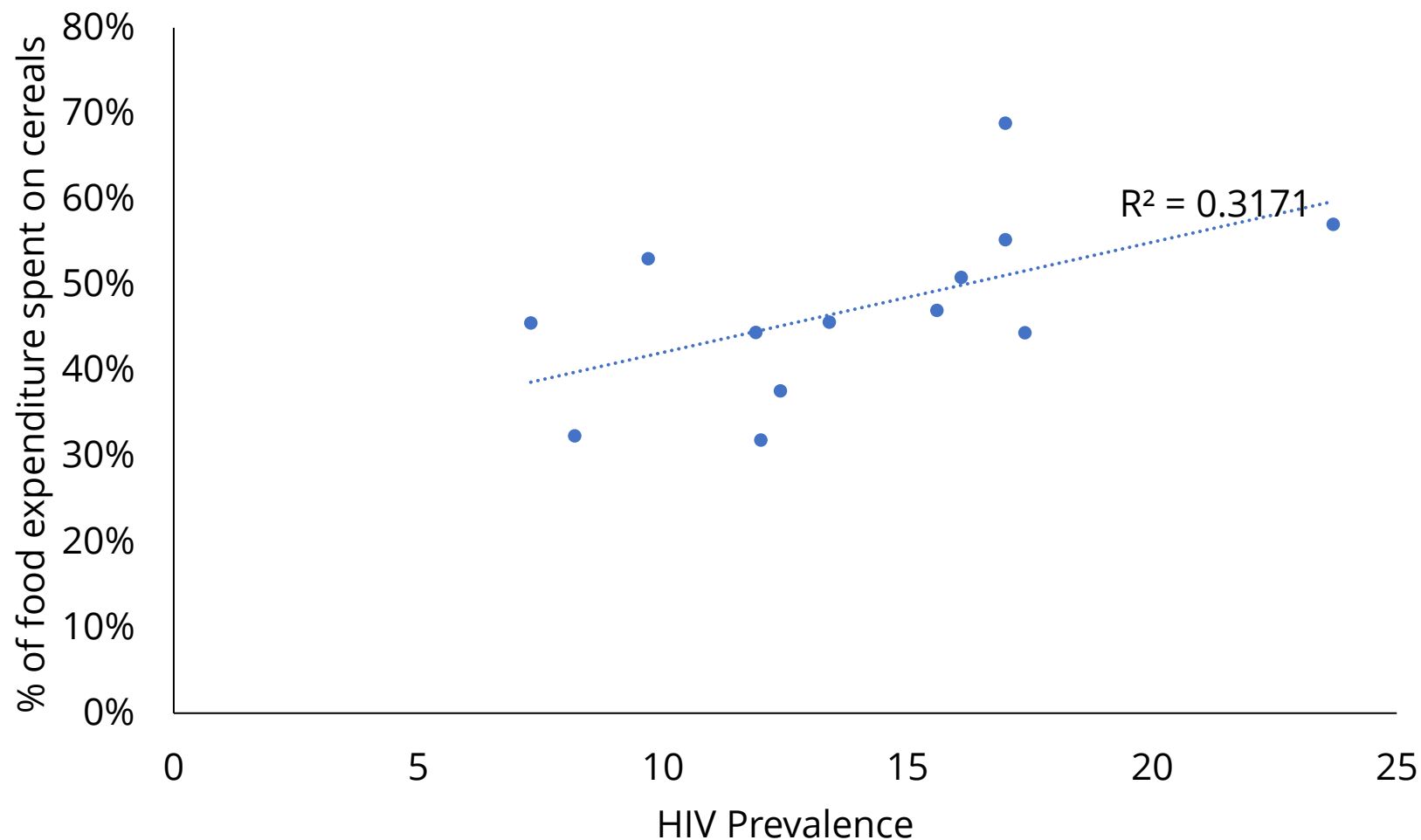
HIV/AIDS Prevalence in adults, 18-49 years



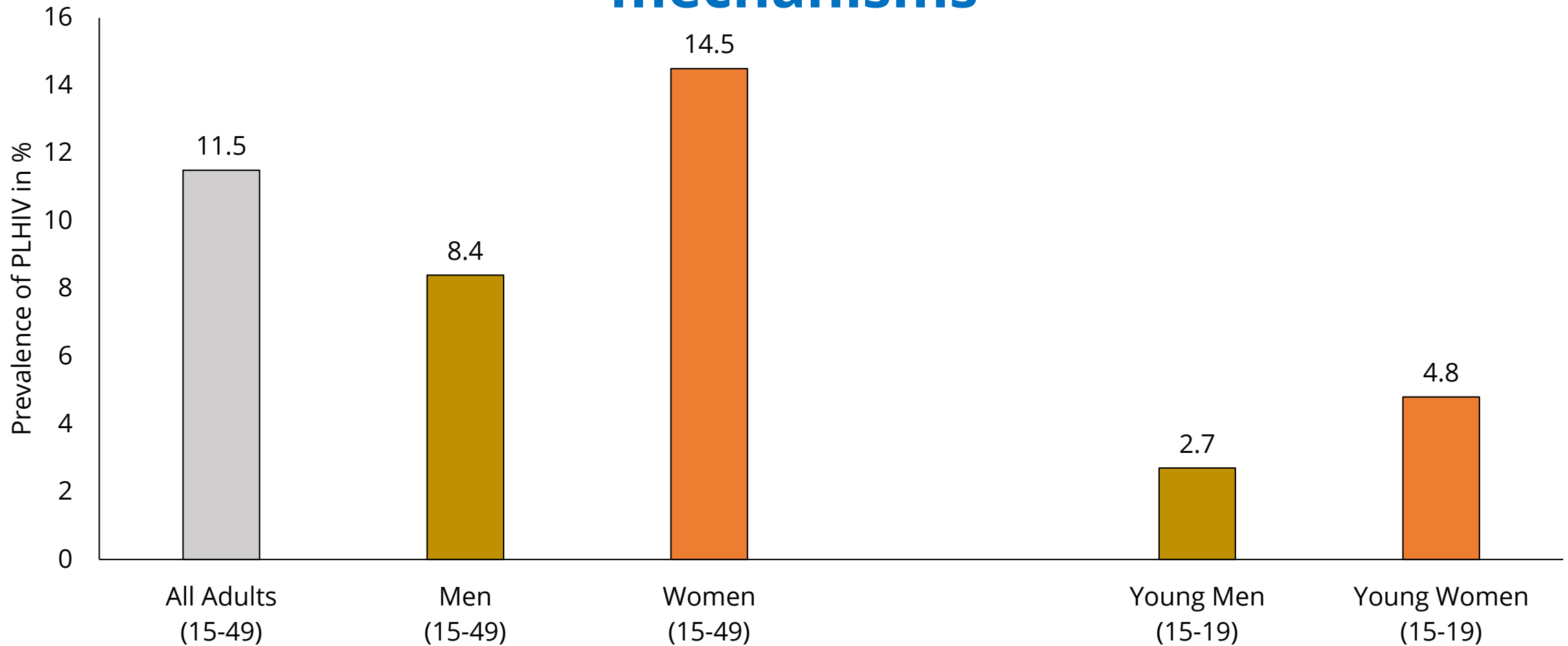
Number of people/ km²



Areas with high HIV prevalence spend relatively more of their food budget on cereals



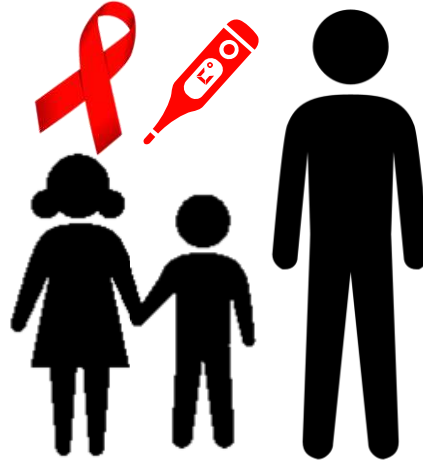
Women are disproportionately affected by HIV, showing the need to include gender-sensitive targeting mechanisms



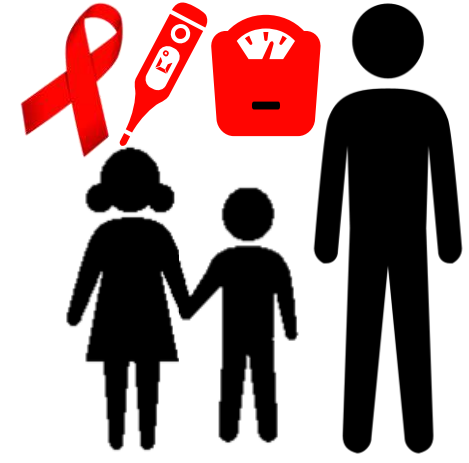
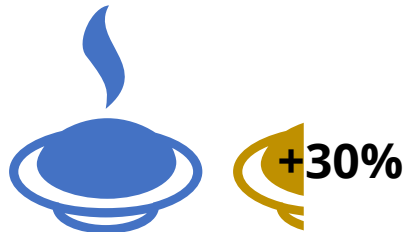
People living with HIV can have up to 50 percent higher requirements for energy – up to 100 percent in children



