



Zimbabwe Livelihoods Assessment Committee (ZimLAC)

2024

Urban Livelihoods Assessment



Urban Nutrition Assessment



Summary of Findings

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SUMMARY OF THE FINDINGS FROM THE ZIMLAC 2024 URBAN LIVELIHOODS AND URBAN NUTRITION ASSESSMENT REPORTS

The Food and Nutrition Council as the Chair of the Zimbabwe Livelihoods Assessment Committee (ZimLAC) led the multi-stakeholder committee in undertaking the 2024 Urban Livelihoods Assessment from the 13th to the 28th of February 2024 to generate food and nutrition information to inform policy and programming. The overall purpose of the assessment was to provide an annual update on livelihoods in Zimbabwe's urban areas, for the purposes of informing policy formulation and programming appropriate interventions. The process culminated in the development of the following reports:

- a) ZimLAC 2024 Urban Livelihoods Assessment Report
- b) ZimLAC 2024 Urban Livelihoods Assessment Technical Report
- c) ZimLAC 2024 Urban Nutrition Report
- d) ZimLAC 2024 Urban Nutrition Technical Report

The assessment results will be used to guide the following:

- a) Evidence based planning and programming for targeted interventions.
- b) Development of interventions that address immediate-to-long term needs as well as building resilient livelihoods.
- c) Early warning for early action.
- d) Monitoring and reporting progress towards commitments within the guiding frameworks of existing national and international food and nutrition policies and strategies such as the National

Development Strategy 1, the Food and Nutrition Security Policy, Sustainable Development Goals and the Zero Hunger strategy.

Below is a summary of the findings from the Urban Livelihoods and Urban Nutrition reports.

A. SUMMARY OF FINDINGS FROM THE URBAN LIVELIHOODS ASSESSMENT

The major findings on the livelihoods of urban households are presented in the box below. *Please note: in this report, food security relates to households whose incomes are above the budget line sufficient to acquire the household's minimum energy requirements.*

1. 65.5% of the households were food secure when food security was defined as income that was above the budget line.
2. At a descriptive level, food insecurity was situated in households that were headed by women, the less educated, the unemployed and living with disability and moreover they tended to be large.
3. Salaries/wages, casual labour and vending/petty trade were the most important sources of livelihoods for urban dwellers. These were followed by deals (madhiri/ kukiya-kiya/ ukutshaya amadili) and remittances (internal and external).
4. Livelihoods that exhibit stability which are subject to contract enforcement either through formal or informal institutions (norms) are associated with statistically significant higher probability that the

household was food secure before controlling for observed confounders.

5. Education was the most important socio-economic requisite for the household to enter stable livelihoods that exhibited stability and were enforced through formal sanction. Education however shuns stable livelihoods whose enforcement is through social sanction.
6. Female headed households were engaged in unstable livelihoods that were at potentially cross-purposes with the law (vending) or whose contracts cannot be enforced through law or social norms (casual labour).
7. Before controlling for observed confounding variables, households that practiced agriculture outside the urban areas were more likely to be food secure than those that did not.
8. Food secure and food insecure households were affected differentially by economic shocks before controlling for observed confounders.
9. Save for the case of rentals shock, compared to unemployed people, households headed by informally employed people were *ceteris paribus* less likely to have experienced all the shocks under consideration. Informality in this case can be seen as a cushion from vicissitudes in the formal market system.
10. Food insecure households were however more likely to have received support from development partners than food secure ones, before controlling for observed confounders.
11. Reliance on salaries/wages was associated with an improvement in all the food and nutrition security indicators.

12. Reliance on own business, with all things being equal was associated in improvements in all food security indicators except for the HDDS and the RCSI which were statistically insignificant.
13. Urban agriculture was associated with improvements in the FCS by 1.551 points at the 1% level of significance, all things being equal.
14. Practising agriculture outside urban areas improved the household hunger score by 0.261 points at the 1% level of significance, all things being held constant.
15. Internal migration (either to the rural areas or from the rural areas) was ceteris paribus associated with a deterioration of food and nutrition security outcomes.
16. Knowledge about climate change was ceteris paribus associated with improvements in the women's dietary diversity score by 0.186 points after controlling for selection on observables.
17. Receiving social protection support from the government resulted in a 3.9% increase in the probability that the household was food secure after controlling for self-selection

Please refer to Annex 1 on page 13 for the detailed findings.

