Livelihoods and Food Security Programme
Agriculture Productivity and Nutrition

Food Based Approaches for Nutrition Enhancement
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ACRONYMS

APN  Agricultural Production and Nutrition Component
ASF  Animal Source Food
CCPM  Community Centered Prevention of Malnutrition
FAO  Food and Agriculture Organization
FBANE  Food-based Approaches for Nutrition Enhancement
FFS  Farmer Field School
FGDs  Focus Group Discussions
FNC  Food and Nutrition Council
FNSP  Food and Nutrition Security Policy
FNSC  Food and Nutrition Security Committees
IYC  Infants and Young Children
IYCF  Infants and Young Children Feeding
LFSP  Livelihoods and Food Security Programme
MAD  Minimum Accepted Diets
MDMF  Minimum Daily Meal Frequency
MAMID  Ministry of Agric Mechanization and Irrigation Development
MoH&CW  Ministry of Health and Child Welfare
MoH&CC  Ministry of Health and Child Care
NGO  Non Governmental Organization
NNS  National Nutrition Survey
OFSP  Orange Flesh Sweet Potato
QPM  Quality Protein Maize
SFAC  Seasonal Food Availability Calendar
TIPS  Trial of Improved Practices
WHO  World Health Organization
ZDHS  Zimbabwe’s Demographic and Health Survey

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Executive Summary

Extent of the Stunting problem: The stunting rates of children aged 0-5 years have been stagnant around 32-35% since 1999 (ZDHSs). It is lowest in the 0-6 months age group (10%), but increases sharply from 8 months to reach a peak of 49% around 24-28 months, then decreases to 20% by the age of 59 months. These sharp increases coincide with the period when children are being offered complementary food.

Food-based Causes: Five major studies reviewed in the course of this research highlighted (a) dietary diversity, (b) daily feeding frequency and the (c) quantity of food (volume) offered per meal as contributory to prevailing stunting levels. Studies have shown lowest dietary diversity in children aged 6-8 months much more than in the older age groups. Data suggests a direct causal effect relationship between food insecurity and levels of stunting in food insecure. More food secure districts recorded an unexpectedly high stunting rates (30-47.8), suggesting other causal factor(s). Only ¼ to ⅓ of households offered children minimum meal frequency (MMF), suggesting caregivers’ time constraint. Despite good agricultural potential, less than 10% of households offering a minimum acceptable diet (MAD) in 9 out of 12 districts studied in depth in the course of this analysis. Poor dietary diversity for infant and young children (IYC) as well as the entire family is suggestive of undiversified farming system in these districts of high agriculture potential. In depth analysis of available information, attributes stunting to: (a) general food insecurity for low agricultural potential; (b) undiversified cropping systems in areas of high agricultural potential (c) women’s workload; and (d) an overall lack of knowledge on optimal IYCF are all contributing to current levels of malnutrition.

Children suffering from diarrhoea will not benefit fully from food because frequent stools prevent adequate absorption of nutrients and malnourished are more susceptible to infectious diseases, creating a vicious circle. Three studies highlighted poor personal and food hygiene (hand washing) as causes of stunted growth. Only 44% of households wash hands with soap and water, 39% practised open defecation, 33% used water only and 21% get water from unprotected wells and the majority do not treat or boil drinking water. These practices contribute to high incidences of diarrhoea. Although not fully investigated locally, evidence shows that chronic aflatoxin exposure is associated with stunting and underweight. A local study would help to shed light on the extent of aflatoxin exposure and its effect on child malnutrition in particular.

Key Intervention Areas for APN:
• General enhancement of food security for low agricultural potential region
• Crop diversification in areas of high agricultural potential
• Enhance women’s agriculture productive capacities while implementing measures to mitigate women’s heavy workload
• Capacitate women achieve MMF, MDD,MAD, through participatory cooking sessions (skills and confidence development)
• Focus on children aged 0-30 months, using locally available in homes
• High observance of food safety and hygiene

Main Partnerships:
• Primarily with health sector and other to minimize health factors which undermine nutrition

Opportunity Analysis: The launching of the Food and Nutrition Security Policy in 2013 and ZIM-ASSET Plan provide a conducive framework for the implementation of APN and the food and nutrition security committees (FNSCs) provide multi-sectoral coordination and implementation platform from national, provincial, district and ward level. Depending on their level of operation, all governmental and non-governmental organizations at each level of operation are represented in these committees.

The entry point is existing community groups already used by government sectors (agriculture, health, social welfare and women’s affairs). Reorientation/ realignment of some of the groups may be necessary to ensure

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1 Reviewed data for Matebeleland North and South only
2 Data from Chikomba, Goromonzi, Makonde, Marondera, Mazowe and Manicaland Province districts looked at in depth. Comments are therefore based on these relatively food secure districts.
involvement of both male and female as well as inclusion of women of child bearing age. Working with NGOs experienced in community empowerment using the peer educator-counsellor approach would be essential.

An integrated approach to the community IYCF programme would assist to ensure identification of specific food related issues constraining caregivers from practising optimal feeding and bring in the agriculture extension to facilitate the food security enhancement process. A practical component of ensuring acquisition of skills and confidence to use readily available local foods to diversify infant and young children’s diets from the age of 6 months would be desirable. Primary schools also have a potential to contribute the programme objectives by reinforcing demand is at community level through garden-based learning, junior farmer schools and environmental sanitation lesson. Where groups are too large, they can be split into groups of 10-15 households which group leaders-peer educators of lead farmers can comfortable cover and monitor.

Within agriculture, the food security approach in Zimbabwe has expanded to take into account access to animal source foods, vegetables and fruits. Although coverage of districts is no yet consistent, data collection systems used to collect information on community access to fruits can be used to kick-start comprehensive data collection for the development of community SFACs. These calendars can be used to define food security needs, community action planning and community self-monitoring. Biofortification work on maize, orange fleshed sweet potato and zinc and iron enriched beans has progressed though uptake has been slow.

Additional to participating at national coordination meetings, FAO will use the existing collaborative framework to inform, consult and collaborate with counterpart UN organizations (WFP, WHO, and UNICEF).

Key Recommendations:

- Current evidence suggests that even in the very best programmes, diet solves only a third of the stunting problem. Consequently, it is unlikely that the stunting results stipulated in the current document are achievable. Achievable results pertain to dietary improvements, in terms of the proportion of children achieving MDD, MMF and MAD and the proportion of households achieving MDD, MMF and MDA. Consequently, the expected results should be rephrased accordingly, i.e.:
  - **Result 1**: Proportion of children less than 5 years achieving MDD, MMF and MAD as per WHO indicators for assessing adequacy of complementary feeding (WHO 2008)
  - **Result 2**: Proportion of households (those 5 years and above) using the same indicators applied by ZIMVAC to allow for comparability of results

- Anthropometric data may be collected not for evaluating programme outcome against the stunting figures stipulated in the proposal, but for ascertaining the proportional reduction in levels of stunting for future programming purposes.
- Production of OFSP and iron and zinc rich beans must be promoted to close the micronutrient gap, while promoting other horticultural products including early maturing types such as the pawpaw trees which bear fruit within 2 years. Additionally there is a local market for pawpaws.

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3 CADS, GOAL and Plan International to name a few, but list can be expanded as more information comes to light
• Training to capacitate FNSCs from nation to ward level in facilitating development of SFACs should be provided. These calendars will form a basis for identifying food security gaps and facilitating community action planning for food security improvement and monitoring progress towards achievement of targets set by the community.

• As efforts are invested towards better engagement of women in agriculture (including participation in FFS) special attention should be given to facilitating acquisition of appropriate labour/time saving devices (e.g. improved stoves, small de- hulling, etc) and explore possibilities of establishing innovative child-friendly child caring facilities. It is further recommended that gender-based activity calendars be developed in a manner similar to SFACs and that participatory nutrition education session (similar to the Malawian ones) be conducted to facilitate downloading some of the caring activities to other members of the household.

• It is further recommended that:
  - TIPs results of the Zvitambo Chirumhanzu study (which were similar to FAO-supported TIPs studies in Zambia and Malawi be used as basis for designing inter-sectoral efforts to promote IYCF and that Zvitambo undertakes a study to assess the effectiveness of the designed approach
  - FAO engages with Zvitambo to discuss and agree on how the current Zvitambo study can be adjusted to support the APN requirement.
1 Problem Analysis

1.1 Policy Context

The launching of the Food and Nutrition Security Policy (2013), developed out of in-depth multi-sectoral consultative process provides a favourable environment and framework for the implementation of the Agriculture Production and Nutrition (APN) component of the Zimbabwe Livelihoods and Food Security Programme (LFSP). The goal of the Food and Nutrition Security Policy (FNSP) is to “promote and ensure adequate food and nutrition security for all people at all times in Zimbabwe, particularly amongst the most vulnerable, in line with our cultural norms and values”. At policy implementation level, the policy is supported by the Zimbabwe Agenda for Sustainable Socio-economic Transformation (Zim ASSET) Plan (October 2013-December 2018). Out of the four clusters of this cluster-based plan, the Food Security and Nutrition Cluster was afforded top priority and this plan stresses the need for exploiting fully internal relationships and linkages for accelerating socio-economic development, including food and nutrition security enhancement.

After the launching of the policy, a process to “resuscitation” the multi-sectoral Food and Nutrition Security Committees (FNSCs), which coordinate line minister food and nutrition security activities under the facilitation of the Food and Nutrition Council (FNC) was initiated. The food and nutrition security implementation framework is provided in Annex VII.

At the time of its launch, the Food and Nutrition Security Policy (FNSP) was launched together with an Implementation Plan/Matrix, detailing key actions, inputs, outputs and a budget. Since then a progress report articulating activities undertaken in the first half of 2013 by sector was circulated. Implemented activities included resuscitation of 17 districts FNSCs. The drafting of the National Nutrition Strategy is in its advanced stages.

The LFSP will therefore contribute to the acceleration of the government’s multi-sectoral collaborative efforts for addressing food and nutrition security from the central to community level, while the APN subcomponent responds specifically to three of the four core Commitments: (a) food security, (b) food safety and standards and (c) nutrition security. These three subcomponents together cover the availability, access and utilization components of the food security definition. It will particularly contribute to Principle 8: “fostering a multi-sectoral approach in assessment, analysis and action” and Principle 5: “reinforcing the central role and responsibility that communities and civil society have in ensuring food and nutrition security”.

1.2 Contextual framework of the Nutrition Enhancement Sub-component

The Zimbabwe LFSP) is expected to achieve the following two nutritional results:

- Stunting in children under-5 reduced by 30,000 children; and
- Improved diets based on varied and nutritious foods in programme households.

Dietary improvements are a composite of age-appropriate daily meal frequency and dietary diversity and dietary diversity is indicative of household access to a variety of foods. It serves as proxy for individual nutrients or dietary adequacy. Over the past few years, tools for and capacities to access dietary adequacy of infants and young children’s (IYC) and adult diets have improved, with more food consumption indicators being included in recent studies.

