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Fill the Nutrient Gap
Pakistan

SUMMARY REPORT

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November 2017

“We must focus our attention on identifying investments and actions necessary to bring about improvement in the country’s nutrition indicators. The momentum Pakistan has achieved must be accelerated so we can start bearing fruits sooner rather than later.”

MEMBER FOOD SECURITY AND CLIMATE CHANGE,
MINISTRY OF PLANNING, DEVELOPMENT AND REFORM

Fill the Nutrient Gap **Pakistan** | SUMMARY REPORT

Malnutrition is widespread in Pakistan

The effects of malnutrition are globally recognised as being devastating and far reaching. Malnutrition is widespread across Pakistan. Forty four percent of children under 5 are stunted and unlikely to reach their full mental and physical potential. Macronutrient and micronutrient deficiencies and an increase in overweight and obesity are negatively impacting population health and development. The burden varies across the country and progress is hampered by several factors: unaffordability of, and poor physical access to, nutritious foods; rapid population growth, especially in urban areas; poverty; security issues; and vulnerability to natural and man-made shocks. Addressing malnutrition in a sustainable manner in Pakistan must take a lifecycle approach with a special focus on children under 2 years of age, adolescent girls and pregnant and lactating women. It must include a range of context-specific, targeted interventions that engage stakeholders across multiple sectors at national and provincial levels.

Fill the Nutrient Gap (FNG) in Pakistan: Purpose

A challenge in addressing malnutrition in Pakistan is the complexity of policy frameworks after devolution. In addition, nutrition has been viewed as a technical and mainly health sector issue and there has been little multi-sectoral engagement. Policy priorities and the level of progress in developing and implementing multi-sector nutrition action plans differ among provinces. There is no harmonisation with national policy development activities. The National Scaling Up Nutrition (SUN) Secretariat, housed within the Nutrition Section, Ministry of Planning, Development and Reform, felt that the FNG process could facilitate greater understanding of the provincial malnutrition contexts. It could also serve to strengthen and align actions at national and provincial levels, across sectors and stakeholders.

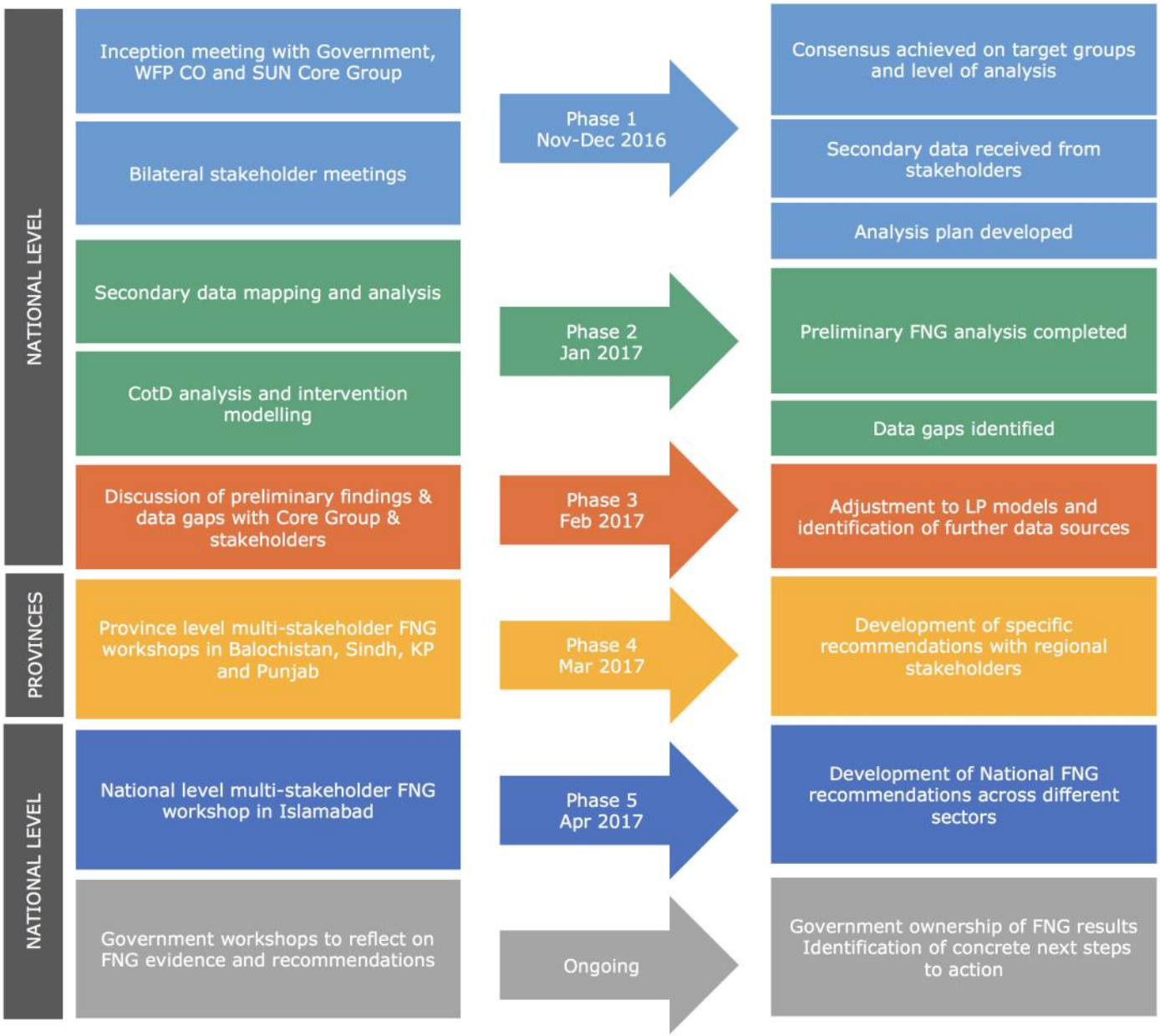
The FNG assessment was led by the Pakistan SUN Secretariat and SUN Core Group, with technical assistance from the World Food Programme (WFP) country office, regional bureau and Rome headquarters, which together formed Pakistan's FNG team. A range of stakeholders participated at provincial and national levels. The objective was to use the FNG tool to identify cost-effective actions; build consensus; and prioritise appropriately, focusing on the first 1,000 days from conception to a child's second birthday, adolescent girls and pregnant and lactating women. This would enable identifying and scaling up of national and provincial nutrition-specific and nutrition-sensitive policies and interventions across food, health and social protection systems, with the aim of improving Pakistan's nutrition indicators and the lives of its people.