Living with HIV and
no symptoms:
10% increase



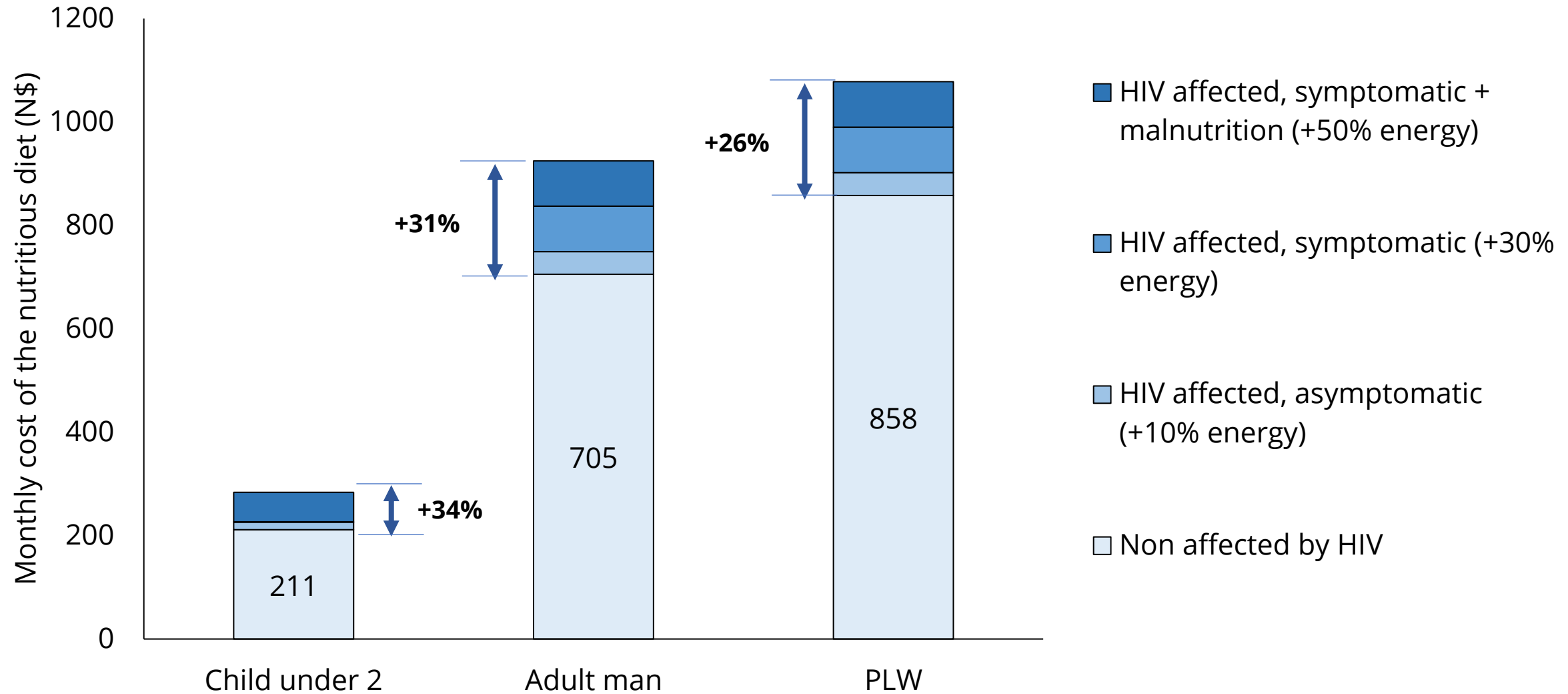
Living with HIV
and symptomatic:
20-30% increase



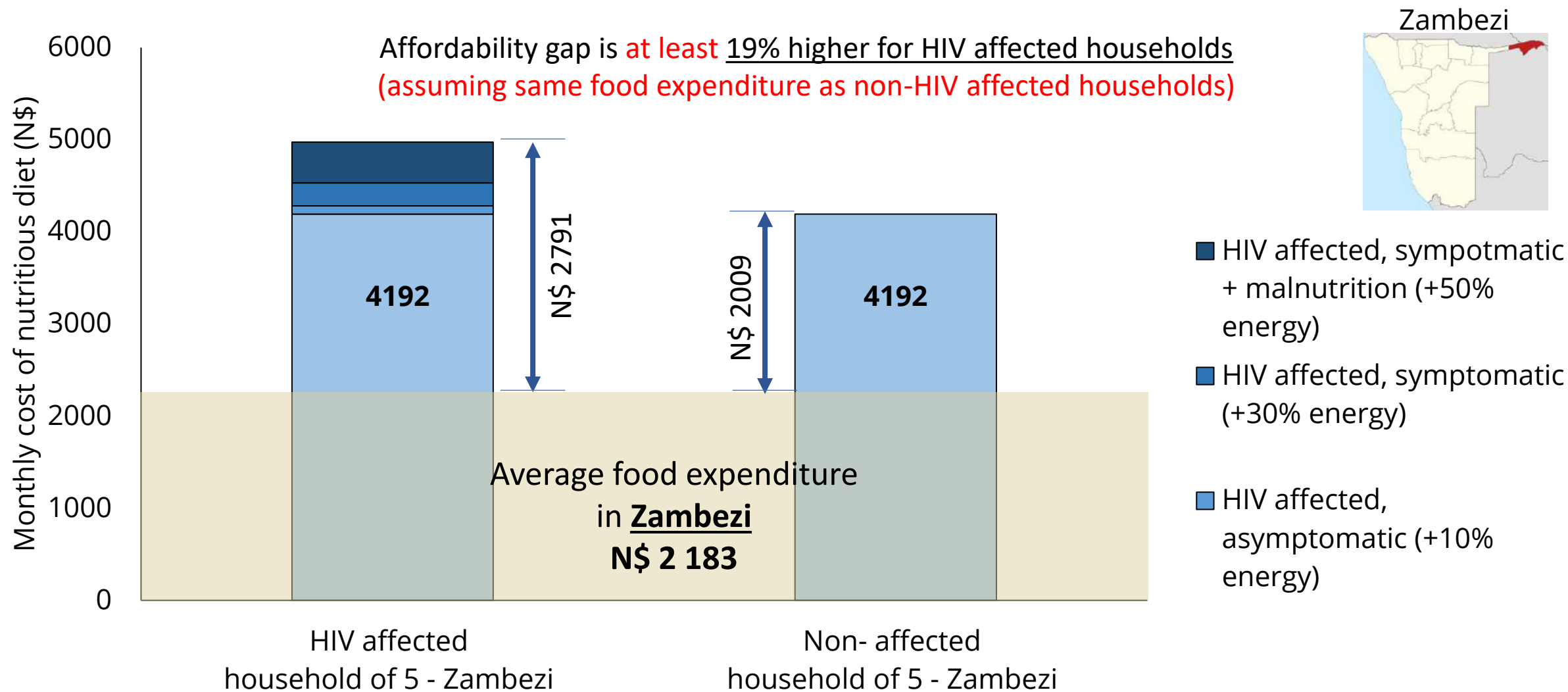
Living with HIV,
symptomatic and
weight loss:
50-100% increase



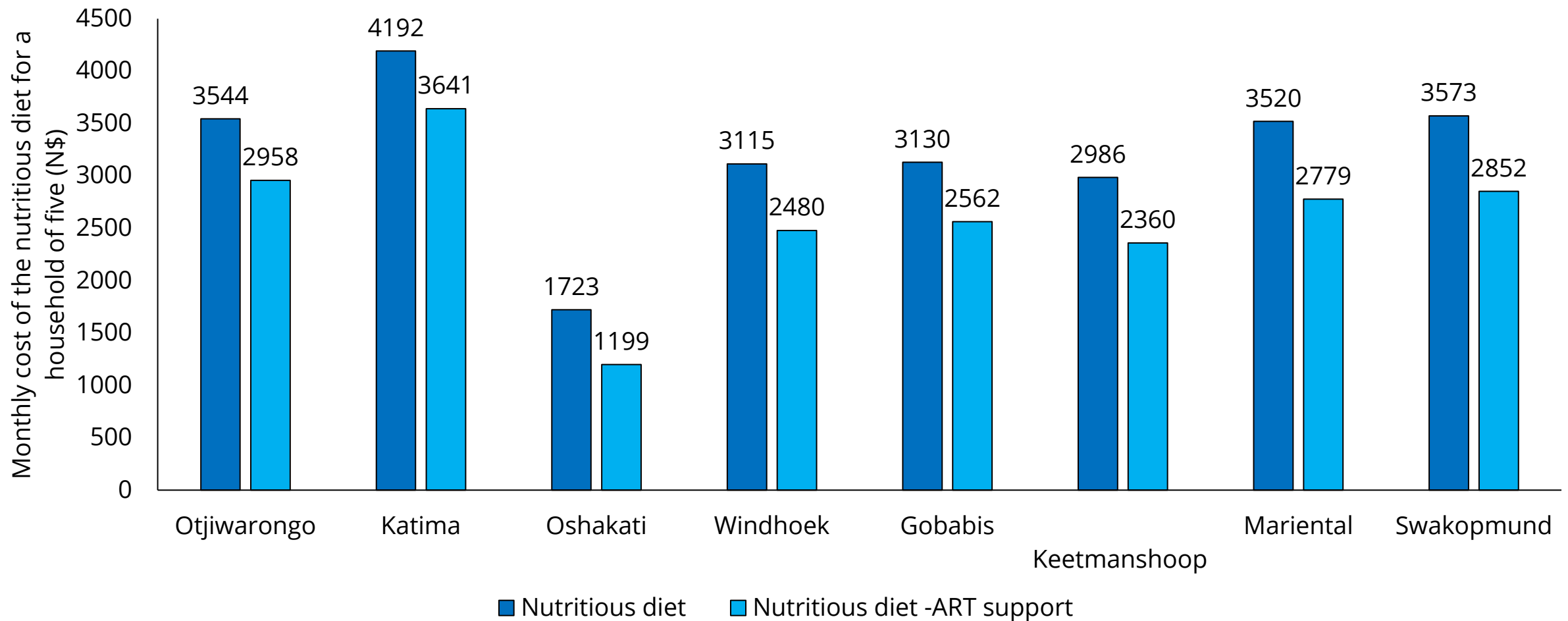
The cost of nutritious diet is higher for people affected by HIV and is likely to increase with severity of symptoms