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4 “Adequate food” refers to food which is of sufficient quantity and quality to satisfy the dietary need of individuals, free from adverse substances and acceptable within a given culture
5 The other Clusters are Social Services and Poverty Reduction; Infrastructure and Utilities; and Value Addition and Beneficiation
6 The term “resuscitation” is used because these commutes existed way before the formation of the Food and Nutrition Council. They only became dysfunctional during the macro-economic shock of 2006-2008. As is still the case now, they were chaired by the Agriculture Sector, while Health was the secretariat Membership has not changed.


1.3 Overall Magnitude of Stunting, Trends and Age Group Most Affected

Results of Zimbabwe’s Demographic and Health Surveys showed stagnation in chronic malnutrition rates, with stunting in children aged 0-5 years ranging from 32-35% from 1999 to 2011 (Figure 1).

Despite major macro-economic shocks experienced in 2006-2010, several indicators, including malnutrition rates in children less than 5 years, demonstrated a very high degree of resilience among the Zimbabwean population. At local levels, people shared the little they had and barter trading became the order of the day. Urban agriculture expended as people scramble for green urban patches of no-man’s land, while others dug out beautiful lawns to plan food crops. The rural-urban extended family network acted as a safety net and remittances from those who left for greener pastures helped to cushion the shock.

As shown in Figure 2, stunting is lowest in children aged 0-6 months (10%). This corresponds with the 10% incidence of low birth weight, implying that some of the children are already born stunted due to poor maternal nutrition.

Figure 1: Trends in Nutritional Status of Children in Zimbabwe Under Five Years

Source: ZDHS, 2010/11.

Stunting is a reduced growth rate resulting from chronic undernutrition and/or recurrent infections or both, which retards linear growth or height. Maternal undernutrition during pregnancy also retards fetal development, resulting in low birth weight and stunting from birth. Significant measurable growth faltering begins at about six months of age, as children transition to foods that are often inadequate in quantity and quality. During this time, exposure to environments which make children susceptible to illness is increased. Any decrease in child stunting rates is therefore indicative of either an improvement in age-specific child feeding and/or decrease in chronic or recurrent infections, including intestinal parasites.
Figure 2: Trends of Stunting by Age of the Under Five Children

Source: ZDHS, 2010/11

Stunting was more prevalent on the rural (33.4%) compared to the urban (27.5%) and higher in the non educated (40.5%) compared to those with primary (33.6%) or secondary education (30%). While stunting was lowest in those with more than secondary education (18.5%), it was highest in the poorest households (36.8%) and lowest on the high income group (23.8%).

Stunting rates increase from the age of 6 months, with a sharp increase from the age of 8 months, reaching a peak a (50%) around 26-28 months. These rates remain above 40 % up to the age of 36 months before gradually declining to reach 20% by the age of 59 months. This period is most critical for intervention, but preventive efforts should start from the fetal stage up to the age of around 30 months or more to ensure optimal feeding of the pregnant woman then the child as he transitions from breastfeeding to complementary feeding, then complementary feeding to reliance on the family diet, with additional snacks. Interventions should include measure to mitigate iron deficiencies, also most prevalent during the same period (Figure 3).

1.4 Magnitude of Micronutrient Deficiencies

Micronutrient deficiencies of public health significance in Zimbabwe include Vitamins A, iron, folate and iodine. Zinc deficiency has not yet been studied in Zimbabwe.

Micronutrient deficiencies refer to lack of essential vitamins and minerals required in small amounts by the body for proper growth and development. These deficiencies cause significant health complications and increase the risk of mortality. Pre-school and school age children as well as in pregnant and lactating women are the most vulnerable. The term “hidden hunger” describes “chronic micronutrient deficiencies” which exist in children who are not classified as malnourished according to measurements of stunting or wasting. Clinical signs of vitamin and mineral deficiencies usually begin to show when the condition is severe. Due to technological and resources limitations, micronutrient deficiencies are usually determined by the prevalence of resulting illness as is the case goitre and anaemia (clinical signs).

While vitamin A deficiencies increase the risk of childhood infections (pneumonia and diarrhoea) and the risk of child mortality, iron deficiency causes fatigue, nausea, and weakened immune system. In pregnancy, iron and folic acid deficiency can be harmful to both mother and child (birth complications and increased risk of maternal

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7 Iodine and Zinc deficiencies are not covered because more than 95% of households in Zimbabwe access iodised salt (Gadaga T H et al, 2009), a trend confirmed by the 2010-11 ZDHS, which reported that 94% of households where salt was tested had iodized salt. The prevalence of Zinc deficiency has not yet been documented in Zimbabwe.
mortality) and iodine deficiency in pregnancy may result in poor fetal brain development, which leads to mental retardation.

Diverse diets help individuals take nutritionally-balanced meals with the necessary vitamins and minerals. Salt iodization has been a successful strategy for addressing iodine deficiency in developed and developing countries. Additional to iron-folate and Vitamin A supplementation, food fortification options are under consideration. Trials on biofortification of maize, sweet potatoes, cassava and beans have produced encouraging results.

a) Vitamin A Deficiency

Results of the 1999 national survey report a 33.8% prevalence of Vitamin A deficiency in children under the age of 5 years and in response to this, the government instituted a national vitamin A supplementation programme for children aged 6-59 months and postpartum women. Since then different surveys reported 66 and 68% coverage for children aged 6-59 months (ZDHS 2010-11 and ZIMVAC 2011 respectively) and 40% coverage for lactating mothers (ZDHS 2010-11). The results of the 2012 micronutrient are still pending.

b) Anaemia Prevalence

There are many types of anaemia, with different causes and treatments. Iron-deficiency anaemia, the most common, is very treatable with an iron-rich diet or iron supplementation.

![Anaemia Status by Age Group](image)

**Figure 3: Trends of Anaemia by Age of the Under Five Children**

Source: ZDHS, 2010/11

Results of the 2010-11 ZDHS reported that 56 percent of children aged 0-59 months suffered from anaemia. The prevalence rose from 71% in children aged 6-8 months to reach a peak (74%) among children aged 9-17 months, then dropped gradually to 40% by the age of 59 months (Figure 3). Note that the drop in anaemia rates closely corresponds with the drop in levels of stunting with age.

The 2010-11 ZDHS showed that 28% of Zimbabwean women suffered from anaemia and the prevalence was highest in pregnancy (32%) and the 2010-11 data showed a 10 percentage point reduction in the prevalence of anaemia among women. There was only a 4% difference in the prevalence on anaemia between pregnant and non pregnant women, suggesting that during pregnancy, women may be taking measures to mitigate iron deficiency.

The ZDHS survey results revealed poor coverage (5%) of the pregnant women’s iron and folate supplementation programme for the recommended period of 90 days or more. The majority who took iron supplements took them for less than 60 days and 50% did not take iron supplements at all. This calls in question on the extent to
which pregnant women are accessing antenatal services and stresses the need to strengthen food-based interventions.

Furthermore, poor coverage of the Vitamin A and iron supplementation programmes calls for a need to intensify food-based intervention, giving consideration to the promotion of OFSO (Vitamin A-rich) and iron bio-fortified beans.

1.5 Studies Shedding Light into Food Based Causes of Stunting and Micronutrient Deficiencies

Five studies highlighted suboptimal IYCF problems which contribute to prevailing stunting rates and micronutrient deficiencies. Additional to suboptimal breastfeeding, four IYCF patterns, namely, daily meal frequency, dietary diversity, the quantity of food (volume) per meal and mixed feeding before 6 months, fall short of the WHO dietary guidelines on complementary feeding (WHO, 2002, 2008, and 2010). A summary of the reviewed studies is provided in Table 6, Annex V.

**Low Dietary Diversity**: Virtually all the five IYCF studies reviewed directly or indirectly reported a lack of protein-rich foods, vegetables and fruits, which are good sources of micronutrients (GOAL2013, MoHCW 2011, Zvitambo 2007-8, ZDHS2010-11, ZIMVAC 2012 and 2013). The 2010-11 ZDHS specifically indicated the proportion of children offered Vitamin A-rich foods the day before the survey. It was lowest (28%) in children aged 6-8 months, then increased to 61% in the 9-11 age group. In the 12-17 months age group 4 in every 5 children consumed Vitamin A-rich foods the day before the survey and this slightly increased to 84% in the 18-23 months age group (Figure 4).

**Figure 4: Stunting Consumption of Micronutrient Rich Foods in Children < 2 Yrs**

*Source: ZDHS, 2010/11*

The study reported a much lower proportion of children consuming iron-rich foods\(^9\), with only 14% of those aged 6-8 months offered these foods the day before the survey. In the next age group (9-11 months), the proportion more than doubled (34%), then went up further to 48% in the 12-17 months age group and finally 53% in the last age group.

\(^8\)Foods rich in Vitamin A included meat (and organ meat), fish, poultry, eggs, pumpkin, carrots, squash, yellow flesh sweet potatoes, butternuts, yellow and orange yams, dark green leafy vegetables, mangoes, papayas, and other fruits and vegetables that are rich in vitamin A

\(^9\)Foods rich in iron included meat (and organ meat), fish, poultry and eggs
Minimum dietary diversity (MDD) was poorest in the 6-8 months age group, with one in every 10 children achieving MDD, as per WHO recommendations. This improved to one in every 5 children in the 9-11 months age group and one in every 3 children in those aged 12-23 months.

The 2012 and 2013 ZIMVAC reports which provided weekly frequency of consuming certain food critical for optimal feeding (Figure 5) confirm that most rural households consume diets mainly comprising maize sadza, fat/oils and vegetables. Weekly frequency of consuming animal source foods (ASF) is 3.5 times, legumes 1.5 times a week and fruits (guava, mangoes, bananas, oranges etc) only once a week while WHO dietary guidelines recommend consumption of five portions of a variety of fruits/and or vegetables a day. The implication is that, where a household consumes 2 meals a day, out of the 14 weekly meals, about 5 meals will include legumes or ASFs. The remaining 9 meals will comprise sadza, fat/oils and vegetables. Anecdotal evidence suggests that in a considerable number of rural households, meat is generally consumed during festive seasons or when there are visitors.

Figure 5: Trends in Daily Meal Frequency of Adults and Children Under Five Years

Source: ZMVAC, 2012

The 2013 ZIMVAC assessment reported that the majority of households were consuming two food groups a day, followed by three food groups (Figure 6). Less than 20% of the households consumed the recommended four food groups a day. This food consumption pattern (1-2 food groups a day) is indicative of food insecurity.
Daily Meal Frequency: Two studies clearly show that daily meal frequency in children aged 6-23 months is of great concern. Results of the 2013 ZIMVAC assessment (Figure 7) give a high proportion of children consuming 1-2 meals a day (42%), which is below the WHO recommendations. Despite the preferential treatment already afforded to child feeding compared to those five years and above (70% adults consuming 1-2 meals a day), the 42% reported among small children in 2 consecutive years (2012 and 2013) is too high and reflects inadequate access to food.