B. SUMMARY OF FINDINGS FROM THE 2024 URBAN NUTRITION ASSESSMENT

The major findings on the nutrition status of urban households are presented in the box below.

Household Nutrition Status

- a) The majority of households (79.4%) consumed more than five (5) food groups.
- b) About 71.2% of the sampled households had good access to food as indicated by their Food Consumption Score which was within the acceptable range.
- c) A significant proportion of households (64.1%) had consumed vitamin A-rich foods daily in the seven (7) days leading up to the survey.
- d) Consumption of iron-rich foods was high with 82% of households indicating that they had consumed these foods in the 7 days leading up to the survey.

Child Nutrition Status (6-23 months)

- a) The national average stunting level was 23.2%, classified as high.
- b) Female-headed households had a 4.4% higher probability of having underweight children, *ceteris paribus*.
- c) Households experiencing hunger had a higher chance of having stunted and wasted children, with the likelihood increasing by 1.1% and 1% respectively, at the 10% and 1% significance.

- d) A high proportion of children were breastfed, with 89.8% having been breastfed at some point in the last 24 months and 74.4% being breastfed within the first hour after birth.
- e) There was no association between support from the government, UN/NGOs, churches, or remittances from the diaspora, and children's diet quality.

Adolescent Nutrition

- a) Larger households had a higher propensity for having stunted, underweight, wasted, and overweight/obese adolescents, with increases of 1.53%, 0.68%, 1.2%, and 2.7% respectively, at 1% level of significance, *ceteris paribus*.
- b) Households that followed traditional religion/beliefs had a reduced likelihood of having stunted and wasted children, with decreases of 12.7% and 6.65% respectively, *ceteris paribus*.
- c) Food insecurity was associated with higher chances of stunting, underweight, wasting, and overweight/obesity, at the 1% level of significance.

Nutrition Status for Women of Childbearing Age (15–49 years)

- a) Female-headed households had a 94.1% chance of attaining the DDW, at the 1% significance level, *ceteris paribus*.

Adult Nutrition

- a) About 27.9% of adults aged 18-59 were overweight, while 22.1% were obese.

- b) About 30.9% of adults aged 60 and above were overweight, and 30.6% were obese.
- c) Female-headed households had a 9.6% higher likelihood of having overweight or obese adults, at the 1% level of significance.
- d) Households engaged in urban agriculture had a 6.6% increased risk of having overweight and obese members.
- e) Households receiving Government social support had an 8.8% increased risk of having an overweight/obese member, while households receiving social support from UN/NGOs had a 17.7% increased risk, both at the 1% level of significance.

Interaction between chronic conditions, smoking and nutrition status

- a) Adults with a history of smoking and drinking had an increased risk of developing chronic conditions - 0.064% for smoking and 0.036% for drinking, with a significance level of 5%, *ceteris paribus*.

Water, Sanitation and Hygiene

- A. About 81.9% of the sampled households had access to water from ZINWA/Council.
- B. Households with basic sanitation conditions had reduced chances of experiencing incidences of diarrhoea, cough, and fever outbreaks in children under 5 years of age. The reductions were 0.29%, 0.55%, and 0.32% respectively, *ceteris paribus*.

Please refer to Annex 2 on page 20 for the detailed findings.

C. RECOMMENDATIONS FOR THE URBAN LIVELIHOODS ASSESSMENT

Based on the major findings from the 2024 Urban Livelihoods Assessment, the following recommendations are put forward:

Gender

- a) Closing the gender gap and empowering female farmers traditionally restricted in their access to finance and technologies can create major gains when addressing food insecurity.
- b) Interventions should ensure equal access of men and women to natural and productive resources, such as land and mechanization, decent employment, advisory and financial services, and markets.

Access to Food Security Enhancing Livelihoods

- a) Make the minimum wage setting process a part of a larger concerted Government effort to address food insecurity. To address food insecurity, the Government needs to reconcile wages and employment circumstances, social assistance, and other income supports with the cost of living.
- b) Government should scale-up efforts to include entrepreneurship programmes in schools and universities to ensure that citizens acquire critical thinking and problem-solving skills.
- c) Continue implementing policies that promote the ease of doing business.
- d) Access to finance remains a major challenge to small businesses. Government and financial institutions need to strengthen collaboration

to establish dedicated funds and loans tailored to the needs of small businesses.

Involvement in Agricultural Production

- e) There is need to ease control measures restricting the private movement of maize grain from rural to urban areas.