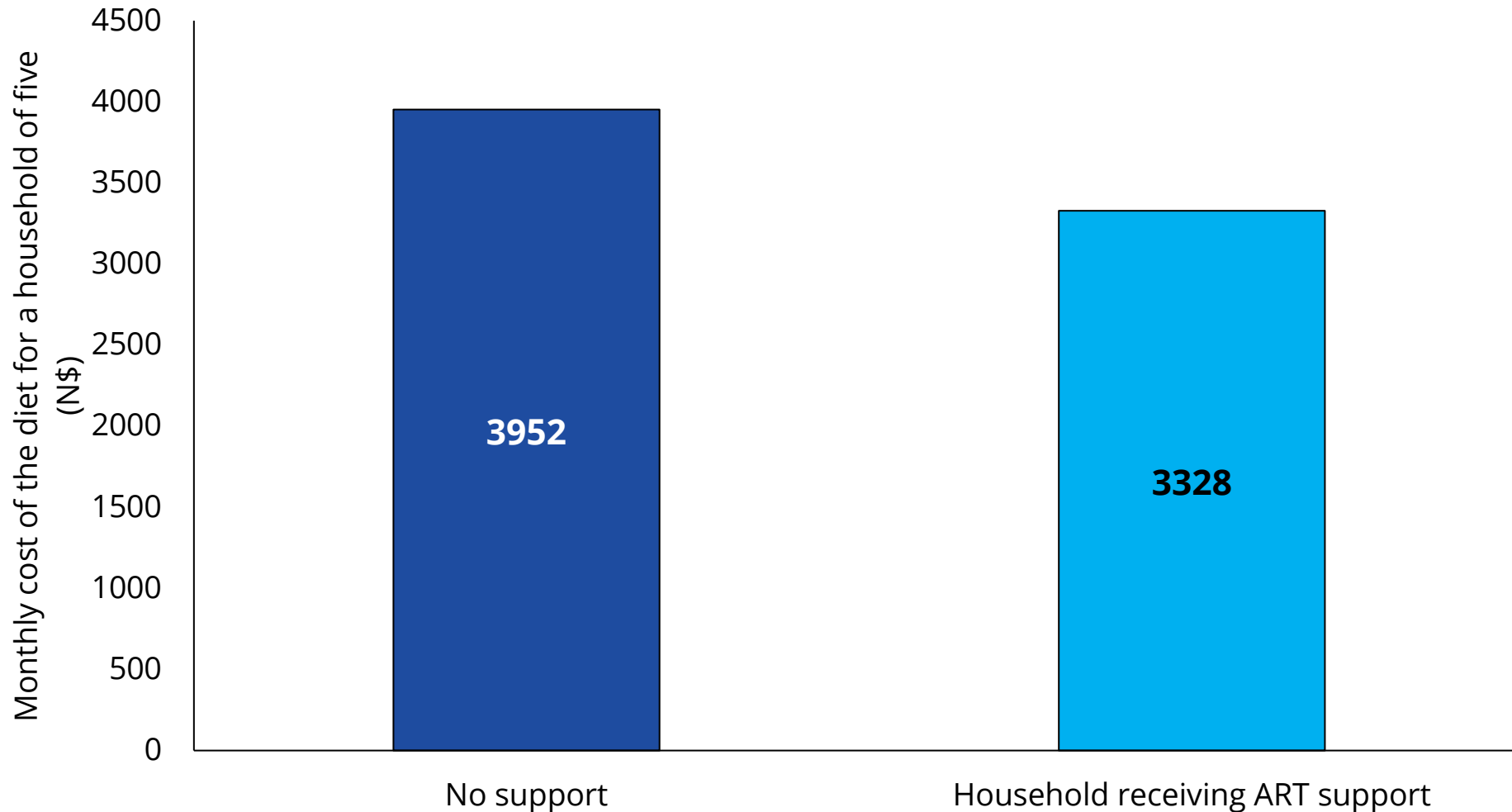
Access to nutritious diets could be a greater challenge for households living with HIV



ART support for HIV affected households could reduce the cost of a diet by 20 percent



ART support for HIV affected households could reduce the cost of a diet by 20 percent



Monthly
GFD Ration
per
household of
five



Maize meal

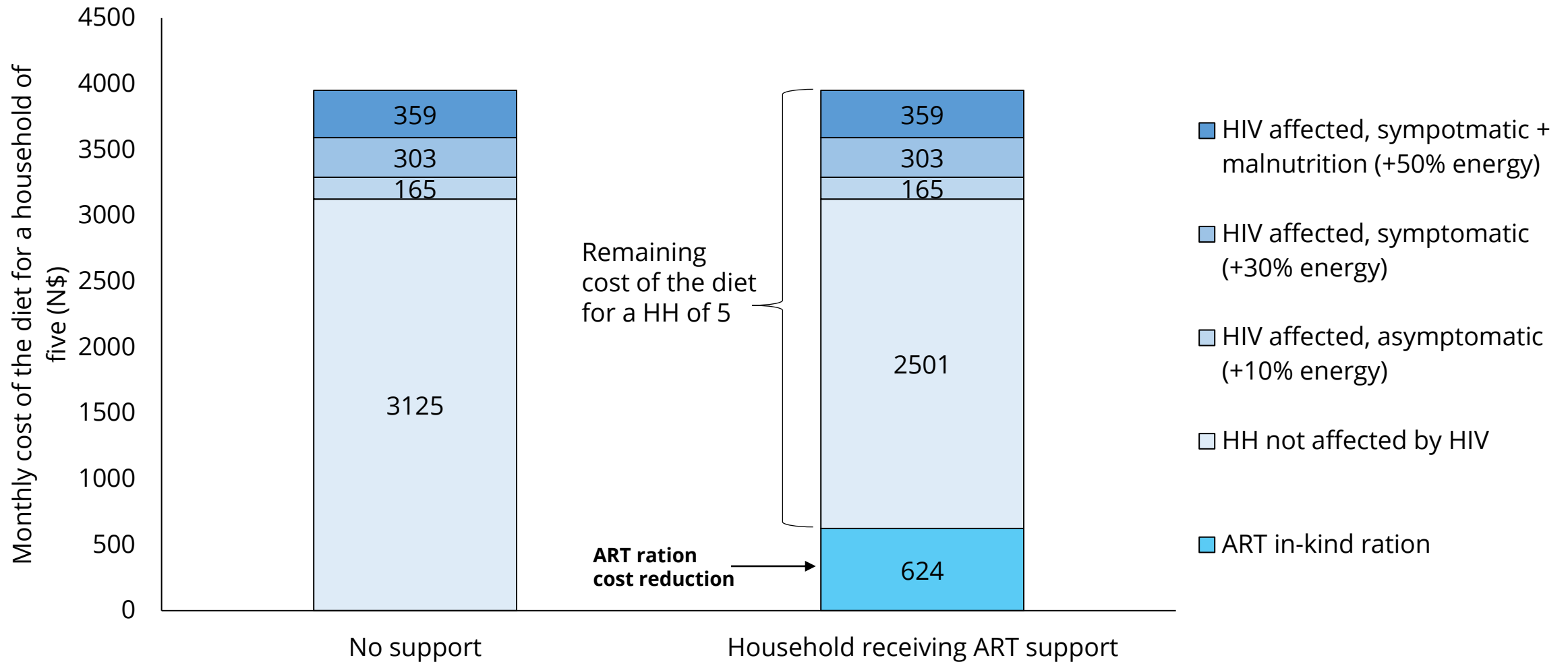


Split peas

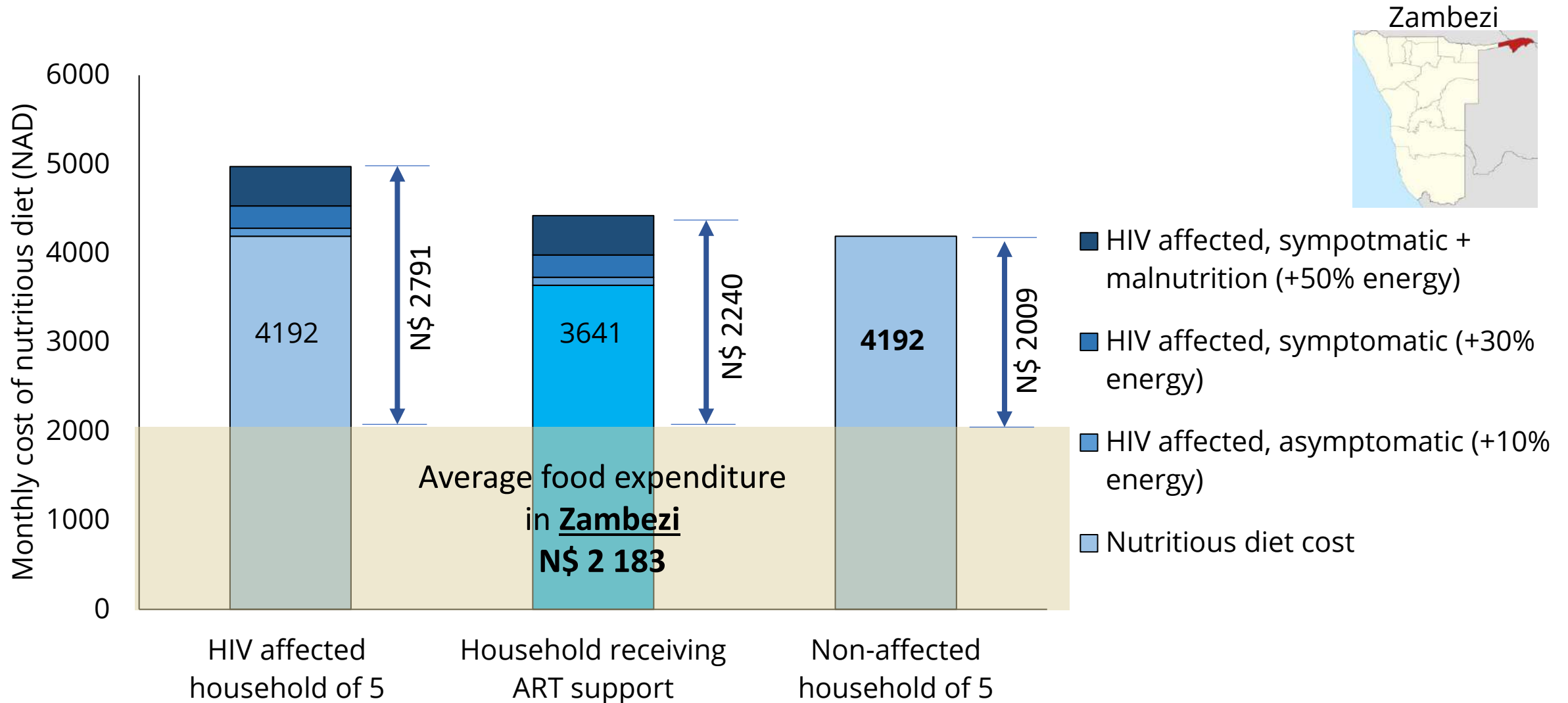


Vegetable oil

ART support for HIV affected households could reduce the cost of a diet by 20 percent