Figure 6: Household Dietary Diversity: Number of Food Types Consumed


Figure 7: Trends in Daily Meal Frequency of Adults and Children Under Five Years

The 2010-11 ZDHS reported slightly over half of the children aged 6-8 months achieving minimum daily meal frequency (MMF). This even went down in older age groups where only 4 in 10 children achieved MMF. Such IYCF practices will continue to contribute to prevailing levels of stunting.

Despite 55% of children being offered age-appropriate number of meals per day, dietary diversity among the 6-8 months old children was so poor that only 4% achieved the minimum acceptable diet (MAD). In other words, only 4% were getting the correct MMF and MDD. Even though the proportion trebled (13%) for those aged 9-11 months, it was still very low. The 2007-8 Zvitambo TIPs study specifically reported that children aged 9-11 months consume plain porridge or sadza with soup. A slight increase to 15% in children aged 12-17 months is reflective of slight improvements in dietary diversity with age. The declined to 10% by the age of 23 months is primarily resulting from a drop in MMF as the child transitions to consuming family meals.

**Provision of Inadequate Quantities of Food per Meal:** Only one study approximated the quantity, in volume terms, of food provided per meal (Zvitambo, 2007-8) and this was below the recommended quantities per meal. WHO guidelines specify the consistency and age-specific volumes (household measures) of cooked food to offer to the child per meal.

**Mixed Feeding Children <6 Months of Age:** Early introduction of water and fluids is a problem for most, with only 31% the children under 6 months being exclusively breastfed (2010-11 ZDHS. The 2012 Plan International baseline survey conducted in Mutare, Mutasa and Chipinge Districts also confirmed this trend (i.e. 35%, 25.4% and 35% respectively). Early introduction of water and fluids predisposes children to diarrhoea.

**Food safety and personal hygiene:** Three of the studies reviewed reported poor hand washing practices, a contributory factor to diarrhoea (GOAL2013, Zvitambo 2007-8). The 2010-11 ZDHS reported 44% of households washing hands with soap and water and 33% used water only. Thirty-nine percent (39%) practised open defecation 21% got water from unprotected wells. Water and sanitation, food safety and hygiene (food and personal) have an impact on the nutritional status.

Additionally, suboptimal post-harvest food handling increases the risk to microtoxin exposure, especially in areas of high agricultural potential. On the other hand, in times of food scarcity, unwholesome mouldy food is at times consumes.

**What and why worry about Aflatoxin?**

**What:** It’s a fungal toxin contaminates maize and groundnuts

**Economic consequences:** crop losses to farmers, reduces value of crop for export, increase the risk of aflatoxin exposure if no properly disposal

**Health consequences:** Death due to acute levels, increase risk of liver cancer, can cause loss of gut health, suppress the immune system. Mothers exposed to aflatoxin may experience foetal poor growth, thus predisposing child to poor growth in the first year of life.

In 2008, a micronutrient survey was planned but never took place. Archived blood and urine samples already collected were eventually used to assess the extent of microtoxin exposure in mothers with children less than 5 years. Findings suggested a potential aflatoxin exposure problem and a likelihood of exposing children to aflatoxin children complementary feeding. Studies conducted in West Africa have associated chronic aflatoxin exposure with stunting and underweight. Further work is therefore requires to confirms this.

**1.6 Reasons for Suboptimal Feeding**

Key questions to answer are:

- To what extent does food insecurity contribute to the current suboptimal feeding practices;
To what extent does lack of knowledge, skills and confidence contribute to current suboptimal IYC and family feeding practices; and
To what extent does the heavy women’s workload contribute to suboptimal child and family feeding?

All the ZIMVAC data presented so far is aggregated on provincial basis. In an attempt to understand the picture at lower levels, district level food insecurity data (2013 ZIMVAC), the proportion of stunted children and the proportion of children offered age-appropriate MMF and consuming age-appropriate MAD (NNS, 2010) was summarised on a matrix in Table 7, Annex VI. The purpose of constructing this matrix was to ascertain whether there are causal relationships between food insecurity levels, stunting rates and achievement of MAD at the district level.

In-depth review of data sets from 3 provinces, namely Matabeleland North and South (first data set) and Manicaland (second data set) were reviewed with a view to ascertain whether there was a any cause-effect relationship between food insecurity, stunting rates and observed food consumption patterns. The duration of this assignment did not permit in-depth analysis of data sets of the remaining 5 provinces.

a) Contribution of Food Insecurity to Current Stunting Rates and Suboptimal Feeding Practices

Matabeleland North and South Province Data Set: Where the proportion of food insecure households was 30% or more (12 out of 14 Districts), the stunting rates were also 30% or more. Two remaining districts, namely Beit Bridge and Gwanda, had lower proportions of food insecure households (20 and 25% respectively). In these 2 districts, stunting rates were also lower (<30%). Therefore, in the food insecure region of Matabeleland, there is a strong relationship between food insecurity and levels of stunting in children less than 5 years of age.

Manicaland Province Data Set: Where the proportion of food insecure households was between 22-27% (a total of 5 districts), stunting rates were much higher than expected (30% or more). Two remaining districts (Mutare and Mutasa) registered lower proportions of food insecure households (9 and 16% respectively), but surprisingly, even in those two districts, stunting rates were 35% or more.

Other Provinces: Where the proportion of food insecure households was very low (5-10%) in the following 5 districts of other provinces (Chikomba, Goromonzi, Makonde, Marondera, Mazowe), stunting rates were staggeringly high (30-47.8%). In this category of districts, only Chegutu displayed a slightly different pattern.

The question to ask is: “Why such high rates of stunting in regions of relatively high agricultural potential, which are more food secure?”

An answer was sought from in-depth analysis of food consumption data. Consequently, some of the data on Table 7 Annex V was classified according the proportion of households (HHs) providing minimum meal frequency (MMF). However, regardless of the food security situation, a small proportion of household (¼ to ⅓ of households) provided MMF to their children in about 62% of the districts. This practice is a general reflection of the typical undiversified Zimbabwean diet, regardless of age group (refer to Figures 5-6 for details).
A very large proportion of HHs in the 4 districts listed in row 1 of Table 1 provided fewer than recommended undiversified meals to children, but the food insecurity levels varied from 23 and 24% in Buhera and Gweru, respectively, to 34 and 36% in Mt Darwin and UMP respectively. There was no logical link between food insecurity and poor child feeding practices. With the exception of Chikomba and Hwange Districts, where children’s diets were more diverse, less than 15% of HHs per district offered MAD. Although daily feeding frequency was still low in Chirumhanzu District, households were providing more diverse meals in a district where Zvitambo started post-TIPs village health worker-led IYCF interventions two years ago. The concept of dietary diversity (i.e. children can eat anything that adults eat as long as the food is appropriately processed/prepared) seen to have caught up from the TIPs11 days, through intervention. However, there is still no explanation for low MMF in this district. Zvitambo is in the process of evaluating the impact of their post-TIPs interventions in this district and the results are expected towards the end of the year. Their findings will shed more light on the barriers and facilitators of optimal IYCF and this will better inform specific strategies for APN to adopt.

Overall lack of diversity in diets across the nation may very well be indicative of undiversified farming systems. A critical look into farming and food procurement systems in all districts, particularly farming systems of high agricultural potential areas where dietary diversity is low is essential for developing appropriate food-based interventions.

The only other possible explanations for suboptimal child feeding practices are:
• Women’s; heavy workload; and or
• Lack of knowledge and skills on optimal IYCF practices.

b) Contribution of Gender Determinants to Suboptimal IFVF and Leverage for Change

In districts of high agricultural potential, women provide farm labours. Participation, not only in agriculture, but also in income generation may compromise quality care for children.

Reference to women’s workload was only made by the 2011 MoH&CC study12 which reported women’s workload as constraints to optimal IYCF. The negative impact of women’s heavy workload on food intake, not only for their

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11 TIPs is a “Trials of Improved Practices” methodology to test feasibility of dietary improvements using locally available food
12 The Barriers and Facilitators for Optimal IYCF study
children and other members of their families but also for the women themselves has been documented in several studies (Wijesinha-Bettoni R., et al.). The combination of low food availability and less time for food preparation may result in lower meal frequency and smaller meals which are less varied.

Strategic Objective 2.8: of Zimbabwe’s Food and Nutrition Security Policy recognises the women’s central role in agriculture and the need to put into place supportive strategies to enable women to play their key roles without compromising their childcare role. Other than the study currently being undertaken by Zvitambo on “How Women’s Workload Impacts on their Caring Role”, the reviewer only found studies conducted elsewhere on this topic.

The IFPRI-supported Nepal study (IFPRI 201313) investigated the impact of women’s empowerment in agriculture and production diversity on dietary diversity and anthropometric outcomes of mothers and children. Results showed that production diversity was positively associated with mothers’ dietary diversity and body mass index (BMI) and dietary diversity for children under two. The association between children’s anthropometric measurements and dietary diversity was much weaker.

A 2013 Malawian study which assessed the effect of participatory community-based nutrition education in promoting more equitable household gender division of labour and sharing of childcare practices in Northern Malawi reported encouraging results. Although there were culturally justified distinct unequal gender roles in households at the beginning of the intervention, results showed a shift in behaviour, with husbands getting more involved in some of the childcare and household domestic work, after attending the participatory nutrition education lessons which included gender analysis of community activities (Chilanga E, 2013)

A study in districts of high agricultural potential will shed more light on this issue. Such a study should be comprehensive to include field-testing of interventions designed to influence a better balance of gender roles for the benefit of the child. The Malawian rural cultural settings are relatively similar to Zimbabwean ones and the APN; particularly the FBANE subcomponent can draw lessons from the Malawian study. The methodology used in Malawi can be adapted to the Zimbabwean setting and FAO may wish to immediately engage into discussions with Zvitambo to discuss and agree on how the Zvitambo study can be designed and supported to meet the APN requirements.

c) Contribution of Knowledge and Skills Gaps to Current Suboptimal IYC and Family Feeding

The 2011 MoH&CC study reported that the majority of caregivers who identified lack of resources and unavailability of food as a major challenge did not perceive opportunities of utilizing locally available nutritious foods as a starting point to improve complementary foods (MoH&CW). Furthermore, some caregivers argued that nutritious foods such as vegetables, meat and fish were difficult for the child to chew. Hence they offered porridge, sadza and soup only until the child was able to chew at around 10-14 months (MoH&CW 2011, Zvitambo 2007-8). The MoH&CW study specifically reported that mothers, especially the urban based traders who did not see potentials for utilizing local nutritious foods in improved IYCF often purchased commercial baby foods (cereal) and salty/sweet sacks (chips and zip nacks, biscuits and candy/sweets) which are expensive. Purchasing these products forced them to reduce daily feeding frequency as they could only afford limited quantities.