FNG in Pakistan: Process

FNG in Pakistan ran from November 2016 to April 2017. The analysis comprised a comprehensive literature review of available secondary data sources in combination with linear programming (LP) using the Cost of the Diet (CotD) software. The aim was to understand context-specific barriers to adequate nutrient intake and to model potential interventions to improve access to nutrients, particularly from nutritious foods.

At the start of the process, the Pakistan FNG team met with government, non-government, United Nations (UN) and donor stakeholders to: introduce the FNG process; decide on the level of analysis; collate key secondary data sources and; identify possible interventions, entry points and transfer mechanisms to test in the CotD modelling. It was agreed that secondary data analysis would be carried out at a national level, presenting regionally specific data when available. Over 190 data sources were identified and reviewed, and a number of data gaps were identified. The LP analysis intervention modelling was carried out for Khyber Pakhtunkhwa (KP), Punjab, Sindh and Balochistan provinces, and stakeholder inputs from each were specifically sought. The detailed FNG process in Pakistan is illustrated in Figure 1.

Figure 1: The Fill the Nutrient Gap (FNG) process followed in Pakistan



FILL THE NUTRIENT GAP: A SITUATION ANALYSIS AND DECISION MAKING TOOL

The FNG tool is used to identify which nutrition-specific and nutrition-sensitive interventions are most appropriate for a given context to improve nutrient intake, one of the two direct causes of malnutrition (the other cause being disease). Any intervention should ultimately result in an improvement in nutrient intake.

The tool has been developed by the WFP with technical support from research institutes: the University of California Davis; the International Food Policy Research Institute (IFPRI) (Washington DC); Epicentre (Paris); Harvard University (Boston); Mahidol University (Bangkok) and the United Nations Children's Fund (UNICEF). FNG provides a framework for strengthened situation analysis and multi-sectoral decision making that identifies context-specific barriers to adequate nutrient intake among specific target groups. It engages different sectors to propose cost-effective strategies to overcome barriers. It has been used in more than ten countries to date. The FNG combines review of secondary data and information with LP analysis using the CotD software developed by Save the Children United Kingdom. The FNG analysis considers a range of factors that reflect or affect dietary intake, including local malnutrition characteristics; the enabling policy environment; type and availability of nutritious foods in local markets; affordability of nutritious foods; nutrient intake; local practices; and cost optimization.

The consolidated information is analysed and the findings are reviewed by a multi-sectoral group of stakeholders, at relevant levels, to come to a shared understanding of the issues, context and solutions. Through this consultation process, context-specific optimal policy and programme actions, including possible entry points for interventions, are jointly identified for different sectors, for example, health, social protection and across the food system, and stakeholders from the public and private sectors.

COST OF THE DIET ANALYSIS

The CotD software uses LP to understand the extent to which poverty, food availability and prices may affect the ability of people to meet their nutrient needs. Using price data collected from markets or from secondary sources, the software calculates the amount, combination and cost of local foods that are needed to provide individuals or households with their average needs for energy and their recommended intakes of protein, fat and micronutrients[1]. These diets are calculated within defined constraints to prevent the inclusion of unrealistic types or amounts of food and the provision of excessive amounts of nutrients.