Social Support

- f) There is need for the ministry responsible for social welfare and the various organisations that provide social support to target vulnerable groups.

D. RECOMMENDATIONS FOR THE URBAN NUTRITION ASSESSMENT

Based on the major findings from the 2024 Urban Nutrition Assessment, the following recommendations are put forward:

1. Improve Diet Quality

The results revealed high levels of overweight and obesity in the sampled urban households. The findings point to diets that are energy dense but lacking in essential micronutrients. The following interventions are proposed.

- a) *Nutrition education and awareness* - the ministry responsible for health needs to take aggressive action in nutrition education and awareness to prevent the impending crisis of increased rates of Non-Communicable Diseases (NCDs). More nutrition education

campaigns, and awareness efforts are needed to educate the urban population about healthy nutrition behaviours.

- b) *Incorporating nutrition literacy into all levels of education* - the ministries responsible for primary and secondary education, as well as higher and tertiary education, should incorporate nutrition literacy into all levels of education. School-based approaches are uniquely positioned to drive positive change, as they have the power to shape lifelong eating habits, core food preparation skills, and preferences for locally available nutritious foods. Nutrition literacy can lead to individuals adopting healthier eating habits and making conscious dietary choices, which can have significant positive impacts on overall health and well-being.
- c) *Incorporating traditional and cultural nutrition practices in nutrition education* - the results showed that households that followed traditional religion had a lower likelihood of having stunted and wasted children, with decreases of 12.7% and 6.65% respectively, compared to those which followed other forms of religion, all things being equal. These findings suggest potential benefits of incorporating traditional and cultural nutrition practices in nutrition education.
- d) *Increasing availability of healthy foods in school and work environments* - school and work environments can play an important role in promoting healthy eating by increasing the availability of nutritious foods and restricting less healthy options within these environments. There is need for a multisectoral approach where every stakeholder advocates for the provision of nutritious and healthy foods within one's environment, especially in schools and work places.

e) *Expanding the diet-related health tax to other unhealthy* - Zimbabwe introduced a sugar tax in December 2023, which is aimed at discouraging the consumption of sugar-sweetened beverages. There might be need to expand this tax to include other unhealthy foods as a way to discourage the consumption of such foods. The global trend towards diets high in sugar-sweetened beverages and energy-dense ultra-processed foods is linked to a higher incidence of obesity, diabetes, and other non-communicable diseases, and there is need to take action now. Globally, many countries are implementing diet-related health tax to encourage healthier eating habits (Pineda *et al.*, 2024).

2. Improve Infant and Young Child Feeding Practices (IYCF)

The results revealed that the national prevalence of stunting was high at 23.2% and obesity levels were also high (5.2%). Efforts to address childhood undernutrition, micronutrient deficiencies, and overnutrition need to be integrated to achieve global nutrition targets. The following interventions are proposed.

- i. *Extended nutrition education to all caregivers and not mothers only* – there is need to extend nutrition education to all caregivers, including baby minders and house helpers as in urban areas, these categories of caregivers tend to spend more time with children under the age of 5 years. Scientific evidence (Imdad *et al.*, 2011 & Hossain *et al.*, 2024) showed that caregivers' level of nutritional knowledge is a predictor of feeding practices and lack of nutritional knowledge on child feeding among caregivers contributes significantly to poor dietary practices of children under five years of age.

3. Improve Water, Sanitation and Hygiene

There is need for the ministry responsible for water, city councils/municipalities/local authorities and all the developmental organisations working in the WASH sector to establish a call to action to improve WASH conditions for maternal and newborn health and emphasis should be to i) integrate WASH into budget priorities for water supply and quality, ii) emphasize WASH in campaigns for maternal and child health, and iii) embed WASH into national and global targets and monitoring frameworks.

4. Improve Targeting in Social Support Programmes

- i. There is a need for the ministry responsible for social welfare and the various organisations that provide social support to vulnerable groups to improve the identification and targeting of such households. The identification and targeting should be based on available data, e.g. census and ZimLAC data.