The Zvitambo Chirumhanzu TIPS study was conducted in November to April, a period covering the peak lean season in Zimbabwe. Mothers of infants aged 6–12 months participated and the purpose of the study was to investigate the feasibility of improving infant diets using locally available resources. Prior to the trials, common child feeding problems were poor dietary diversity and low energy density. Improved practices promoted included processing of locally available foods so that infants could swallow and/or enriching porridge by adding a little of some of the locally processed nutrient dense foods. The processing was undertaken in the home settings, using household equipment and utensils.

13 IFRI Paper 01313, December 2013
Consumption of beans, fruits, green leafy vegetables, and peanut/seed butters increased after counselling, even during the lean season. Consequently, intakes of energy, protein, vitamin A, folate, calcium, iron and zinc from complementary foods increased (Zvitambo, 2007-8).

d) Conclusion: Food based Issues Contributing to Current Suboptimal Feeding Practices

From the review, three contributory factors to suboptimal feeding, including IYCF are:

- General household food insecurity and poor access to diver foods;
- Lack of awareness of age-specific IYCF recommendations; and
- Most probably, heavy women’s workload.

Depending on the district, these three undermined optimal IYC and family feeding (MMF, MDS and MAD) and therefore deserve attention under the APN.

1.7 Non-food Causes of Stunting and Micronutrient Deficiencies

Health and Sanitation: Additional to poor hand washing practices and 39% practised open defecation. Data from the MoH&CC weekly surveillance system reflects and increasing in cases reports on diarrhoea reported by health facilities from 2012-2013, but malaria cases declined. These together with other childhood illnesses undermine the nutrition status of small children. Additional to unprotected water sources, open defecation (39% of households) contribute to high incidences of diarrhoea.

Figure 8: Vicious Circle of Malnutrition and Disease

Source: PLOS Medicine

Children suffering from diarrhoea will not benefit fully from food because frequent stools prevent adequate absorption of nutrients. Those already malnourished are more susceptible to infectious diseases. The impact of repeated or persistent diarrhoea on nutrition is well documented and malnutrition increases susceptibility to infectious diarrhoea, creating a vicious circle, especially amongst children (Figure 8).

Anecdotal evidence suggests that diarrhoea is most common around the age of 6-24 months when children start crawling and put object in their month as part of the human instinct to explore the immediate environment, the age group with the highest levels of stunting. The health system already has an SMS-based weekly disease early warning system which reports health facility identified cases (diarrhoea, malaria, ARI, anthrax, etc). Strengthened community sharing and use of such information ensures timely actioning to arrest deteriorations, not only in the health, but also in the nutritional situation.

Maternal Education, Income and Health/Nutrition Status: A sizable body of literature, including the ZDHSs has demonstrated positive association between caregivers’ education level, and their children’s health and nutrition
status\textsuperscript{14}. It is equally appreciated that generally, there is a relationship between levels of education, income, general knowledge and environmental sanitation.

### 1.8 Overall Conclusion

The key areas of intervention for the APN are therefore:

a) General enhancement of food security for low agricultural potential region like Matebeleland, while aiming for dietary diversity as well.

b) Crop diversification in areas of high agricultural potential like Mazowe, Nyanga and other areas with high agriculture potential and putting into place measure to mitigate women’s heavy workload.

c) Strengthening household skill and confidence to work towards achieving optimal IFCF and dietary diversity for entire communities.

### 2 Opportunity Analysis

#### 2.1 Current Trends

a) **Policy Framework:** The launching of the FNSP and development of the ZIM-ASSET Plan provide an excellent framework for the implementation of APN. These developments serve as a window of opportunity for lobbying for better resource allocation by government and partners (NGOs, bilateral, multilateral and UN Agencies) for implementing activities aimed at ensuring better integration of food security and nutrition initiative, while capacitating government coordination and implementation structures to effective undertake their role of facilitating food and nutrition enhancement. The current environment gives nutrition visibility and provides a window of opportunity for accelerating integration and development of innovative evidence-based food and nutrition security initiatives. Additional to platforms for collaboration within government, collaboration during ANP implementation through the usual UN collaborative framework is crucial. FAO-led efforts require complementation from WFP, WHO, and UNICEF inputs in particular. As a member of the SUN Movement, Zimbabwe and the APN will continue to benefit from networking with other early risers of the SUN movement.

b) **Coordination and Facilitation:** In consistency with Principle 5 of the FNSP - reinforcing the central role and responsibility of communities and civil society in ensuring food and nutrition security and Principle 8 - fostering a multi-sectoral approach in assessment, analysis and action, including monitoring, capacity building and use of simple community level tools is crucial for effective community participation in assessing the situation and planning corrective actions. Under the facilitation of the FNC, the FNSCs at all levels require training in facilitating community assessment and planning for food security and nutrition improvement. So far, FNSC teams from 8 districts were briefly exposed to how to develop community SFACs in a participatory manner.

\textsuperscript{14} Nevertheless, it has been debated whether the association indicated a causal relationship or whether formal education is really a marker for other immeasurable variables. Generally more educated women interact with their children differently; they often have greater health and nutrition knowledge, more decision making power, and better assertiveness and tend to use the health services more often. Additionally they often have more disposable income, greater capacities to allocate resources on their own and live in cleaner settings. The reviewer did not come across a study conducted in Zimbabwe that investigated further the link and causality issues around maternal education and IYCF practices.
What are Seasonal Food Availability Calendars (SFACs)?

SFACs are easy-to-understand summaries of foods available at different times of year. They facilitate:
- Problem identification in accessing foods essentials for preparing balanced family meals
- Facilitate defining specifically duration of periods of the year when HHs face difficulties accessing specific food groupings necessary for making balanced meals
- Useful for creating awareness on origin of some of the nutritional problems affecting small children in particular
- Facilitate community and household action planning through selection of specific corrective actions/interventions
- Form a basis for developing season-specific and area-specific recipes, especially in IYCF recipes
- Periodic reviews of SFACs show whether corrective actions: e.g., increased production and/or better processing and storage of surplus are closing food availability gaps
- They are a useful tool for community self-monitoring

However, this brief exposure is not adequate and more detailed training is still required to ensure effective problem identification, community action planning and monitoring progress towards attainment of the set goals. Data currently collected routinely on accessing fruits and vegetables in selected communities by agriculture extension officers through focus group discussions (FGDs) is often not analysed locally and availed for community action planning, but is transmitted to head office for central level monitoring and decision making. Such information collection structures can serve as entry points for kick-starting comprehensive data collection for use locally to develop community SFACs, a useful tool for defining the extent of food insecurity in terms of diversity of food items essential for achieving MDD and seasonal gap in accessing foods essential for achieving MDD. Good data on livestock would assist to project gaps in provision/availability of animal source foods, not withstanding that livestock is a form of investments for rural economies.

Nutrition is not an easy concept and term to translate in local languages, hence the reason why it is not demand driven. When using participatory approaches, the challenge is to package nutrition promotion in a way which is clearly understood and meet the aspiration of community. On the contrary, food insecurity is an experience which communities can describe and define precisely.

MoH&CC study on “Barriers and Facilitators of Optimal IYCF” specified that: “Mothers and fathers stated that they valued the health of their children”. This aspiration was equally stated by caregivers who participated in the FAO-supported TIPs studies. Caregivers’ reasons for desiring to continue improved IYCF practices were all based on observable child health issues, i.e., “child looking healthier, more alert and active, not sick often and child resting/sleeping peacefully or playing happily without disturbing the mother”. These parental desires or aspiration are crucial for reconciling technical nutrition programme objectives and outputs with parental desires to ensure sharing of a common vision from the onset of the programme. This process of vision sharing creates a demand for nutrition starting from the easy-to-understand food insecurity window.
Creating a Demand for Nutrition

- Food insecurity is an experience that communities can describe and define precisely
- Trained extension workers assist communities to summarize these experiences visually into a calendar (SFACS)
- Aspirations of every parent are: “a healthy, alert and active child who is not sick often”
- Parental desires are reconciled with programme objectives and outputs to ensure sharing of a common vision from the onset of the programme
- Vision sharing process helps to create a demand for good nutrition
- Parents’ “desired child health outcomes” are directly linked to motivating them to achieve optimal IYCF, while promoting increased access to a variety of foods for the entire household

Conduciveness of the Environment within Agriculture: Within the agricultural sector itself, food security interventions have been focusing on improving and monitoring access to staples, especially cereals and at times legumes. Low frequency of consuming animal source foods, vegetables and fruits, critical for mitigating micronutrient deficiencies has just started appearing on the food security agenda. Maximizing local crop diversification potentials, including small grains and other nutritious indigenous food crops are receiving attention, with a view to achieve dietary diversity, especially MDD. Additionally, biofortification work on provitamin A maize, quality protein maize (QPM), orange fleshed sweet potato (OFSP), orange cassava and zinc and iron enriched beans is under way. Although the impact of promoting OFSP has not yet been evaluated in Zimbabwe, results from a neighbouring Mozambiquean impact assessment study, conducted after two agricultural cycles showed that in the second year, 90 per cent of intervention households produced OFSP. Vitamin A intake among intervention children was much higher than that of control children (median 426 vs. 56 µg retinol activity equivalents). OFSP contributed 35 % of the total vitamin A intake of all children in the intervention area and 90 per cent among those who had consumed it the previous day. Using serum retinol as a proxy for vitamin A status, the results showed a 15 % decline in the prevalence of Vitamin A deficiency, which was attributable to consumption of OFSPs. Moreover, the OFSPs were well accepted and liked by both adults and children. In Zimbabwe, progress in seed multiplication and dissemination has however been slow. Despite all this progress, there is still a technical void in the MOAMID, namely absence of core team of nutritionists to facilitate comprehensive nutrition integration within the agriculture sector at different levels, including in agriculture extension training colleges and farmer field school trainings (FFS) as well as tightening multi-sectoral linkages and accelerate implementation of the multi-sectoral ZIM-ASSET Plan.

A Coordinated National Community Centred Initiative to Improve IYCF: Community IYCF programme trainings are underway, with 27 districts already trained on the programme. The programme promotes establishment of community support groups facilitated by peer educators, who encourage them to adopt improved IYCF behaviours. This programme is being facilitated by the MoH&CC, with UNICEF support and has the potential of being strengthened, within each community through active engagement of agricultural extension to facilitate area-specific practical ways of achieving crop, livestock and dietary diversification with a view to increase access to ASFs and other nutrient dense foods. During food preparation, observance of food safety and hygiene should not be compromised. The use of wholesome food for IYCF is crucial for minimizing aflatoxin exposure. It also reduces potentials for rejecting improvements. Usage of poor quality contaminated ingredients in complementary food preparation and/or inadequate cooking or processing are known to have prompted some caregivers into believing that certain improved complementary foods make children sick.