ART support could reduce the gap and increase access to nutritious diets for PLHIV





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Key Message 9

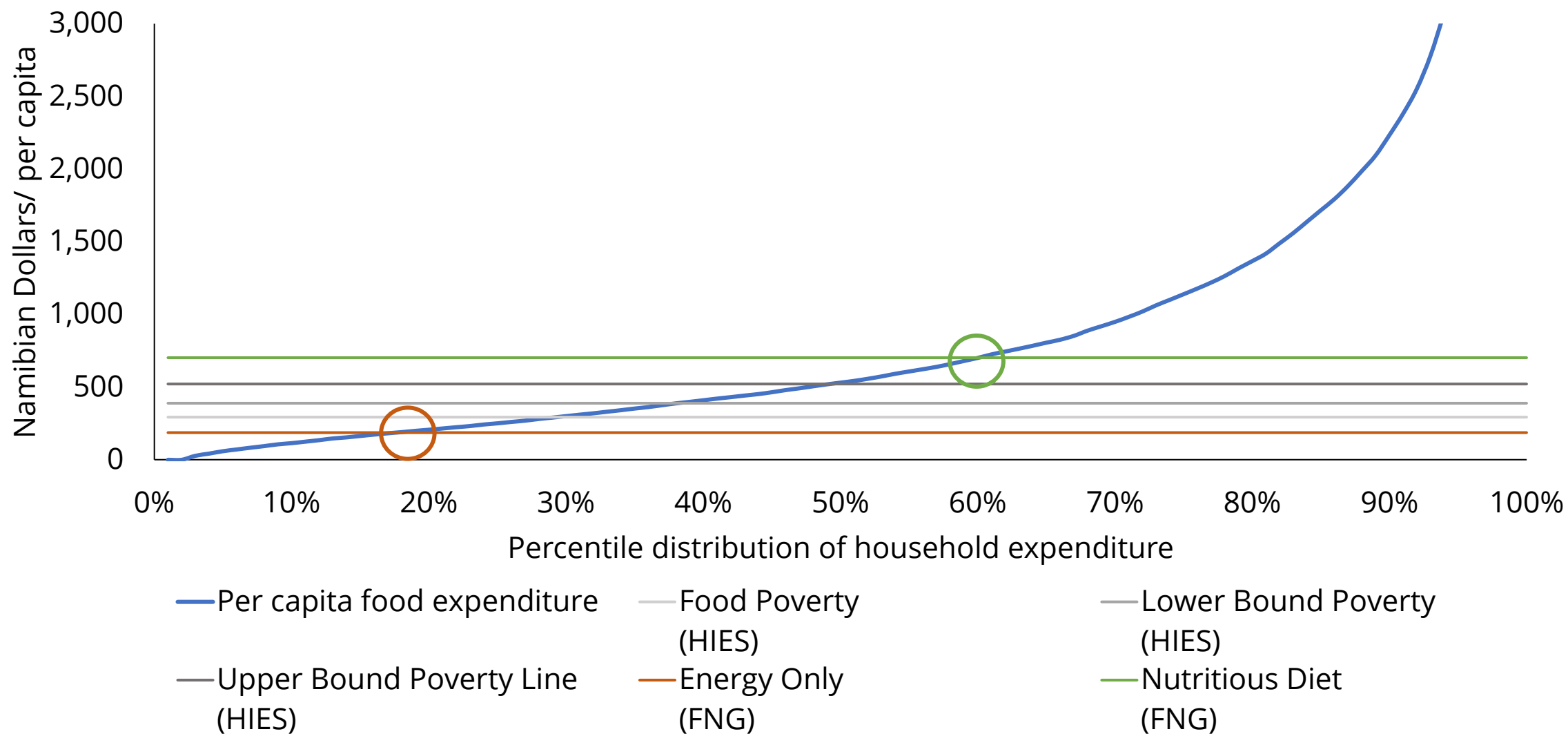
Social Protection

Poverty is a main driver behind insufficient and unbalanced, unhealthy dietary intake.

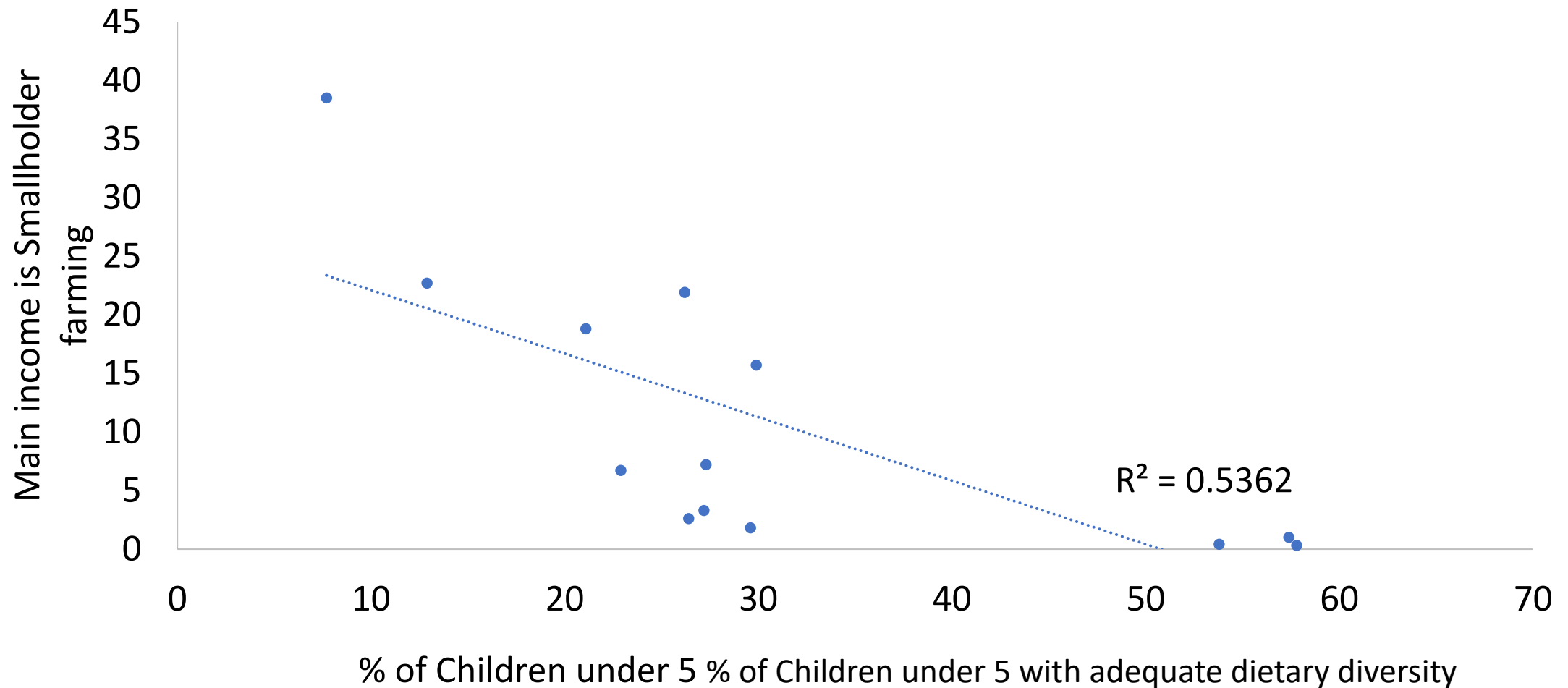
The Social Protection Floor and Social Safety Net Framework can reduce the economic burden to households.

Better targeted safety nets could improve access to nutritious diets of vulnerable groups.

A nutritious diet is unattainable for many and its cost above upper bound poverty line



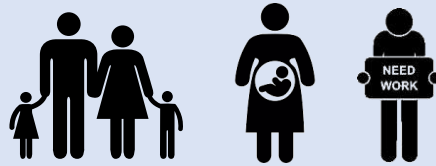
A higher prevalence of subsistence farming as main income is associated with lower proportion of children with adequate dietary diversity



The Social Safety Net Framework targets the vulnerable, but Basic Income Grants could simplify support



**1250 – 2200
Namibian \$/
person/
month**



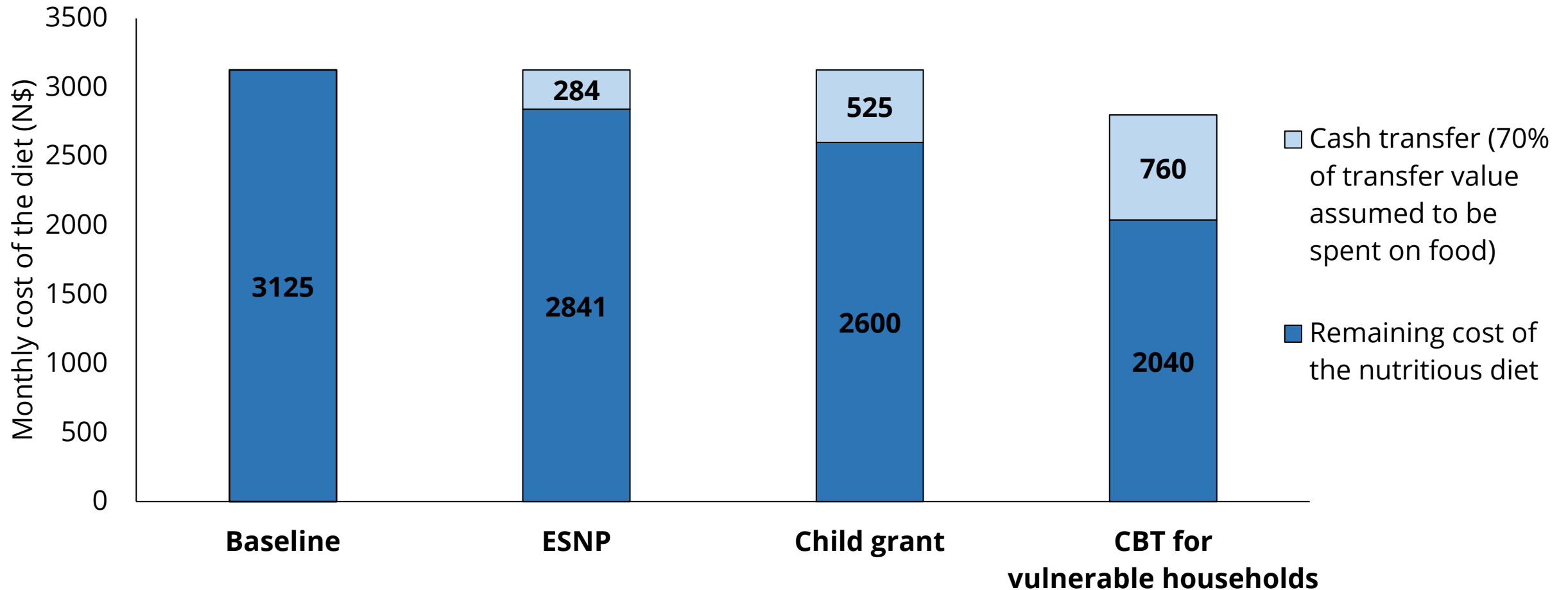
**250 – 406
Namibian \$/
person/
month**