ANNEX 1: EXPANSION OF THE URBAN LIVELIHOODS ASSESSMENT FINDINGS

i. Socio-economic background of urban households

- a) 65.5% of the households were food secure when food security was defined as income that was above the budget line.
- b) At a descriptive level, food insecurity was situated in households that were headed by women, the less educated, the unemployed and living with disability and moreover they tended to be large.

ii. Major sources of Livelihoods for urban dwellers

- a) Salaries/wages, casual labour and vending/petty trade were the most important sources of livelihoods for urban dwellers. These were followed by deals (madhiri, kukiya-kiya, ukutshaya amadili) and remittances (internal and external).
- b) Livelihoods that exhibited stability which are subject to contract enforcement either through formal or informal institutions (norms) were associated with statistically significant higher probability that the household was food secure, before controlling for observed confounders.
- c) Livelihoods which encapsulate contract enforcement in our case are salaries/wages, remittances (from within and from outside), rentals, own business and pensions were associated with statistically significant higher probability that the households were food secure, before controlling for observed confounder.
- d) Education was the most important socio-economic requisite for the household to enter stable livelihoods that exhibit stability and are enforced through formal sanction. Education however shuns stable livelihoods whose enforcement is through social sanction.
- e) Female headed households were engaged in unstable livelihoods that are at potentially cross-purposes with the law (vending) or whose contracts cannot be enforced through law or social norms (casual labour).

iii. Involvement in Agricultural Production

- a) There was statistically no significant difference in the food security status of households that practiced urban agriculture and those that did not practice.
- b) Households that practiced urban agriculture which received crop support from the Government were more likely to be more food secure, before controlling for observed confounders.
- c) Urban agriculture was *ceteris paribus* a livelihood option for the old, uneducated, and mono-spousal households and large households that had surplus labour.
- d) *Ceteris paribus*, education increased the probability that the household engaged in livestock production.
- e) Before controlling for observed confounding variables, households that practiced agriculture outside the urban areas were more likely to be food secure than those that did not.
- f) *Ceteris paribus*, the practice of agriculture outside urban areas was done by those married and living together with their spouse, less educated and elderly household heads. It was also done by those with surplus labour supply in terms of household size.

iv. Multi-locality and Migration

- a) Food secure households had less likelihood of having a person who migrated to the rural areas in the year than food insecure households, at the 5% level of significance.
- b) Households that were food secure had more likelihood of having a member who emigrated out of the country, before controlling for observed confounders.

- c) An increase in the education of the household head reduced the probability that the household received a new member from the rural areas.
- d) The larger the household size, the larger the likelihood that the household experienced inward migration (either internal or external) or outward migration (either internal or external).

v. *Climate Change Knowledge, Shocks, and Stressors*

- a) Whilst households headed by the elderly had more likelihood of having knowledge of climate change, those that were headed by women and the less educated had less likelihood.
- b) Food secure and food insecure households were affected differentially by economic shocks before controlling for observed confounders.
- c) Save for the case of rentals shock, compared to unemployed people, households headed by informally employed people were ceteris paribus less likely to have experienced all the shocks under consideration. Informality in this case can be seen as a cushion from vicissitudes in the formal market system.

vi. *Social Protection*

- a) The Government and its development partners were the major sources of social protection for urban households in Zimbabwe.
- b) At a descriptive level, there were no statistically significant differences between food secure households and food insecure households in terms of the probability of receiving Government support. Food insecure households were however more likely to have received

support from development partners than food secure ones before controlling for observed confounders.

- c) Receiving support from rural relatives (which may be viewed as an expression of multi-locality) and receiving support from the diaspora was associated with food security before controlling for observed confounders.
- d) All things being equal Government support targeted widows/widowers, the less educated, the disabled and those in high density areas.
- e) All things being held constant, support from development partners targeted the informally employed people, households which had members with visual disability, larger households, and those in high density suburbs.

vii. Water, Sanitation and Hygiene

- a) Before controlling for confounding factors, food-secure households had improved water services, sanitation, and Sustainable Development Goal handwashing facilities.
- b) Households headed by less educated people, larger households and those resident in high density areas had access to better Water, Sanitation and Hygiene (WASH) facilities after controlling for observed confounders.

viii. Indicators of Food Access

- a) All the other food access indicators were correlated with the food security indicator that was calculated using income and the budget line before controlling for observed confounders.