So far the community IYCF programme does not include a practical component to ensure acquisition of skills and confidence to use readily available local foods in diversifying infant and young children’s diets from the age of 6 months, through participatory cooking demonstrations. This is an aspect which APN require to
incorporate, especially when IYCF promotional activities are done through women farmer and any other relevant community groups, where they identify their own peer educator who is then provided with training, primarily on IYCF.

e) Primary Schools: A Potential Avenue for Reinforcement while Preparing Pupils for Better Parenthood:
Introduction of the O-grade within primary schools is beginning to see children aged 3-4 years in primary schools premises. If such a trend continues, primary schools can serve as entry point for reaching children aged 36 to 59 months and contribute to the objectives of the APN of reducing stunting in children less than 59 months. Children of 36 to 59 months are not easily reached by health facilities after completing the immunization schedules. If attending O-grade at that age, provision of healthy snacks to take to school becomes essential and observance of food safety, food and personal hygiene and environmental sanitation, including proper use of the latrine and hand washing becomes crucial. With the support of school teachers, often perceived as role models and trend-setter, households can be encouraged to MMF, through provision of nutritious take-to-school snacks. Through small school production units, older pupils acquire relevant food production and utilization technologies (junior farmer field schools) and reinforce the knowledge and skills being acquired by communities. School-based garden-based learning and overall school health and hygiene can have immediate and long term impact on food, nutrition and health behaviours and present a deterioration in the health and nutrition status of the O-graders. A link can be established between the school and community through practical home work that has to be done in consultation with family and community members. Such a practical learning process prepares pupils for productive and healthy living in later life.

f) Recognition of Women’s Central Food Producing and Care Giving Roles: Women, especially rural women are playing a central role in agriculture production and child care. Concerted efforts to better engage women in agriculture (including participation in FFS) to produce diverse foods both for family consumption and income generation, while reducing, in a participatory manner, their heavy workload are needed. This could be achieved through the engagement of other supportive family (including husbands) and community members to take over some of the caring tasks; facilitating acquisition of appropriate labour/time saving devices (e.g. improved fuel saving stoves, small de-hullers, etc); and exploring possibilities of establishing innovative community child-friendly child caring facilities. Research results on barriers and facilitators of optimal IYCF identified the influential role of husband and grandmothers/mothers-in-law on IYCF as a very valuable resource to tap into, but strategies on how to tap into this resource are yet to be developed.

g) Community Empowerment Processes: Government, through the community IYCF has experience in using the peer educator-counsellor approach. Some NGOs have also acquired experience on community empowerment using the peer educator-counsellor approach. Lessons so far learnt in-country (NGO initiatives in CADS, GOAL and Plan International operational areas) and external lessons learnt elsewhere (Malawi for instance) can be drawn upon in designing and implementing food security and nutrition improvement initiatives which positively impact on dietary diversity for the entire community and IYCF in particular.

Table 2 in Annex I summarizes problems and provides strategic actions and activities for solving each identified problem, starting with problems pertaining to stunting followed by observed problems relating to implementation. Table 3 Annex III provides a summary of the strengths, weaknesses, opportunities and threats.

2.2 Key Entry Points

a) Policy Level Entry Point

At the National level, the FNC will be the entry point for the nutrition sub-component of APN and the FNSCs will be crucial in facilitating day to day planning, implementation and monitoring of programme activities.

b) Community Level Entry Point

At community level, existing community groups will be the entry point for the nutrition sub-component. Government sectors and NGOs implicated in nutrition enhancement (health, agriculture, social welfare and women’s affairs) work through community groups of varying sizes. These community groups provide an excellent
entry point for broad-based participatory community action planning, implementation and monitoring of nutrition improvement initiatives.

Each sector works through its front line workers often based at ward level. These workers can be oriented and capacitated to practically facilitate community action planning for food, nutrition and income security enhancement as well as promoting the health wellbeing of communities. The main thrust will be to build community capacity to address undernutrition in homes using local resources/knowledge, to the extent possible, while promoting crop and livestock diversification (including integrated and intensive tree and vegetable production as well as high yielding small livestock which does not compete for food with humans, e.g. rabbitry) and addressing malnutrition comprehensively and holistically by involving other sectors through the ward FNSCs. Where groups are too large, they can be split into groups of 10-15 households which group leaders, peer educators or lead farmers can more easily support.

2.3 Key Data and Information Sources Relevant for APN Implementation

Priority will go towards reviewing nutrition education and training materials on the following topics:

- IYCF, while going beyond the global age of 23 months, but respond to the nutritional requirement of children in the third year who displayed high prevalence of stunting (over 40%);
- Food needs of pregnant and lactating women;
- Feeding the sick, including the chronically ill;
- Nutritional requirements of the school going child; and
- Healthy family diets for reducing the risk of non-communicable diseases.

The list of key data and information sources which the APN component of the LFSP will draw from provided below is not exhaustive. It is subject to review as more information comes to light and currently includes:

- Agriculture extension (crop, livestock and food commodity prize) information routinely collected. Efforts will be made to explore how best it can be used or improved for local community level use.
- The Healthy Harvest Training Manual.
- Community IYCF training materials and data primarily used locally.
- Results and lessons learnt from the FAO-TIPs studies in five countries and the Zimbabwe TIPs study (Zvitambo 2007-8) which arrived at similar conclusions can be drawn upon and used to design a detailed multi-sectoral strategy for reinforcing improved complementary feeding approached through the different community groups targeted for APN in the different agro-ecological and livelihood zones. A special study to measure the extent and sustainability of year round dietary diversity in complementary feeding using readily available foods and food processing and cooking equipment in households can then be conducted (Zvitambo led study).
- Post-TIPs Zvitambo training materials currently being used in the VHW-led strategies to improve IYCF. Lessons learnt so far will inform the more detailed APN design/refinement of interventions.
- FAO-Malawi and Cambodia training/reference materials for the Kasungu-Mzimba Food Security and Nutrition Project (2011-15) can be accessed and adapted to the needs of the APN component of LFSP.
- NGO information, e.g. information on their programmatic models - GOAL, Plan International and CADS training/reference materials.

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15 FAO-supported complementary feeding TIPs studies were conducted in Afghanistan, Cambodia, Laos, Zambia and Malawi

16 The conclusion was, dietary diversity increased from 1-2 foods, pre-study, to offering an additional 2-3 foods and at most 7 foods at the post-trials stage

17 After conducting TIPS, Zvitambo developed and pilot tested a VHW-led intervention based on the messages arising from the TIPs study. Findings were that VHWs could deliver these messages through interactive methods including cooking demonstrations and achieve behaviour change in the expected direction. Zvitambo is now implementing this package of interventions in the two rural Chirimhanzu and Shurungwi districts. An evaluation of their Chirimhanzu experiences is currently under way to assess the impact of these strategies on children’s diet

18 After establishing the feasibility of dietary diversification, two in-depth studies are currently underway in Cambodia and Malawi to determine the extent to which improved dietary intake translates itself into reduced stunting. The APN component would benefit from networking with these two projects and learn from them
In addition, through the Ward Food and Nutrition Security Committee, the APN will access data from the early warning health information system, with a view to keep a watch on trends in reported cases of diseases (diarrhoea, malaria, ARI, anthrax, etc) which undermine nutritional gains.

2.4 Implementation Framework

In line with the government’s implementation framework for food and nutrition security activities (see Annex VI\textsuperscript{19} for details), the cross-cutting Nutrition subcomponent of APN will be implemented through the implementation framework provided in Figure 9 below.

\textsuperscript{19} Annex VII was extracted from the “Implementation Plan/Matrix of the Food and Nutrition Security Policy for Zimbabwe”, launched together with the Policy Document
Figure 9: Implementation Framework for Nutrition Component of APN
Focus will be given to integration of nutrition related activities at community level under the facilitation of Ward FNSCs and volunteer group leaders or peer educators. Group leader/peer educator selection will be based on identification of households that are healthy (including small children) despite facing similar community challenges as other households in the community who may not be thriving. Such people provide a living testimony of what is achievable in a given setting. They are excellent role-model volunteers who can use the peer-led approach to teach others positive practices in a sustainable manner.

Identification and involvement of all key players who culturally have decision-making powers and influence on family resources family feeding patterns and IYCF (i.e., men/husbands, mother- and other in-laws) ensures that their influential role and skills contribute meaningfully to positive and sustainable behaviour change, thus contributing to the attainment of programme objectives.

Participatory practical sessions are critical for acquisition of relevant skills and confidence to transform nutrition related behaviours, including IYCF practices. Organization of households into male and female or mixed groups is crucial for facilitating information and skills sharing and impartation on practical nutrition and health behaviours.

During the selection of members for the women farmer group, attention should be given to inclusion of households with women of reproductive age to ensure that programme benefits trickle down to IYCF and impact on their nutritional status.

2.5 Key Principles for Sustainable Food Based Nutritional Behaviour Change

1. Through the technical guidance and supervision of the FNC, the FNSCs facilitate participatory community needs assessment and planning and implementing corrective measures and ensure addressing nutritional issues comprehensively and holistically. The Agriculture Sector, as chair of these committees at all levels, has a comparative advantage to stir the entire process, including data sharing and any other relevant processes.

2. Adopting an approach which focuses on supporting communities and building their capacities to help themselves, using to the extent possible, locally available resources, including indigenous nutrition sensitive knowledge and technologies. To facilitate this process, simple tools to facilitate community identification and definition of food security and nutritional problems are suggested. Such tools can form the basis of community action planning and self-monitoring.

3. Facilitating peer learning and encouraging role-modelling, by identifying households with healthy children living under similar challenging community situations, identify specific behavioural patterns which make a difference and ask those willing and able to play the role of peer educators for a small and manageable group of neighbouring households, while encouraging extension workers living locally to also act as role-models and supervisors of voluntary group leaders.

4. In a participatory manner, sustainably maximize exploitation of local potentials and addressing local realities by promoting what is economically feasible in different agro-ecological and livelihood zones.

5. Facilitating skills development and confidence building through participatory practical sessions, including participatory cooking demonstrations using improved complementary feeding recipes and other nutrient-dense recipes for the chronically ill and other members of the family, while reinforcing food safety and personal and food hygiene issues. Most of the ingredients for cooking demonstrations must come from group members.

6. Tapping the resource of husbands, grandmothers, other in-laws and other influential persons in the community as a resource for reinforcing and influencing behaviour change rather than see them as hindrance, while exploring options to reduce women’s workload.

3 Risk Analysis

Issues which can pose a risk to effective implementation of the programme include:

- Multi-sectoral partnerships if not taken seriously by all
- Inadequate resources allocated for training/resuscitating Food and Nutrition Security Committees and facilitating implementation and effective monitoring of planned activities.
• Relatively limited in-country experience and NGO partnership working on integrated food and nutrition security programming. Although several have food security/livelihood enhancement and nutrition and health improvement components, programming for most is still vertical and lacks integration at community level. However, some of these NGOs met during the review expressed keenness to explore ways to better integrate their food security-livelihood and nutrition-health community initiatives.
• Effectively breaking the traditional nutrition education approach of providing information and opt for building caregivers’ practical skills and confidence which will facilitate behaviour change
• Very limited appreciation of nutritional issues by agricultural extension workers and lead farmer
• Lack of standardize key IYCF messages, including complementary feeding messages being disseminated in communities
• Volunteerism by group leaders and incentive

Table 4 in Annex IV elaborates each potential risk. Against each one, measures to mitigate or minimize the risk are provided.