The FNG approach defines the Staple Adjusted Nutritious Diet: the lowest cost nutritious diet that includes the typical staple foods and excludes foods that are considered taboo[2]. This diet is referred to as the 'nutritious' diet throughout this summary. Population expenditure data is compared to the cost of this nutritious diet and is used to estimate the proportion of the population that would not be able to afford a nutritious diet. This non-affordability can be estimated and compared across different regions, seasons or countries.

As part of the FNG process in Pakistan, a separate CotD analysis was undertaken for each of the four provinces at the urban and rural levels, and for summer and winter. The 2013–2014 Pakistan Household Integrated Economic Survey was used to estimate seasonal food prices and availability, food expenditure and average household size. Prices were further validated using 2013–14 Consumer Price Index data. A nutritious diet was estimated for model households of six to eight members, depending on province averages, which all included a child of 12–23 months, a child of 6–7 years, an adolescent girl of 14–15 years, a lactating woman and an adult man[3]. At least one serving per day of non-fortified wheat (atta) flour was included as the staple food for all household members, with the exception of the child aged 12–23 months.

The CotD software is also used to model interventions with the objective of improving the affordability of a nutritious diet for individuals and/or households. The selection of potential interventions for modelling was informed by the secondary data review and stakeholder consultations. It included:

- Increased availability of local nutritious (unfortified) foods and biofortified foods.
- Different types of complementary foods or specialized nutritious foods (SNF) made available through the market and/or social safety nets.
- Micronutrient supplementation.
- Fortification of staple foods.
- Conditional cash transfers for vulnerable households.

The modelled interventions are theoretical and would need to be accompanied by complementary behaviour change interventions.

In March 2017, preliminary provincial results-sharing workshops were organized in the four provinces, hosted by the provincial and national SUN Movement Focal Points. In April a feedback meeting for national stakeholders was hosted by the SUN Movement. The workshops included multi-sectoral, national and provincial participation of the SUN Movement, government officials, non governmental organizations and civil society groups, UN agencies, development partners and academia, from health, agriculture, education, social protection and the private sector, including those working in food fortification.

At the provincial meetings the province-specific findings were shared. Their implications were explored by sector-specific groups who discussed what the findings meant for each sector, possible opportunities, prioritization of interventions and associated actions required.

1. As defined by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). Needs for 9 vitamins and 4 minerals are included.
2. This diet is not intended to reflect what individuals or households are currently eating, nor should it be used to develop food-based recommendations or dietary guidelines.
3. The estimate of the percentage of households that cannot afford a nutritious diet applies only to households of this specific composition in each province. However, across a lifespan many households will have this, or a similar composition, for some time. It is important to represent the increased nutrient needs of essential life stages and target groups that are most difficult to meet.

All sectors at provincial and national levels identified actions they could take to improve nutrition.
The outcome of each provincial meeting was a set of sector and context-specific interventions, programmes and actions with associated short, medium and long term activities aimed, directly or indirectly, at filling nutrient gaps for key target groups. These were shared at the national meeting which focused on how the provincial recommendations could be supported and strengthened at the national level and resulted in the listing of national prioritised interventions and activities to support the development of overarching recommendations. During the national level workshop, it was agreed that the current nutritional emergency in Pakistan requires prioritized investment on short-term nutrition-specific and sensitive interventions, to be gradually combined with medium and long-term actions.

Detailed in the full report are: the consolidated list of provincial and national sector-specific prioritized interventions; short, medium and long term activities; the target groups; and proposed entry points and modalities. Table 1 summarizes the proposed interventions, many of which were identified for several provinces.

Table 1: Interventions identified as priorities by different sectors for addressing issues raised by the findings of the Fill the Nutrient Gap assessment in Pakistan

SECTOR	PRIORITIZED INTERVENTIONS
Health and Nutrition	Promotion and facilitation of improved infant and young child feeding (IYCF) practices via behaviour change communication
	Promotion and facilitation of improved IYCF practices via increased access to nutritious foods
	Improved provision of family planning services
	Commercialisation of specialized complementary foods for key target groups
	Export of commercialised SNF (to ensure adequate demand for the suppliers)
Fortification	Development/harmonisation of fortification legislation and standards
	Monitoring and enforcement of legislation
	Building technical capacity of industry
	Increasing demand for fortified staples (wheat flour, salt, cooking oil)
	Increasing access to fortified staples
Social Protection	Introduce nutrition-sensitive school meals
Education	Incorporation of nutrition education into school curricula
	Incorporation of nutrition into university health syllabuses
	Actions to build national workforce of nutrition professionals
	Nutrition-sensitive school meals
Agriculture	Promoting diversity of local production and nutritious food availability
	Advocacy for greater investment in, and support of, agricultural sector
	Improved support to food producers with poor resources