HARAMBEE PROSPERITY PLAN II

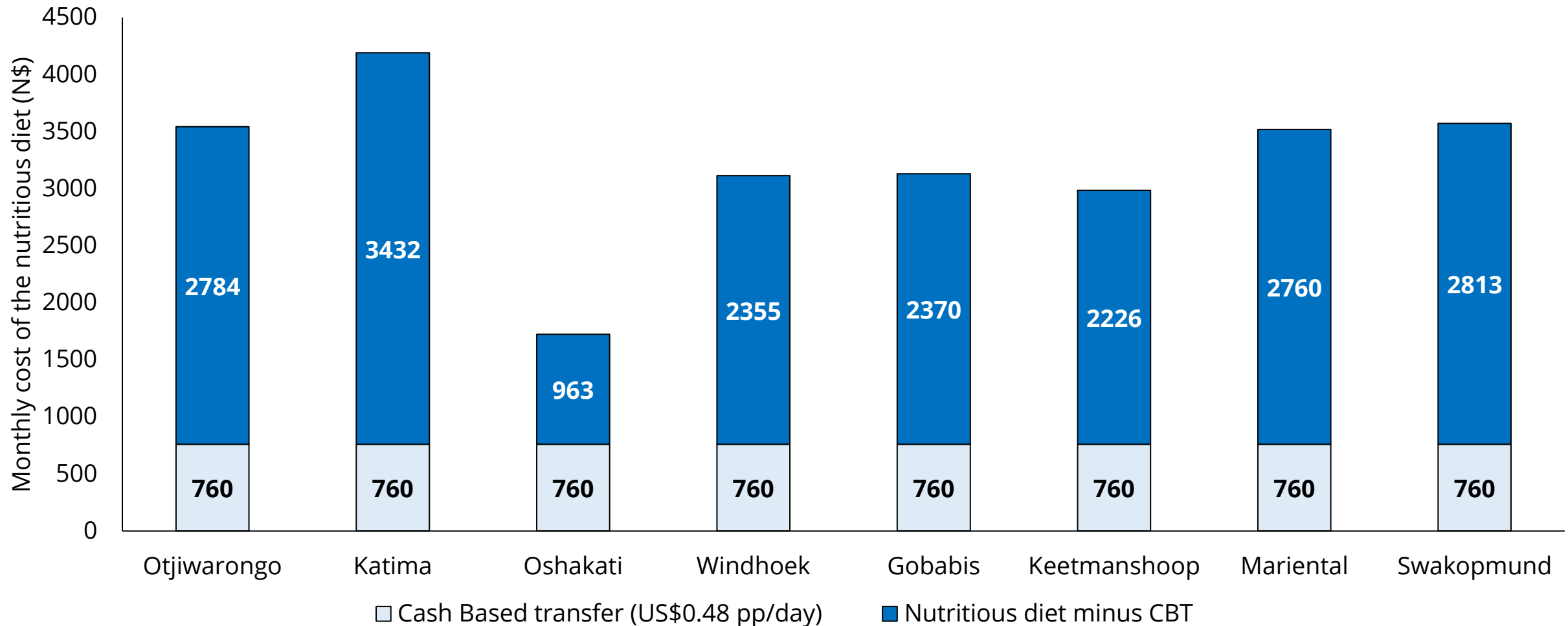
**Basic Income
Grant for:**

Food Bank,
Special Feeding for
Marginalised Communities
& Marginalized Grant
Beneficiaries

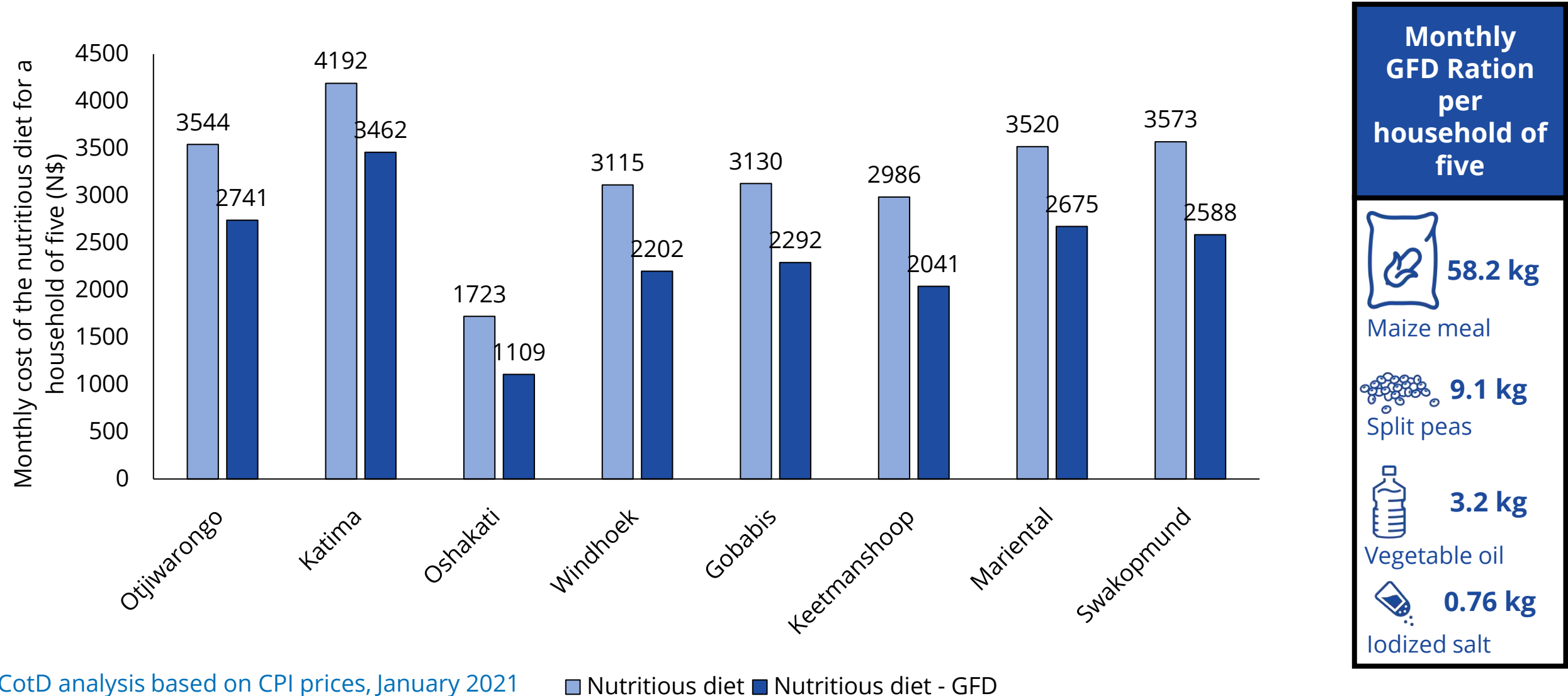
Social Safety Nets and cash based transfers for vulnerable households could cover between 13 – 35 percent of the nutritious diet cost



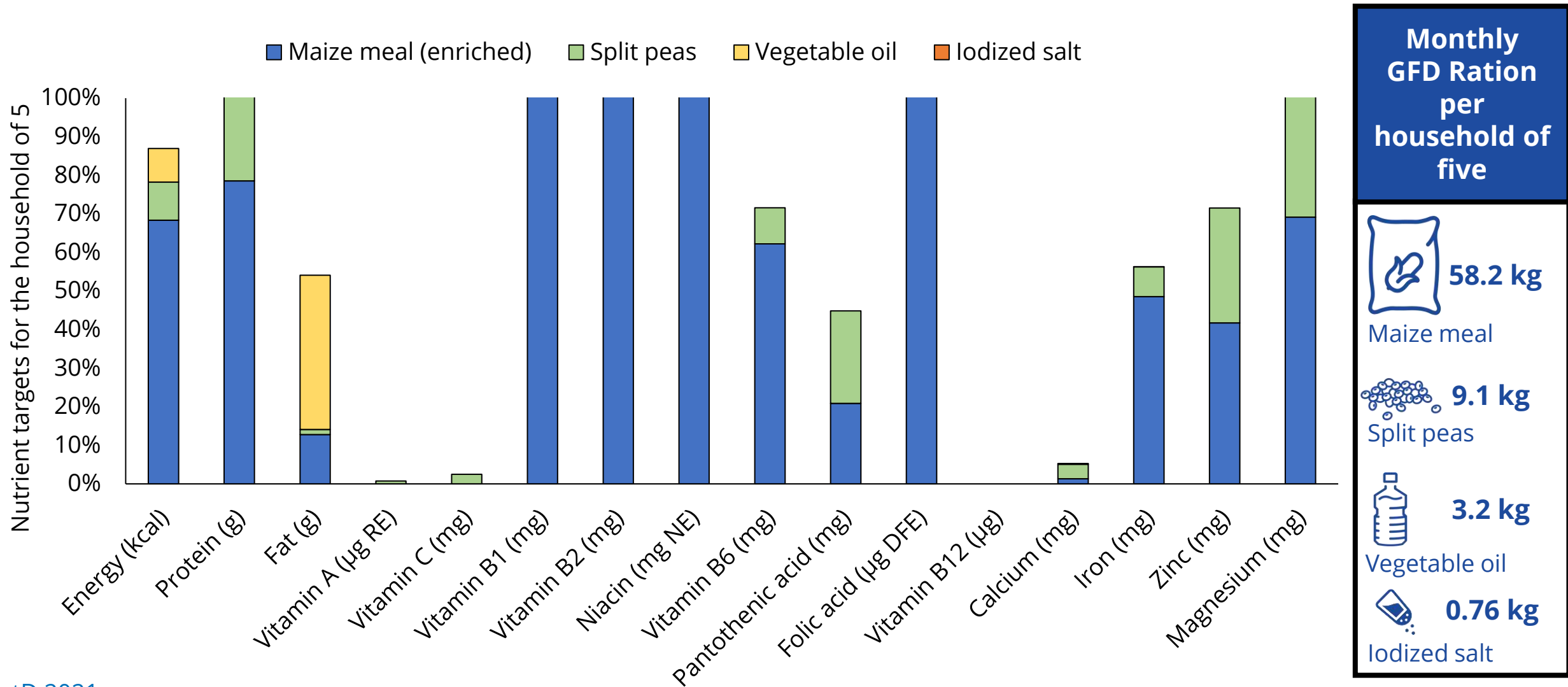
Although Social Safety Nets could increase access to nutritious diets, the remaining gap could vary depending on the region.