- b) Increase in household head's age was associated with reduced severity in household food insecurity and coping after controlling for observed confounding variables.
- c) Households with divorced or separated heads had increased likelihood of being food insecure and coping compared to households with household heads married and living together, after controlling for observed confounding factors.
- d) Increase in education of household head was associated with increased food security and less coping and improved quality of diets.
- e) Being formally or informally employed increased the likelihood of household food security, reduced the probability of a household coping and was associated with improved diets.

ix. Treatment Effects on Food Access Indicators

Major Sources of Livelihoods

- a) Reliance on salaries/wages was associated with an improvement in all the food and nutrition security indicators.
- b) Engagement in casual labour as one of the major sources of livelihood *ceteris paribus* resulted in a decline in the deterioration of the household food security indicators.
- c) Whilst engagement in vending/petty trade resulted in improvement of both the Household Dietary Diversity (HDDS) and the Dietary Diversity for Women of Child Bearing Age (DDW), it however led to a deterioration in the long-term livelihoods coping capacity which could result in inter-generational food insecurity.
- d) Reliance on deals (madhiri, kukiya-kiya, ukutshaya amadili) was associated with deteriorations in both short term (Food Consumption

Score (FCS) and Reduced Coping Strategy Index (RCSI) and long-term food security indicators.

- e) Reliance on external remittances led to improvements in the majority of short-term (Household Hunger Scale (HHS), FCS and RCSI) food security indicators except for the DDW which statistically deteriorated at the 5% level of significance.
- f) Reliance on rentals as a major source of livelihood was, all things being equal, associated with improvements of all the food security indicators under consideration except for the RCSI and the DDW, which were not statistically significant.
- g) Reliance on own business, all things being equal was associated in improvements in all food security indicators except for the HDDS and the RCSI which were statistically insignificant.

Involvement in Agriculture Production

- h) Urban agriculture was associated with improvements in the FCS by 1.551 points at the 1% level of significance, all things being equal.
- i) Practising agriculture outside urban areas improved the household hunger score by 0.261 points at the 1% level of significance all things being held constant.

Migration

- j) Internal migration (either to the rural areas or from the rural areas) was *ceteris paribus* associated with a deterioration of food and nutrition security outcomes.
- k) On the other hand, emigration outside Zimbabwe was associated with an improvement in the probability that the household was food secure.

Climate Change

- l) Knowledge about climate change was ceteris paribus associated with improvements in the women's dietary diversity score by 0.186 points after controlling for selection on observables.

Social Protection

- m) Receiving social protection support from the government resulted in a 3.9% increase in the probability that the household was food secure after controlling for self-selection.

ANNEX 2: EXPANSION OF THE URBAN NUTRITION ASSESSMENT FINDINGS

i. Household Nutrition Status

Household Dietary Diversity (HDD) for the Sampled Households

- a) The majority of households (79%) consumed more than five (5) food groups.

Food Access and Diet Quality

- a) About 71.2% of the sampled households had good access to food, as indicated by their food consumption score, which was within the acceptable range.
- b) Only 6.5% of households had a poor food consumption score.
- c) A significant proportion of households (64.1%) had consumed vitamin A-rich foods daily in the seven (7) days leading up to the survey.
- d) At least 48.7% of households reported having consumed protein-rich foods daily during the same period.

- e) Consumption of iron-rich foods was high as 82% of households indicated that they had consumed these foods in the 7 days leading up to the survey.

ii. Child Nutrition

Descriptives for child nutrition status (6 months to 59 months)

- a) The national average stunting level was 23.2%, classified as high.
- b) Matabeleland North had the highest stunting level (29.7%), while Mashonaland West had the lowest (19.2%).
- c) Matabeleland North also had the highest proportion of underweight children (16.7%), the second-highest proportion of wasted children (9.4%), and a high proportion of overweight (4.7%) and obese (6.1%) children.
- d) Harare province had the second-highest stunting level at 26.2%, along with the highest proportion of overweight (5%) and obese (7.7%) children.

Diet quality for children (6 months to 59 months)

- a) The proportion of children that attained Minimum Meal Frequency (MMF) was 34.1% and 23.6% attained the Minimum Dietary Diversity (MDD).
- b) Nationally, 52.4% of children had a high intake of sweet beverages and Matabeleland South had the highest proportion of children consuming sweet beverages at 61.8%.
- c) Nationally, 11.6% of children consumed unhealthy foods, with Harare having the highest proportion (15.8%).
- d) About 87% of children 6 to 23 months had consumed vegetables and fruits 24 hours prior to the survey.

e) About 35.6% of children consumed eggs or flesh meat 24 hours prior to the survey.

iii. *Determinants of child nutrition status (6 months to 59 months)*

Stunting

- a) Households following the pentecostal, apostolic sect, and zion religions were more likely to have stunted children, all things being constant.
- b) Increasing household income by 1% was associated with a 4% decrease in the likelihood of having a stunted child, while increasing household size by one member was linked to a 2.3% increase in the probability of having a stunted child.