4 Strategic Partnerships

Food-based Relationship

Innovative community centred food-based initiatives are being implemented by NGOs such as Cluster Agricultural Development services (CADS) who, among others, facilitate formation of farmer organizations and groups through the facilitation of a lead farmer who acts as community peer educator and role-model. Through these groups they promote:
• Participatory research and extension;
• Increased production, household utilization, processing (value addition) and marketing of farm produce, including nutritious indigenous foods;
• Integration of nutrition into agricultural interventions, by conducting nutrition trainings for agricultural extension workers and conducting cooking demonstrations at lead farmers’ demonstration plots.

After listing all NGOs involved in food security enhancement (FSE), government should make deliberate efforts to encourage all NGOs involved in FSE to adopt such innovative approaches which integrate nutrition into agriculture.

Additionally, partnerships will be established with Zvitambo to research on and monitor:
• Options to reduce women’s workload’
• Extent of dietary diversity in different agro-ecological zone after embarking on intensive promotion of optimal of IYCF;
• Take-up rate of biofortified foods;
• Extent of and effects of aflatoxin exposure in IYCF.

Non-Food Based Relationships

The main partner for non food intervention is MoH&CC and any of its health partners. Innovative community centred non-food based initiatives are also being implemented by NGOs such as GOAL and Plan International through the Nutrition Impact and Positive Practice Circles or Groups (Community Centred Prevention of Malnutrition Project-GOAL) and the Care Group Approach of Plan International. As is the case with CADS, these NGOs foster group formation and work with groups under the facilitation of male and female group or circle leaders who act as community peer educators and role-models. Through these groups they promote:
• Water and sanitation, health promotion including breastfeeding promotion and improved complementary feeding,
• Preventive and responsible practices that prevent maternal and child illnesses
• Fuel and labour saving techniques for women in particular;
• Participatory cooking demonstration;

Goal facilitated community groups work very closely with both the agriculture extension officer and the village health worker.
In communities with active NGO presence, orienting them to facilitate community action planning for nutrition improvement is going to be relatively easy. However, in areas without NGO presence, Ward FNSCs will have to take a more active role and facilitate the proposed community participation processes. Implementation is likely to be a bit slower in such communities given Ward members of the FNSCs already have other duties and will therefore have to create time for this.

After listing all the NGOs involved in health, nutrition and food security enhancement (HNFSE), government should equally make deliberate efforts to encourage all NGOs involved to adopt such innovative approaches of effectively integrating health, nutrition and agricultural issues at community levels and draw lessons from NGOs already trying out these innovative community empowerment approaches.

All relevant key actors and institutions will be drawn in through the FNSCs at all level, starting from national to the ward level. Technical and financial support will be sought from other organizations (UN, donors, local and international NGOs, academic and research institutions) who share the same vision and are willing to respond the priorities set by the FNSCs.

5 Key recommendations:

1. Policy

   a) The following key areas of intervention for the APN are recommended (summary in Figure 10, below). This entails:
      - General enhancement of food security for low agricultural potential region like Matebeleland.
      - Crop diversification in areas of high agricultural potential like Mazowe, Nyanga and other areas with high agriculture potential.
      - While enhancing women’s productive capacities (agricultural), take or facilitate measures to mitigate women’s heavy workload and capacitate them to better achieve MMF, MDD,MAD, including development of practical skills and confidence to feed children, especially those aged 0-30 months, using foods readily available in homes and observe food safety and hygiene issues; as well as providing more diverse diets for their entire family, while taking into account their own special requirements during pregnancy and lactation.
Figure 10: Areas of APN Intervention (1, 2 and 3)

b) Current best evidence suggests that diet solves only a third of the stunting problem. Consequently, it is unlikely that the stunting results stipulated in the current document are achievable. Achievable results pertain to dietary improvements, in terms of the proportion of children achieving MDD, MMF and MAD and the proportion of households achieving MDD, MMF and MDA.; i.e.

- **Result 1**: Proportion of children less than 5 years achieving MDD, MMF and MAD as per WHO indicators for assessing adequacy of complementary feeding (WHO 2008)
- **Result 2**: Proportion of households (those 5 years and above) using the same indicators applied by ZIMVAC to allow for comparability of results

c) Despite the global recommendation to focus on children aged 0-23 months, Zimbabwean data clearly shows that the problem of stunting goes beyond 23 months, reaching a peak at 28 months. Stunting rates remain just above 40% at the age of 36 months before gradually declining. The programme is there urged to give due attention to the nutritional requirements of children up to the age of 30 months and/or slightly over.

2. Key Interventions

a) Development and rolling out of a participatory nutrition education programme which focuses on acquisition of IYCF practical skills and confidence to mitigate suboptimal IYCF practices will be crucial. Information sharing coupled with practical cooking demonstrations through community structures which reach both male and females will be the main pillar of this subcomponent. In view of this, it is recommended that through peer education, different community groups of males and females, including schools, where home economics is taught be used as entry points for participatory nutrition education, and that primary school teachers be engaged in this initiative. It is further recommended that dietary diversity of the entire family, while responding women’s special requirements during pregnancy and lactation be given attention.

b) Recognising the high cost of micronutrient-rich foods and poor coverage of supplementation programmes, and the need to enhance production in food deficit areas, it is recommended that special attention be given to:

- Crop diversification, which includes promotion of traditional nutritious foods and preserve biodiversity.
- Promoting production of OFSP and the iron and zinc rich beans to close the micronutrient gap, while promoting other horticultural products including pawpaw tress which give fruit within 2 years. Additionally scaling up production of ASFs through promotion of small livestock is recommended for mitigating micronutrient deficiencies.

3. Operational Issues (Central to Community Level)

a) It is recommended that training be provided to the FNSCs starting from the national to the ward level to capacitate them to facilitate development of SFACs, which will be kept and displayed in the community at some central place. The calendars should be reviewed annually to assess effectiveness of interventions selected during community action planning.

b) Women play central role in agriculture and child care. It is therefore recommended that efforts to better engage women in agriculture (including participation in FFS) to produce food both for family consumption and income generation be made as well as facilitating acquisition of appropriate labour/time saving devices (e.g. improved stoves, small de- hulling, etc)and exploring possibilities of establishing innovative child-friendly child caring facilities. It is further recommended that gender-based activity calendars be developed in a manner similar to SFACs and that participatory nutrition education session (similar to the Malawian ones) be conducted to facilitate downloading some of the caring activities to other members of the household.

c) It is further recommended that while promoting wider usage of foods readily available in homes, observance of food safety and hygiene issues be underlined and minimize potentials of diarrhoeal diseases.
4. Research

a) In view of the encouraging results of the Malawian study on women’s workload, it is recommended that FAO immediately engages with Zvitambo to discuss and agree on how the current Zvitambo study by the Connell University student can be tailored to meet the APN requirement.

b) In view of the findings of Zvitambo study which assessed the extent of microtoxin exposure in mothers and concluded that there was likelihood of exposing children to aflatoxin through complementary foods, it is recommended more work be undertaken to investigate level of microtoxin in common complementary food ingredients and determine levels of aflatoxin contaminants and their effects on stunting.

c) Instead of conducting the proposed TIPs study, results of the Zvitambo TIPs study and those from similar FAO-supported TIPs studies conducted in Zambia and Malawi be used as basis for designing inter-sectoral strategy to promote improved IYCF through relevant line ministries operating at community level and that participatory cooking demonstrations be part of this strategy to facilitate acquisition of practical skill and confidence. After a year of implementation using the multi-sectoral complementary feeding promotional approach, Zvitambo can be commissioned to undertake a study to assess the effectiveness of the designed approach.

5. Monitoring and Evaluation

It is anticipated that a baseline survey team will initially collect proposed data as per row 1 of Table 5 during the baseline survey. Data collection will be repeated during mid-term evaluation. The indicators that APN will track are indicated in the table and these include anthropometric routinely collected by VHW and health facilities. Trends portrayed by this data will be useful to inform APN and where necessary flag for quick corrective action from relevant sectors. The programme can access the nutrition-related health data through the Ward FNSC and those indicated in the table will be responsible for data collection. Anthropometric data is collected not for use in evaluating programme outcomes against the results in the project document, but as a way of ascertaining the proportional change in levels of stunting for future programming. A comprehensive baseline survey, mid-term review and the final evaluation can include all the indicators indicated and these will be taken by the survey team.
### Table 5: Issues to Monitor and Proposed Monitoring Tools

<table>
<thead>
<tr>
<th>Issue</th>
<th>By Whom</th>
<th>Monitoring Tool/Indicator</th>
<th>How Often</th>
</tr>
</thead>
</table>
| Anthropometry: Assess to foods by food group | Communities under facilitation of extension staff | • Height for Age  
• Weight for height  
• Seasonal Food Availability Calendar (food access) | • Baseline  
• Mid-term  
• Final evaluation |
| Consumption data:                          | Group leader with support of extension staff | a) 24 hour Recall:  
• MMF  
• MDD  
• MAD  

b) Weekly frequency of consuming food specific nutrient dense foods | • Baseline  
• Quarterly review |
| Anthropometry:                             | VHW Health facility Staff                    | • MUAC  
• Weight for Age  
• Height for Age (based on new child health card) | • Monthly routine by VHW for MUAC and Wt for age  
• Ht for Age one every 3 mths by health facility staff²⁰ (routine health data) |
| Gender activity analysis                   | Communities under facilitation of extension staff | • Cards on community activities (compiled in participatory manner  
• Shifting and grouping of cards the person who des the stack, an activity that is reported quarterly  
• Verified by observation and “un-planned” home visits by peer educator/extension worker | • Baseline  
• Quarterly review |
| Rate of uptake of biofortified foods       | Zvitambo                                     | Number of housed growing and using biofortified foods | Surveys TBD |
| Monitoring aflatoxin levels in maize and groundnuts | Zvitambo                                     | TBA by expert | Surveys TBD |

### 6. Collaborating Partners

It is recommended that the APN component of LFSP endeavours to partner with all government sectors, nongovernmental and UN sectors dealing with health and education promotion as well as social protection sectors to ensure that gains made in food security improvement are not eroded by suboptimal health, poor education and unexpected shocks, e.g. climatic and socio-economic shocks. **Figure 10** summarizes key factors affecting nutrition security.