General Food Distribution increases access to nutritious diets, however, a considerable gap remains



General Food Distribution ration's contribution to meeting requirements for a five-person household





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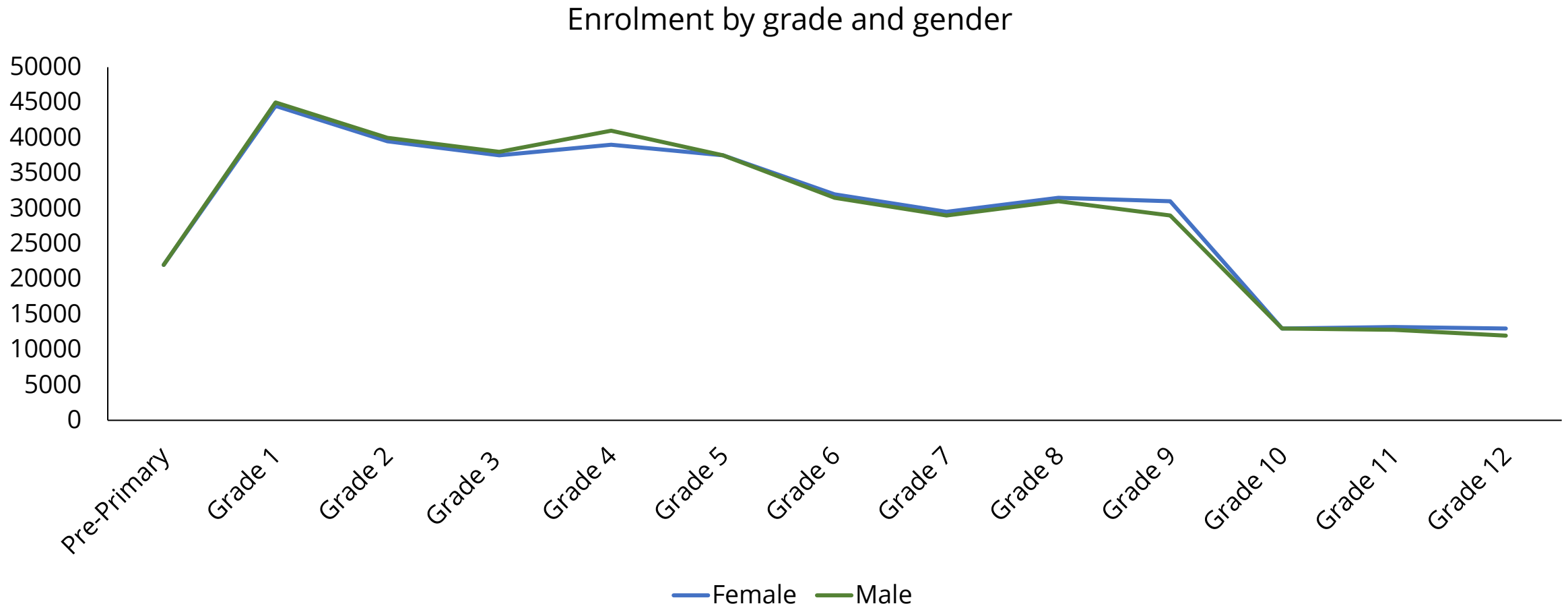
Key Message 10

Education

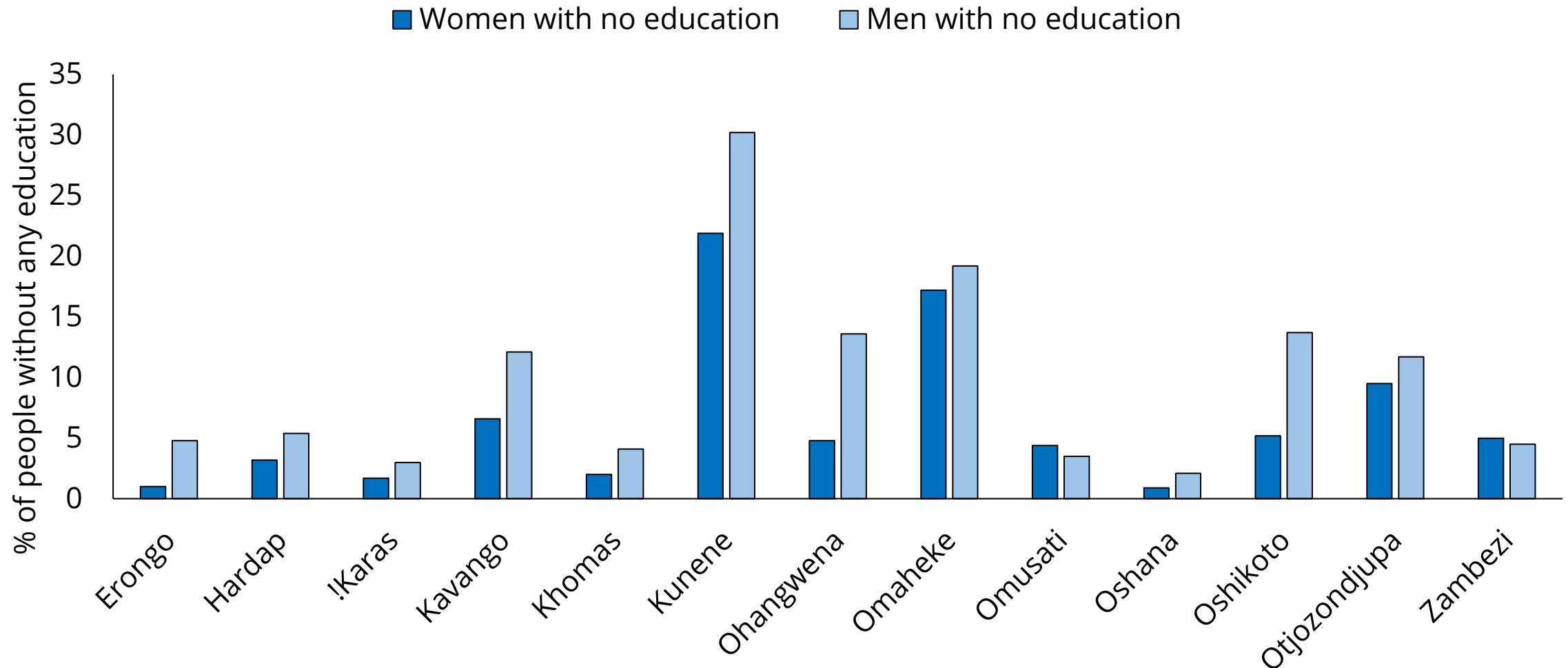
Enrolment rates drop around upper secondary, which is a critical time for adolescents' nutrition.

Nutritious and diverse school meals could incentivize attendance and contribute to improved dietary intake.

Education enrolment decreases by age, but does not differ between girls and boys



The most remote and deprived areas also have the highest percentage of people with no education



Target groups and objectives of school feeding modelling



School meals were modelled in the diets of three target groups:



- Primary children 6 – 7 years



- Primary children 10 – 11 years



- Adolescent girls 14 – 15 years

Nutrition targets for school meals:

- Cover approximately **30%** of requirements **for protein, fat and energy**
- Cover at least **50% of micronutrient requirements**

Namiba School Feeding Programme

Base school meal =
125 g maize blend porridge



63% maize meal
25% protein (soya) blend
10.8% sugar
1.2% salt.