Underweight

- a) Age, sex, marital status of the household head, household income, size, and location were identified as determinants of underweight in children.
- b) Female-headed households had a 4.4% higher probability of having underweight children, *ceteris paribus*.
- c) Households with informally employed heads were 2.2% more likely to have underweight children.
- d) Increasing the number of household members by one was associated with a 1.2% increase in the likelihood of the household having underweight children, all things being equal.

Diet quality (Minimum Meal Frequency (MMF), Minimum Dietary Diversity (MDD), and Minimum Acceptable Diet (MAD) for children aged 6 months to 59 months.

- a) A 1% increase in the income of the household head was associated with a 9.3% increased likelihood of the household having a child who attained the MMF, at the 1% level of significance and other factors held constant.
- b) Increasing household income by 1% was likely to result in children in the household attaining MDD by 12% and MAD by 7.6%, at a 1% level of significance and all other things being equal.
- c) At the 1% level of significance and controlling for other variables, children in households belonging to Protestantism, Pentecostalism, the Apostolic Sect, Zionism, and Islam had a 12.2%, 11.9%, 12.7%, 18.8%, and 22% reduced probability of achieving MAD, respectively, *ceteris paribus*.

Relationship between food security indicators and the nutritional status of children aged 6 months to 59 months

- a) Households experiencing hunger had a higher chance of having underweight and stunted children, with the likelihood increasing by 1% and 1.1% respectively, at the 1% and 10% significance level.
- b) Urban agriculture was associated with a 1.6% decrease in wasting levels.
- c) At the 5% significance level, households employing reduced livelihood coping strategies had a slight increase of 0.1% in stunted and wasted children, all things being constant.

Relationship between diet quality for children (6-23 months) and food security indicators

- a) The results showed that for every point increase in FCS (Food Consumption Score), the chances of the children (6 to 23 months of age) achieving MDD increased by 0.1, all other things being equal.
- b) A point increase in HDDS was associated with a 2.55% increase in the likelihood of children attaining MMF, a 3.72% increase in the likelihood of children achieving MDD, and a 2.52% increase in the likelihood of children attaining MAD, all significant at a 1% level.
- c) Children in households experiencing hunger had a 2.39% reduced chance of achieving MMF at a 1% level of significance and a 1.25% reduced chance of achieving MAD at the 5% level of significance, assuming all other factors remain constant.

iv. Exclusive Breastfeeding

- a) A high proportion of children were breastfed, with 89.8% having been breastfed at some point and 74.4% having been breastfed within the first hour after birth.
- b) About 38% of infants under six months of age were exclusively breastfed.

Determinants of exclusive breastfeeding

- a) Households headed by elderly persons and those that practised traditional religion were more likely to practice exclusive breastfeeding than their counterparts, *ceteris paribus*.
- b) Cohabiting couples had a 26.75% lower probability of practicing exclusive breastfeeding.

Associations between food security indicators and practicing exclusive breastfeeding

- a) Households experiencing hunger had a 4.3% higher likelihood of not practicing exclusive breastfeeding compared to households not facing hunger.
- b) Households employing reduced coping strategies had a 9.1% lower chance of practising exclusive breastfeeding with a significance level of 5%.

Determinants for child diet quality (6-23 months)

- a) At the 1% level of significance, households experiencing hunger were 2.3% less likely to have children who attain the MMF, *ceteris paribus*.
- b) Children in food insecure households had a 4.4%, 5.8%, and 4.6% reduced chance of attaining the MMF, MDD, and MAD at the 10% and 1% levels of significance, respectively.
- c) There was no association between urban agriculture and children's diet quality.
- d) Children from households with knowledge about climate change had a 0.8% increased chance of achieving the MMF at a significance level of 1% and were 0.4% more likely to achieve the recommended MAD, all else being equal.
- e) Children from households with unimproved sanitation had a 13.4% reduced probability of achieving the age appropriate recommended MMF at a significance level of 1%, all else being equal.
- f) There was no association between support from the government, UN/NGOs, churches, or remittances from the diaspora, and children's diet quality.