²⁰ A recommendation under consideration by the MoH&CC Sub-committee on nutrition surveillance as part of the new guidelines for using the new health card.
### Table 2: Food Based Alternatives to Nutrition Improvement - Problem and Strategic Action Matrix

<table>
<thead>
<tr>
<th>Food Based Nutritional Problem</th>
<th>Strategy for Resolving Problem</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 1. Low dietary diversity, including overall low fruit consumption partially due to:  
  - Undiversified cropping systems in areas of high agricultural potential  
  - Inadequate knowledge on recommended minimum dietary diversity | • Improve year round access to diversified foods both in food insecure and areas of high agricultural potential and capable target communities to maximize local crop and livestock diversification potentials, including nutritious indigenous food crops and maintain biodiversity of specific areas/regions  
  - Promote seed production and dissemination of biofortified crops, particularly OFSP and iron and zinc fortified beans  
  - Development of practical skills and confidence in utilizing readily available local nutritious foods in the preparation of nutrient dense complementary foods | • Crop diversification, including integration into the farming system indigenous nutrition food crops such as yellow flesh sweet potatoes and encourage consumption  
  - Integration of nutrition into junior and senior farmer field schools (FFS) to ensure inclusion of nutritious food crops in experimental farming and include participatory cooking demonstration especially for women farmer groups and promote dietary diversification of family meals  
  - Promoting integration of horticultural crops with well selected varieties of fruit trees especially the early maturing fruits trees and aspire for regular of not all your round supply of fresh fruits from home gardens  
  - Specifically promoting OFSP and iron and zinc biofortified beans for making meals and snacks, and promote main of improved crop and animal husbandry techniques, crop and livestock diversification, irrigation & fisheries development if potential exist |
| 2. Low daily feeding frequency, partially due to:  
  - Heavy women’s workload especially in areas of high agricultural potential – resulting in compromised quality care for child  
  - Inadequate knowledge on recommended minimum daily feeding frequency | • Participatory exploration of means to practically off load some of the women’s heavy workload (task sharing in home and community)  
  - Assess feasibility and adopt technologies to undertake some of the women’s tasks more efficiently  
  - Participatory exploration of alternatives to child-caring possibilities without compromising the child’s nutrition and health | • Participatory nutrition session for both husbands and wives, and facilitate awareness on gender-based division of labour and in participatory manner explore option to come to a better balance for the sake of the child  
  - Participatory preparation of gender-based activity calendar with community members  
  - Participatory exploration and selection of environmental friendly technologies to reduce women’s workload, e.g.:  
    - Promotion of low cost fuel saving stoves and mitigate deforestation  
    - Promotion and facilitating accessing de-hullers, especially for small grains  
  - Encourage and facilitate establishing of O-grade units for children aged 3-4 years and participatory exploration of alternatives for your age groups |
| 3. Delayed introduction of available food into IYCF, especially those foods perceived as:  
  - Difficult to chew for children aged 6-11 months and low fruit consumption (healthier snacks)  
  - Provision of salty/sweet sacks (chips and Zip nacks, biscuits and candy/sweets) | • Development of practical skills and confidence in utilizing readily available local nutritious foods in the preparation of nutrient dense complementary foods and develop area-specific strategies to involving men/fathers, grandmothers and mothers- and any other influential in-law in participatory learning sessions for IYCF  
  - Integration of non-communicable diseases risk factors in the participatory leaning sessions  
  - Bulk preparation of nutritious snacks with a longer shelf life using readily available foods like beans, nuts and pumpkin seeds which are rich in zinc | • Off-load heavy workload of agriculture extension staff and village health workers (VHW) and improve programme coverage by identifying households with healthy children living under similar situations willing to be peer educators/group leaders of small and manageable groups and provide them relevant training  
  - Identification of households where males and females  
  - Use exist community groups/or create male and female community groups which will take agreed food and security actions aimed at enhancing food and nutrition security  
  - Participatory cooking demonstrations (focus on recipes for 6-17 months) and development of nutritious snacks with good keeping qualities  
  - Conduct cooking demonstrations and food fairs to popularize these snacks |
<table>
<thead>
<tr>
<th>Food Based Nutritional Problem</th>
<th>Strategy for Resolving Problem</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 4. Vertical programming with each sector defining its own entry point into community resulting in:  
  - Numerous community group at times targeting the same audience in vertical manner  
  - Fragmented planning and implementation of community initiatives  
  - Lack of standardization risking giving conflicting information and confusing community | • Integrated and holistic approach in tackling food and nutrition security issues  
  • Integration of nutrition in technical inputs by sectors operation at community level | • Synchronization of approaches and sector plans, for among others, food security and nutrition enhancement  
  • Integration of basic health, nutrition and gender related information into the plans and activities of all sectors entering communities and ensure standardization of messages. If not sure always consult with higher level officers |

| 5. Lack of simple tool(s) to facilitate community definition/visualization of the community food and nutrition situation and identification of gaps in the availability of foods essential for preparing balanced family meals and plan for improvements in accessing and utilization | Capacity building at all levels of FNSCs to develop:  
  - Community seasonal food availability calendars (SFACs), i.e. a calendar form of summarizing visually the community food and nutritional situation to show year round trends in access and utilization  
  - Gender-based activity calendars and cards to facilitate discussion on gender division of labour | • Training on development of SFACs, starting with the training of District, then Ward Food and Nutrition Security committees,  
  • Development of livelihood zone or agro-ecological zone-specific community SFACs while imparting nutritional knowledge on the importance of locally available foods and facilitate:  
    - Identification and definition of food availability/access gaps  
    - Community action planning to close or minimize identified food availability/access gaps  
    - Community-self monitoring and evaluating the impact of selected activities on workplan and assess whether the programme is achieving year round dietary diversity, using among others, indigenous nutritious foods.  
  • Development of community action plans aimed narrowing, if not eliminating identified food availability gaps  
  • Conducting periodic (quarterly and/or annually) community review and planning meetings aimed at assessing progress in meeting set targets and plan future actions |
### Annex II: Work Plan

**Proposed Workplan for Year 1**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Activity</th>
<th>Year 1</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preparation and Conducting of Baseline Survey</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Training of FNSCs for participatory community assessment and community action planning, including development of seasonal food availability calendars and gender-based activity calendars</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Training needs assessment, materials review and adaptation of existing materials to needs of APN, Nutrition component and materials production</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Design of appropriate interventions based on community selections</td>
<td>x x x x x</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Identification and Training of community peer educators</td>
<td>x x x</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Participatory cooking demonstrations (focus on recipes for 6-30 months) and development of nutritious snacks with good keeping qualities Conduct cooking demonstrations and food fairs to popularize these snacks</td>
<td>x x x x x x</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Integration of nutrition into junior and senior farmer field schools (FFS) to ensure</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Participatory exploration and selection of environmental friendly technologies to reduce women’s workload, procurement and dissemination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Participatory nutrition session for both husbands and wives aimed at reducing women’s workload</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Training for and promotion of horticulture with nutrition in mind</td>
<td>x x x x x x</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Conduct district-specific assessments and promote OFSP and iron and zinc biofortified beans</td>
<td>x x</td>
<td>x x x</td>
</tr>
<tr>
<td>11</td>
<td>Conducting periodic (quarterly and/or annually) community review and planning meetings aimed at assessing progress in meeting set targets and plan future</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>12</td>
<td>Conducting studies on effect of women’s workload on child care and extent and effects of aflatoxin exposure</td>
<td>x x x x x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conducting studies to assess effectiveness of multi-sectoral participatory nutrition approach, annual review and planning meetings-ion</td>
<td>x x</td>
<td></td>
</tr>
</tbody>
</table>
### Annex III: SWOT Analysis

#### Table 3: SWOT Analysis

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Government commitment evidenced by the country’s multi-disciplinary Food and Nutrition Security Policy and ZIM ASSET Plan provide strategic framework for implementation of APN and FBENI sub-component in particular</td>
<td>1. Limited local level use and inter-sectoral sharing and use of this data for community level planning and monitoring</td>
</tr>
<tr>
<td>2. ZIMVAC annually collected data useful for monitoring trends, especially if data is disaggregated by district (convenient administrative unit for development initiatives)</td>
<td>2. Still considerable vertical programming of some food, nutrition and health initiatives and all levels</td>
</tr>
<tr>
<td>3. Several NGOs supporting the agriculture (CADS), health (Plan International) and integrated food and nutrition (GOAL) sectors already accumulating experience on community centred food and nutrition initiatives, while off-loading extension workers heavy workload to voluntary peer educators/counsellors or care group leaders/lead farmers/circle leaders</td>
<td>3. Data collection fatigue in some sectors because those collecting data do not see immediate benefits of collecting the data but view the collection process as mere fulfilment of Head Office (HO) requirements</td>
</tr>
<tr>
<td>4. Availability of nutritionists across the country up to district level</td>
<td>4. ZIMVAC household dietary diversity data is aggregated by province, making it difficult to apply it at district level, the main administrative unit currently used to target developmental initiatives</td>
</tr>
<tr>
<td>5. High level recognition of importance of food security and nutrition in development and a correspondingly high level supportive government establishments</td>
<td>5. Poor integration of nutrition in agriculture extension, starting from extension workers pre-service training to community level initiative (except for those who received project-specific in-service nutrition training</td>
</tr>
<tr>
<td>6. Government extension staff already using group approach to reach target HHs (Agric, Health, Social Welfare Women’s clubs, etc)</td>
<td>6. Lack of standardized guidelines on how to practically push the food and nutrition agenda at community level</td>
</tr>
<tr>
<td>7. Different types of food, nutrition and health data being collected a community level through among others FGDs, health facilities and common interest groups – a resource to tap on and strengthen during implementation of APN-FBENI sub-component</td>
<td>8. Periodic droughts and climate change and their erosive power of food insecurity gain</td>
</tr>
<tr>
<td>9. Potential for developing community level structures, tools and skills to facilitate transparent community level action planning for food and nutrition improvement, implementation and self-monitoring</td>
<td>2. Lip-service to Food and Nutrition Security Policy and ZIM ASSET Plan without corresponding resource allocation for effective implementation of the plan</td>
</tr>
<tr>
<td>10. Over-politicization of community empowerment process with potential segregation on political affiliation lines (resultant of hangovers from past political strife if new culture of politics and good governance is not fully adopted by communities in some districts</td>
<td>3. Inadequate simple/community level translation by food and nutrition technicians of food and nutrition concept to participating communities in a way they experience food insecurity and poor nutrition</td>
</tr>
<tr>
<td>11. Inappropriate handling of strong cultural &amp; religious beliefs with a negative impact on adoption of appropriate feeding practices/culture</td>
<td>4. Inadequate simple/community level translation by food and nutrition technicians of food and nutrition concept to participating communities in a way they experience food insecurity and poor nutrition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High level recognition of importance of food security and nutrition in development and a correspondingly high level supportive government establishments</td>
<td>1. Limited local level use and inter-sectoral sharing and use of this data for community level planning and monitoring</td>
</tr>
<tr>
<td>2. Current FNSCs resuscitation process at all levels, creating conducive environment for implementation of APN-FBENI sub-component</td>
<td>2. Still considerable vertical programming of some food, nutrition and health initiatives and all levels</td>
</tr>
<tr>
<td>3. Government extension staff already using group approach to reach target HHs (Agric, Health, Social Welfare Women’s clubs, etc)</td>
<td>3. Data collection fatigue in some sectors because those collecting data do not see immediate benefits of collecting the data but view the collection process as mere fulfilment of Head Office (HO) requirements</td>
</tr>
<tr>
<td>4. Different types of food, nutrition and health data being collected a community level through among others FGDs, health facilities and common interest groups – a resource to tap on and strengthen during implementation of APN-FBENI sub-component</td>
<td>4. ZIMVAC household dietary diversity data is aggregated by province, making it difficult to apply it at district level, the main administrative unit currently used to target developmental initiatives</td>
</tr>
<tr>
<td>5. Potential for developing community level structures, tools and skills to facilitate transparent community level action planning for food and nutrition improvement, implementation and self-monitoring</td>
<td>5. Poor integration of nutrition in agriculture extension, starting from extension workers pre-service training to community level initiative (except for those who received project-specific in-service nutrition training</td>
</tr>
<tr>
<td>6. Lack of standardized guidelines on how to practically push the food and nutrition agenda at community level</td>
<td>6. Lack of standardized guidelines on how to practically push the food and nutrition agenda at community level</td>
</tr>
</tbody>
</table>
### Annex IV: Risk Types and Risk Management Measures Matrix