X 200 school
days



480 – 720 kcal
for pre-primary

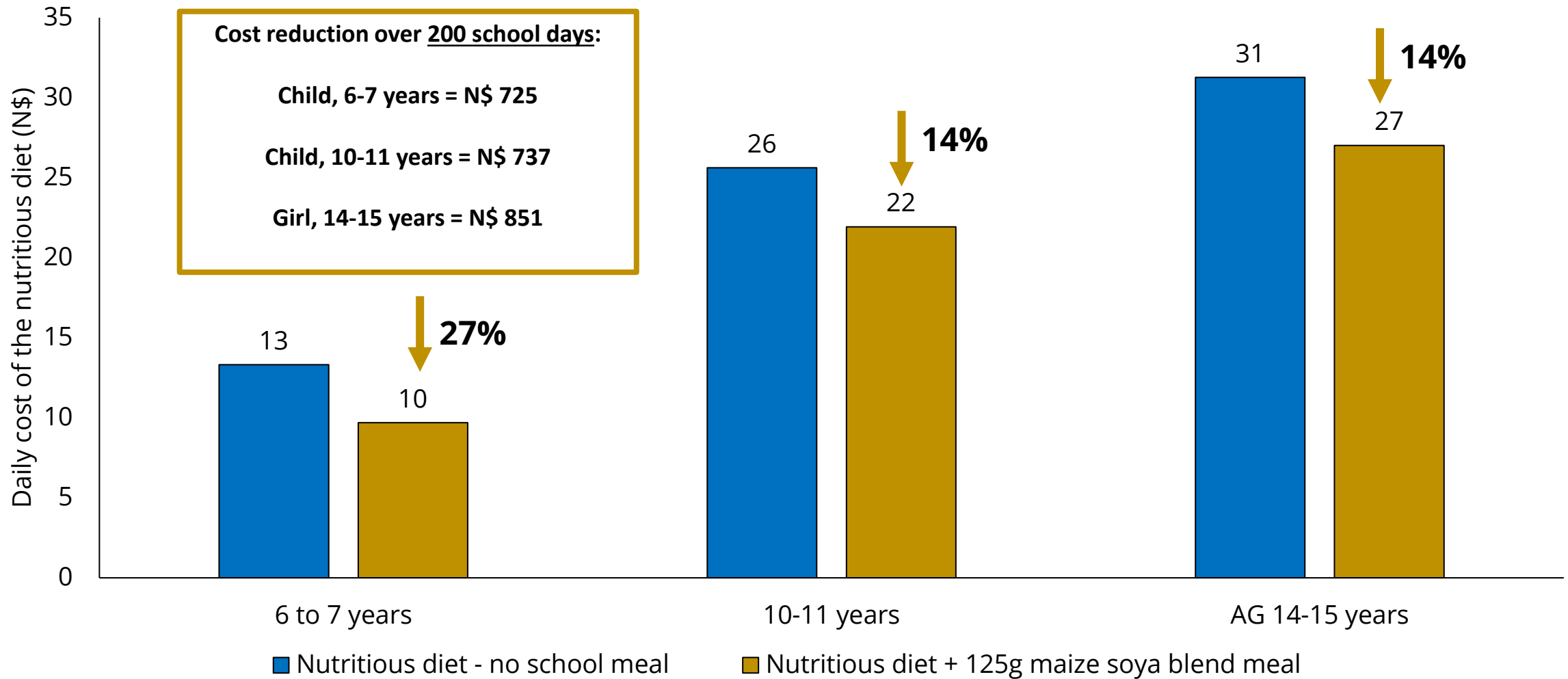


600 – 900 kcal
for primary



887 – 1330 kcal
for secondary

School meals provided can reduce the economic burden on households and increase access to nutritious diets for children



Modelling impact of diversified school meals in East Kavango

Base school meal
125 g maize blend
porridge



MENU Option 1, Day 1: Kavango East Region

Ration Content	Daily Ration/g/person /kcal	Cost (N\$)/Child
MAIZE BLEND	170	
CHICKEN	50	2
OIL, VEGETABLE	7	0.3
SALT, IODISED	2	0.01
ONION	5	0.09
TOMATOES	10	0.25
RATION TOTAL	264	2.66

MENU Option 1, Day 3: Kavango East Region

Ration Content	Daily Ration/g/person /kcal	Cost (N\$)/Child
MAIZE BLEND	180	
LEAVES, DARK GREEN, e.g. FIVE YEARS, MUTETE	90	1.8
OIL, VEGETABLE	7	0.3
ONION	5	0.09
TOMATOES, RED, RIPE	10	0.25
SALT, IODISED	2	0.01
RATION TOTAL	294	2.46

MENU Option 1, Day 5: Kavango East Region

Ration Content	Daily Ration/g/person /kcal	Cost (N\$)/Child
MAIZE BLEND	125	
BEANS, DRIED	60	2.64
OIL, VEGETABLE	7	0.3
ONION	5	0.09
TOMATOES, RED, RIPE	10	0.25
SALT, IODISED	2	0.01
RATION TOTAL	209	3.3

MENU Option 2, Day 1: Kavango East Region

Ration Content	Daily Ration/g/person /kcal	Cost (N\$)/Child
MAIZE BLEND	125	
BEEF MEAT BONES	85	1.97
CARROTS	64	1.08
SALT, IODISED	2	0.01
OIL, VEGETABLE	7	0.3
TOTAL	283	3.37

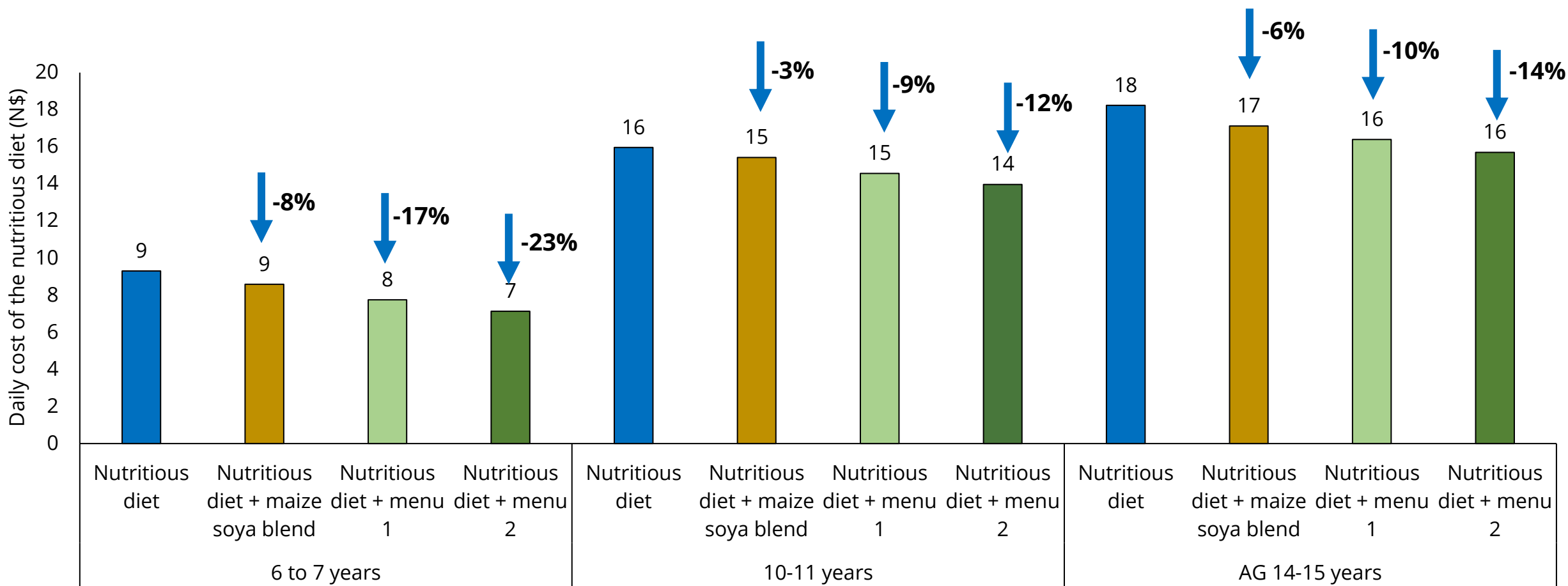
MENU Option 2, Day 3: Kavango East Region

Ration Content	Daily Ration/g/person /kcal	Cost (N\$)/Child
MAIZE BLEND	125	
BEANS, DRIED	60	2.64
OIL, VEGETABLE	7	0.3
SALT, IODISED	2	0.01
TOTAL	194	2.95

MENU Option 2, Day 5: Kavango East Region

Ration Content	Daily Ration/g/person /kcal	Cost (N\$)/Child
MAIZE BLEND	170	
EGGS (CHICKEN)	100	2.5
OIL, VEGETABLE	7	0.3
SALT, IODISED	2	0.01
LEAVES, DARK GREEN, e.g. FIVE YEARS	85	1.7
TOTAL	364	4.52

The homegrown school meal initiative improves the nutrient profile of rations and further reduces the cost of the diet





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Key Message 10

Multi-sectoral action is needed to move the needle on malnutrition.

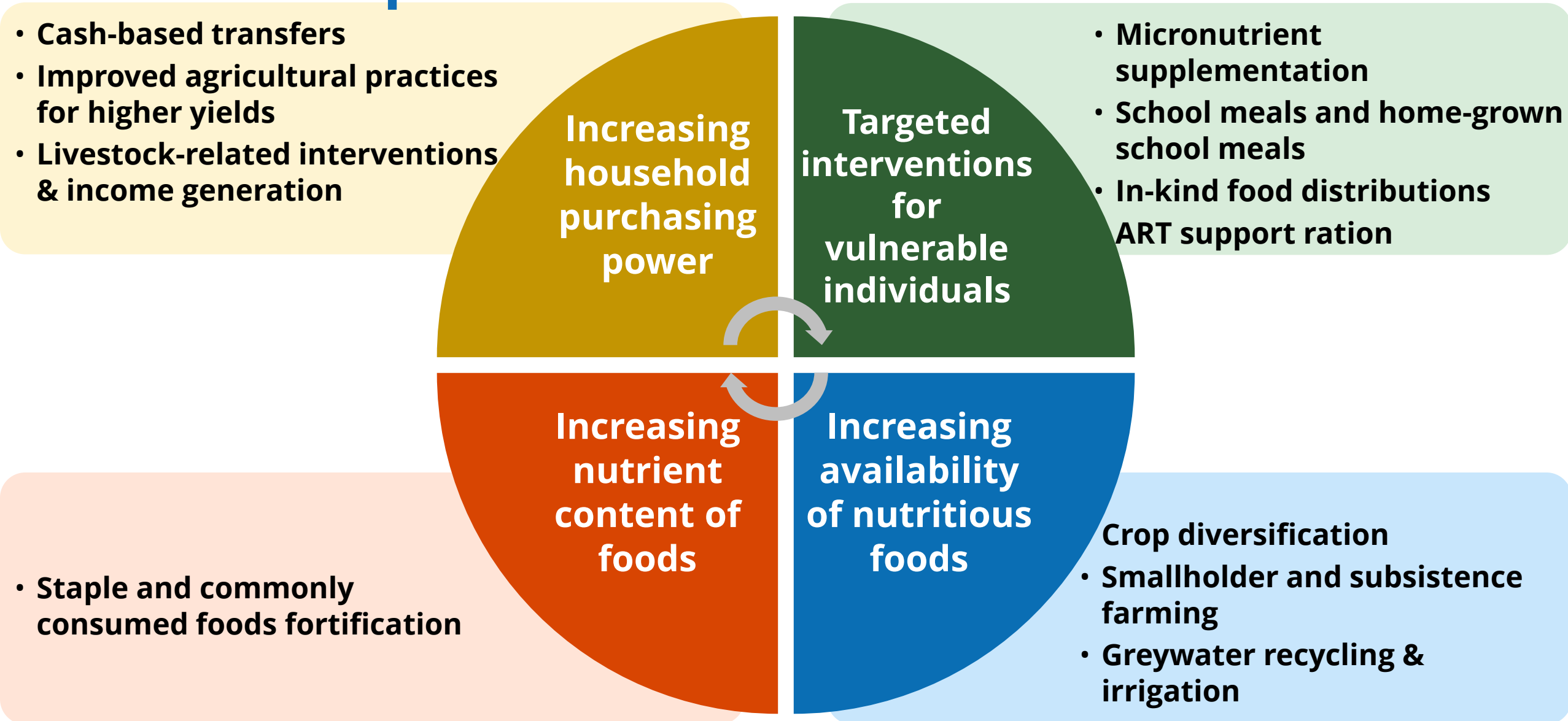
Combining interventions from multiple sectors could have significant effect in reducing the cost of the nutritious diet for households.