v. Adolescent Nutrition

Determinants of adolescent nutrition status

- a) Households led by individuals who were never married or divorced/separated had an 8.2% and 5.89% higher likelihood of having a stunted adolescent, respectively, *ceteris paribus*.
- b) Larger households had a higher propensity for having stunted, underweight, wasted, and overweight/obese adolescents, with increases of 1.53%, 0.68%, 1.2%, and 2.7% respectively, at 1% level of significance, assuming all other factors are constant.
- c) Households that followed traditional religion/beliefs had a reduced likelihood of having stunted and wasted children, with decreases of 12.7% and 6.65% respectively, *ceteris paribus*.
- d) A 1% increase in household income level by 1% was associated with a 1.19% reduced chance of having underweight adolescents at the 1% level of significance, *ceteris paribus*.
- e) A 2.71% increased chance of having overweight/obese adolescents was observed for a 1% increase in income levels.

Association between food insecurity and adolescent nutrition outcomes

- a) At the 1% level of significance, an increase in Food Consumption Score (FCS) was associated with overweight and obesity.
- b) Food insecurity was associated with increased chances of having stunted, underweight, wasted, and overweight/obese adolescents, at the 1% level of significance, *ceteris paribus*.

vi. Nutrition Status for Women of Childbearing Age (15–49 years)

Determinants of Minimum Dietary Diversity for Women (MDD-W)

- a) Women of childbearing age from households led by elderly members had a 0.58% lower chance of achieving the MDD-W.
- b) Female-headed households had a 94.1% chance of attaining the MDD-W, at the 1% significance level and with all other factors held constant.
- c) With the exception of spousal cohabitation, all other marital statuses were negatively associated with the household's ability to achieve the MDD-W, at a 1% significance level and all things being constant.
- d) Households headed by members who had attained graduate/postgraduate qualifications had a 63.4% likelihood of achieving the MDD-W at a 1% significance level, while those led by members who had attained primary education as their highest level of education had a 29.6% lower chance of attaining the MDD-W, at a 5% significance level.

vii. Adult Nutrition

- a) About 27.9% of adults aged 18-59 were overweight, while 22.1% were obese.
- b) At least 30.9% of adults aged 60 and above were overweight, and 30.6% were obese.
- c) Female-headed households had a 9.6% higher likelihood of having overweight or obese adults, at a significance level of 1%.
- d) Households led by heads who were separated, divorced, or widowed had an increased probability of having thin adults and a decreased probability of having overweight or obese adults, at a significance level of 1%, *ceteris paribus*.

- e) An increase in household income was associated with an 8.3% higher probability of having overweight and obese adults.
- f) Households with chronically ill members had a 1% higher probability of having underweight individuals and a 12.5% higher probability of having overweight or obese individuals, at significance levels of 5% and 1%, respectively.

Association between adult nutrition status and several livelihood variables

- a) Households experiencing hunger had a 0.7% higher chance of having underweight members.
- b) Food insecure households were more likely to have underweight members and less likely to have overweight or obese members.
- c) All indicators for Water, Sanitation and Hygiene (WASH) - particularly, unimproved sanitation, unimproved water, and limited water - were significantly associated with a decreased likelihood of having obese members, at a 1% level of significance, *ceteris paribus*.
- d) Households engaged in urban agriculture had a 6.6% increased risk of having overweight and obese members.
- e) Households receiving government social support had an 8.8% increased risk of having an overweight/obese member, while households receiving social support from UN/NGOs had a 17.7% increased risk, both at a 1% level of significance.

viii. Interaction Between Chronic Conditions, Smoking and Nutrition Status

Associations between chronic conditions and current lifestyle in adults 18 years and above

- a) Adults with a history of smoking and drinking had a slightly higher risk of developing chronic conditions. The increase in risk was 0.064% for smoking and 0.036% for drinking, with a significance level of 5%, assuming all other factors remain constant.

ix. Water, Sanitation and Hygiene

- a) About 81.9% had access to water from ZINWA/Council.
- b) About 25.4% of the households accessing water from ZINWA/Council were satisfied with the water supply (availability), while 28.2% were satisfied with the quality of the water.
- c) Households with basic sanitation conditions had a reduced likelihood of experiencing incidences of diarrhoea (0.29%), cough (0.55%), and fever (0.32%) outbreaks in children under the age of 5 years.
- d) An increase in distance to the water source and a lack of hand washing facilities were associated with an increased risk of disease outbreaks among children under 5 years of age.

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