#### Table 4: Risk Types and Risk Management Measures Matrix

<table>
<thead>
<tr>
<th>Type of Risk</th>
<th>Risk Description and Possible Effects on Programme</th>
<th>Risk Management /Mitigation Measures</th>
<th>What</th>
<th>By Whom</th>
<th>By When</th>
</tr>
</thead>
</table>
| 1. Volunteerism by group leaders and incentive                             | If the process of community empowerment is not well explained openly upfront voluntary group leaders may end up having high expectations which the programme cannot meet | • At community mobilization/sensitization frankly explain project objective in simple terms and adjust objectives to meet community aspirations. State what project is offering and what it **cannot do**, i.e. help the community to:  
  - Define magnitude of their food insecurity and dietary diversity problems through participatory development of SFAC;  
  - Facilitating planning and implementation of corrective activities arrive at consensus on how to monitor  
  - Regular supervision of group facilitators/leaders especially by extension staff and motivate them through periodic trainings and review meeting  
  - Provision of indirect incentive through establishment of demonstration units/facilities/plots at the group leader’s property | Extension worker after receiving orientation and training on basis nutrition, facilitation, and development of SFACs necessary | Clarification of:  
  • What programme can do before making commitment to work in area  
  • Explain how and agree with community the concept of being volunteer and role model and how volunteer will benefit through training, community recognition and setting up of demonstration units | |
| 2. Multi-sectoral partnerships                                              | Lack of total commitment from some partners         | Full involvement of the Food and Nutrition Security Committees to push for timely implementation of agreed actions at all levels by different sectors, NGOs in the area and the community | Agriculture Sector and Chair of these committees from National to Ward Level | Continuous during programme implementation | |
| 3. Limited in-country experience and NGO partners working on participatory integrated food and nutrition security programming | Potential of slowing down start-up pace of implementation while undertaking initial community mobilization and training implementers | • Identification of NGOs currently building up experiences in integrated community level management of food security and nutrition enhancement initiatives and involve them in the design and initial training programme  
  • Encourage all organizations and NGOs active in food security and nutrition-health improvement initiatives to adopt similar integrated approaches and develop a critical mass of expertise in this area and relevant training/reference materials  
  • Facilitating field visits to operational sites of those already implementing this approach | Programme management office | At the onset of the programme and during implementation when necessary | |

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21 SFAC merely visualizes food availability gaps, include DMF, with any fluctuations in meals consumed daily and reasons for the fluctuations.
<table>
<thead>
<tr>
<th>Type of Risk</th>
<th>Risk Description and Possible Effects on Programme</th>
<th>Risk Management /Mitigation Measures</th>
<th>By Whom</th>
<th>By When</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Effectively breaking the traditional nutrition education approach of providing information and opt for building caregivers’ practical skills and confidence to facilitate behaviour change</td>
<td>Community involving will remain lip-service and not a reality if food and nutrition promotional efforts are not participatory and interactive</td>
<td>Intensive training of extension staff in facilitation and coordination while inputting technical support in areas where each extension work has comparative advantage and encourage information sharing and joint planning, reviews and evaluation through the food and nutrition security committees</td>
<td>Programme management office in collaboration with line ministries and FNC</td>
<td>At the start-up of the programme and intermittently during programme implementation as need arises</td>
</tr>
<tr>
<td>5 Inadequate resources allocated for training/resuscitating Food and Nutrition Security Committees and facilitating implementation and effective monitoring of planned activities</td>
<td>Slow uptake of the community centered approach</td>
<td>Government and partners to seriously take-up and honour their commitments to the ZIM-ASSET Plan and allocate or source for adequate resources for effective implementation of this plan given that the Food and Nutrition Security Cluster was afforded highest priority on the short to medium term development plan</td>
<td>Ministry of Finance, funding and technical agencies</td>
<td>At the onset of the programme and intermittently during programme implementation as need arises</td>
</tr>
</tbody>
</table>
| a) Limited appreciation of nutritional issues by agricultural extension workers and lead farmer | Providing nutrition training to agriculture extension workers in the project area | Nutrition Unit of MoHCW in collaboration with finding partners | Option A: Can be a module integrated in FFS training session  
Option B: organise special sessions  
As soon as possible |
| b) Lack of standardize key IYCF | Potential of giving conflicting messages | IYCF materials being used by MoHCW to be availed to all involved in community IYCF | Nutrition Unit of MoHCW in collaboration with finding partners | As soon as possible |

Key to colour codes level of possible effect

- **Low**
- **Moderate**
- **Substantial**
- **High**
### Table 6: Summary Findings of 5IYCF Studies Reviewed

<table>
<thead>
<tr>
<th>Organization Months and Year</th>
<th>Study Area, Target Age</th>
<th>Key Findings</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ZDHS (Sept 2010-Mar 2011)</strong></td>
<td>National (6-23 months)</td>
<td>24% consumed adequately diverse diet 45% consumed minimum acceptable daily meals 11% consumed minimum acceptable diet</td>
<td>Dietary diversity was lowest in children aged 6-8 months.</td>
</tr>
<tr>
<td><strong>Goal (Oct 2013)</strong></td>
<td>Hurungwe, Makoni and Nyanga Districts (6-23 Months)</td>
<td>Poor diet, lacking protein reach foods, vegetables and fruits Low dietary diversity Low age-specific daily meal frequency Mixed feeding for children &lt;6 months of age</td>
<td>Low number of visits to antenatal clinic Poor hygiene, especially hand washing.</td>
</tr>
<tr>
<td><strong>MOH (Nov-Dec 2011)</strong></td>
<td>Mutare, Matasa, Kwekwe, Gokwe North, Bulilima, Gwanda, Harare (Avondale and Dzivarasekwa), Districts</td>
<td>Children offered sadza with soup (9-11 months) Snacks: commercial potato crisps, different varieties of biscuits, sweets/candy, and fruits occasionally Avoidance of some eggs and meat (taboos) Limited appreciation of importance of local nutritious foods in complementary feeding Heavy women’s workload as food producers, income generators and caregivers compromised optimal IYCF</td>
<td>Delayed initiation of breastfeeding by health workers Colostrum perceived as “dirty milk” by a few and social acceptance of pre-lacteal feeds (glucose, water, oil, herbal concoctions) Most caregivers strongly believe in giving water and watery porridge to children aged 0-5 mths Early introduction of fluids/foods as early as a week because of insufficient breastmilk Mixed messages on breastfeeding by HIV/AIDS positive mothers.</td>
</tr>
<tr>
<td><strong>ZIMVAC (April-June) Annual</strong></td>
<td>National (0-59 months)</td>
<td>42% consumed 1-2 meals a day The majority of HHs consumed 2 food groups a day Of the 3.4% with acute malnutrition: 51% had a cough 36% had diarrhoea 33% had fever</td>
<td>Data did not give the number of food groups consumed by children.</td>
</tr>
<tr>
<td><strong>Zvitambo (Nov 2007-April 2008)</strong></td>
<td>Chirumhanzu District (0-12months)</td>
<td>Feeding a limited variety of foods Foods most frequently fed: – porridge – sadza and sauce Some foods believed to cause diarrhoea, constipation and vomiting Low energy density of porridges Low feeding frequency Low amount of food served at each meal</td>
<td>Conducted between November and April (hungry season) Mothers’ belief: – Children ‘could not chew and Swallow’ foods like vegetables, fruits &amp; meat.</td>
</tr>
</tbody>
</table>
### Annex VI: Proportion of Food Insecure Households

#### Table 7: Proportion of Food Insecure Households and Percentage of Children Consuming Minimum Acceptable Diet by District, and DMF and AM by Province

<table>
<thead>
<tr>
<th>Name of Province</th>
<th>District</th>
<th>Proportion of Food Insecure Households (%)</th>
<th>Prevalence on Stunting in Children Aged 6-23 mths (%)</th>
<th>Children Aged 6-23 mths Achieving Age-specific Minimum Daily Meal Frequency (%)</th>
<th>Children Aged 6-23 mths Consuming Minimum Diet (%)</th>
<th>Proportion Consuming 1-4 or More Meals per Day</th>
<th>Prevalence of Acute Malnutrition in Children Aged 6-59 mths (% Using MUAC)</th>
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#### Notes
- Districts are categorized by Province.
- Proportion of Food Insecure Households (%) provides the percentage of households deemed food insecure.
- Prevalence on Stunting in Children Aged 6-23 mths (%) indicates the percentage of children stunted at this age.
- Children Aged 6-23 mths Achieving Age-specific Minimum Daily Meal Frequency (%) shows the percentage of children achieving the daily meal frequency recommended for this age group.
- Children Aged 6-23 mths Consuming Minimum Diet (%) represents the percentage of children consuming a minimum acceptable diet.
- Proportion Consuming 1-4 or More Meals per Day provides the breakdown of meal frequency among households.
- Prevalence of Acute Malnutrition in Children Aged 6-59 mths (% Using MUAC) gives the prevalence of acute malnutrition in children aged 6-59 months, measured by MUAC.
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Compiled from:

a) Proportion of Food Insecure Households: Pages 127 and 150-153 of ZIMVAC 2013 Rural Livelihood Assessment
b) Proportion of Children Consuming Age-specific Daily Meal Frequency and Minimum Acceptable Diet: Pages 29 and 31 respectively of Zimbabwe Nutrition Survey, 2010
c) Proportion of Population Consuming 1-4 or More Meals per Day: Page105 of ZIMVAC 2013 Rural Livelihood Assessment
d) Acute Malnutrition in Children Aged 6-59 mths: Page133 of ZIMVAC 2013 Rural Livelihood Assessment
Annex VII: FNC implementation Plan

Source: Implementation Plan for the FNSP
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