Improved targeting of interventions and greater employment opportunities so to increase purchasing power could make nutritious diets more accessible.

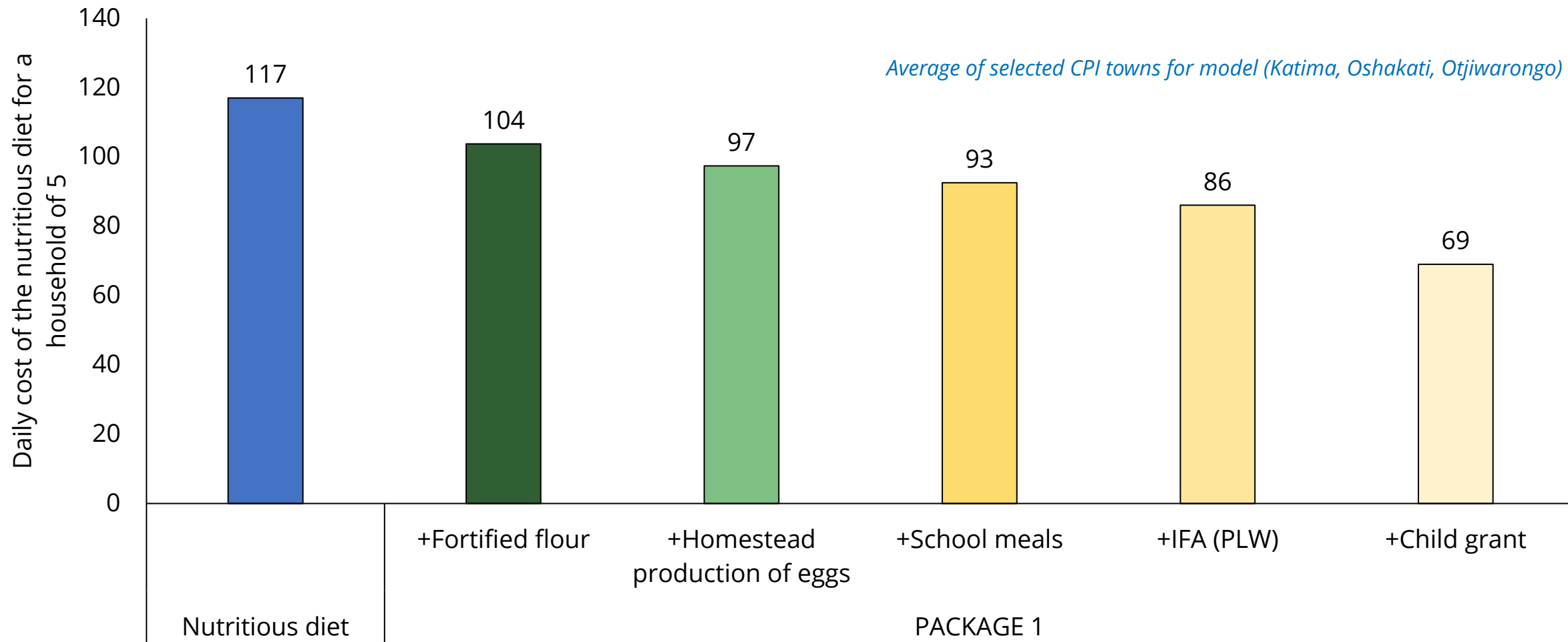
Harambe Action Plan II

- Goal for Zero Deaths:
 - Activity 1 Securing Household Food Security
 - a) increase agricultural yields
 - c) maintain school feeding programme, improve nutritional value of meals
 - D) determine basic wage floor
 - Activity 2: Consolidation of Social Grants and Food Bank
 - Convert Food Bank, Special Feeding, etc into a monthly cash transfer to phase in a Basic Income Grant
- Goal for Improved Access to social healthcare
 - Activity 4 Improved nutrition
 - Intensify CHW targeted outreach in: Omaheke, Ohangwena, Kunene, Kavango West and Omusati
 - Children, PLW, adults
 - (reduce malnutrition case fatality to less than 10%)
 - Regulations for Micronutrient Fortification of wheat, maize and mahangu
 - Regulations to control marketing of breastmilk substitutes

Interventions from different sectors could improve access to nutritious diets

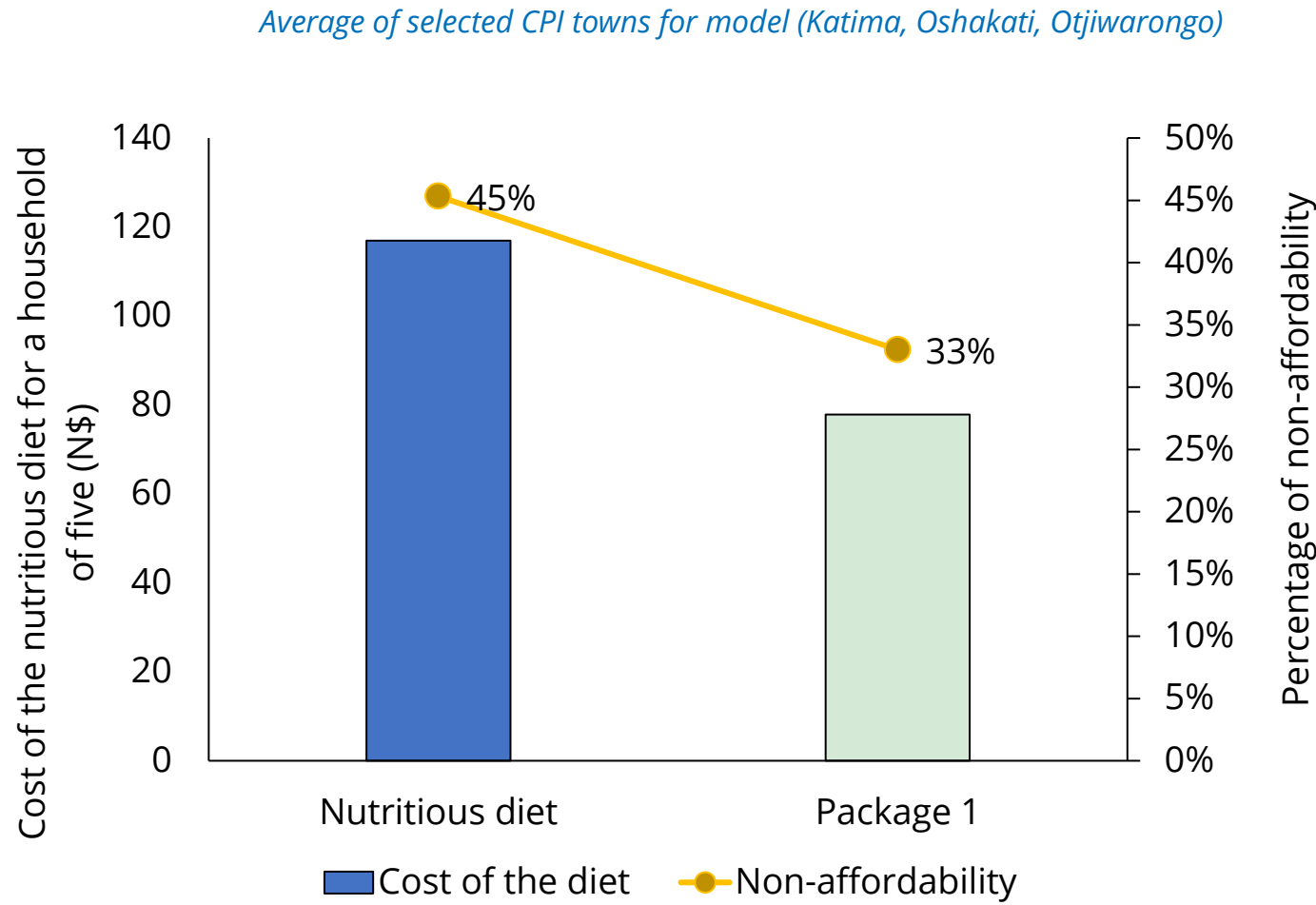


Combining multi-sectoral interventions into household packages to reduce the cost of the diet



Combining interventions from different sectors could substantially reduce non-affordability of the nutritious diet

Target group	Household Package 1
Child under 2 years	Optimal breastfeeding
School-aged children	School meal
Children (1-17 years)	Child grant
PLW	IFA
	Fortification
	Homestead production of eggs
Household intervention	



An aerial photograph showing a vast expanse of golden sand dunes on the left, sloping down towards a bright blue ocean on the right. The dunes are characterized by their smooth, undulating curves and the long, dark shadows cast by the low sun. The ocean surface is textured with white foam from breaking waves. The overall scene is a striking contrast of warm desert tones and cool maritime blues.

Thank you