FNG in Pakistan: Findings[4]

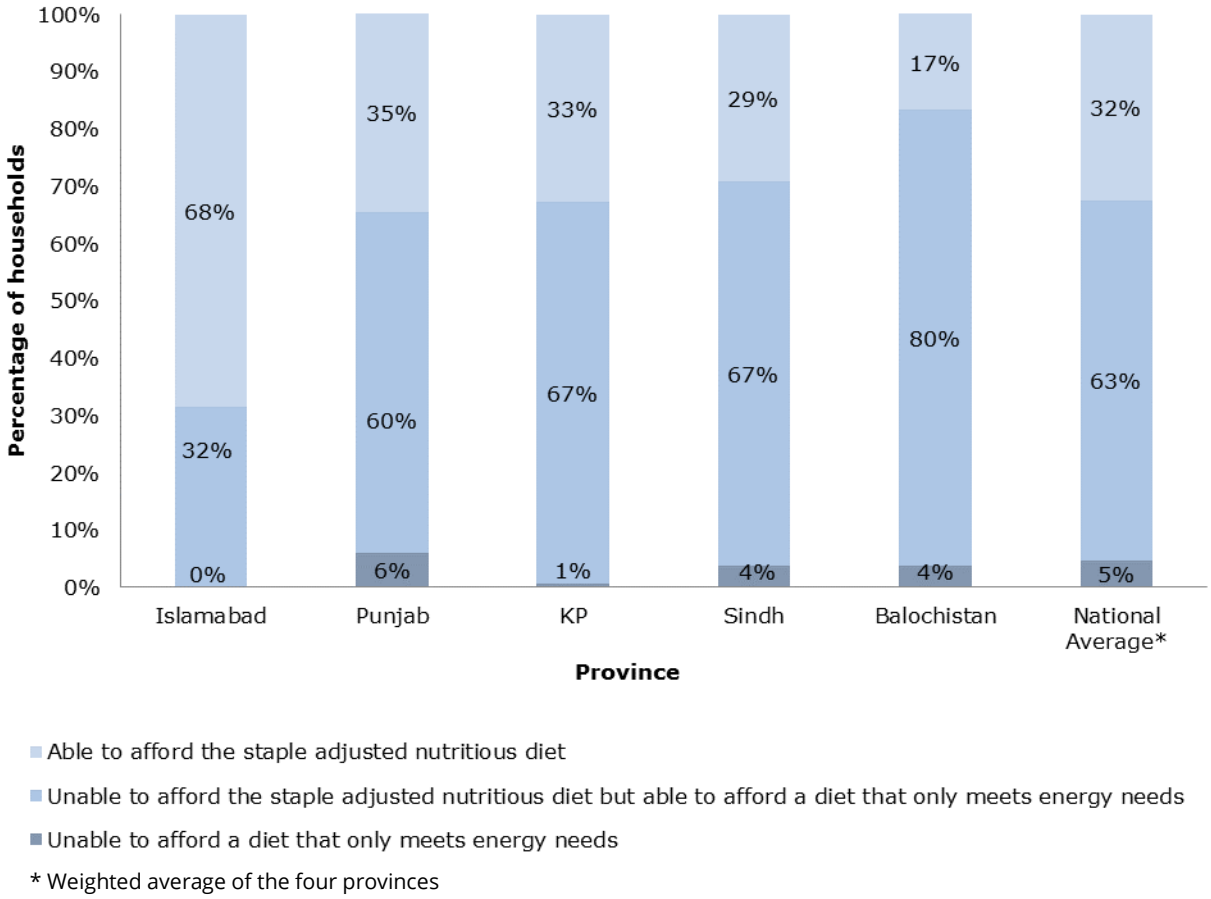
1.

AFFORDABILITY IS THE GREATEST BARRIER TO ACHIEVING A NUTRITIOUS DIET.

Despite increases in national food production and a recent decline or stabilisation of staple food prices, household food insecurity remains a significant concern across Pakistan, especially for the poorest and most vulnerable. Dietary diversity is universally inadequate. Conditions differ enormously across and within provinces in Pakistan in terms of climate, geography, agricultural production and food and nutrition security. Crop production and type vary greatly and are highly susceptible to weather conditions.

- The CotD analysis estimated that 68 percent of households in Pakistan would be unable to afford a nutritionally adequate diet and nearly five percent of all households would be unable to afford a diet that would meet the minimum requirements for energy alone. Affordability was unequal across and within provinces (see Figure 2).

Figure 2: Ability of households to afford a staple adjusted nutritious diet or basic diet that meets energy requirements, by province (Ministry of Planning, Development and Reform and the WFP 2016)



4. Complete details of the findings, a full list of data sources used and references can be found in the full report.

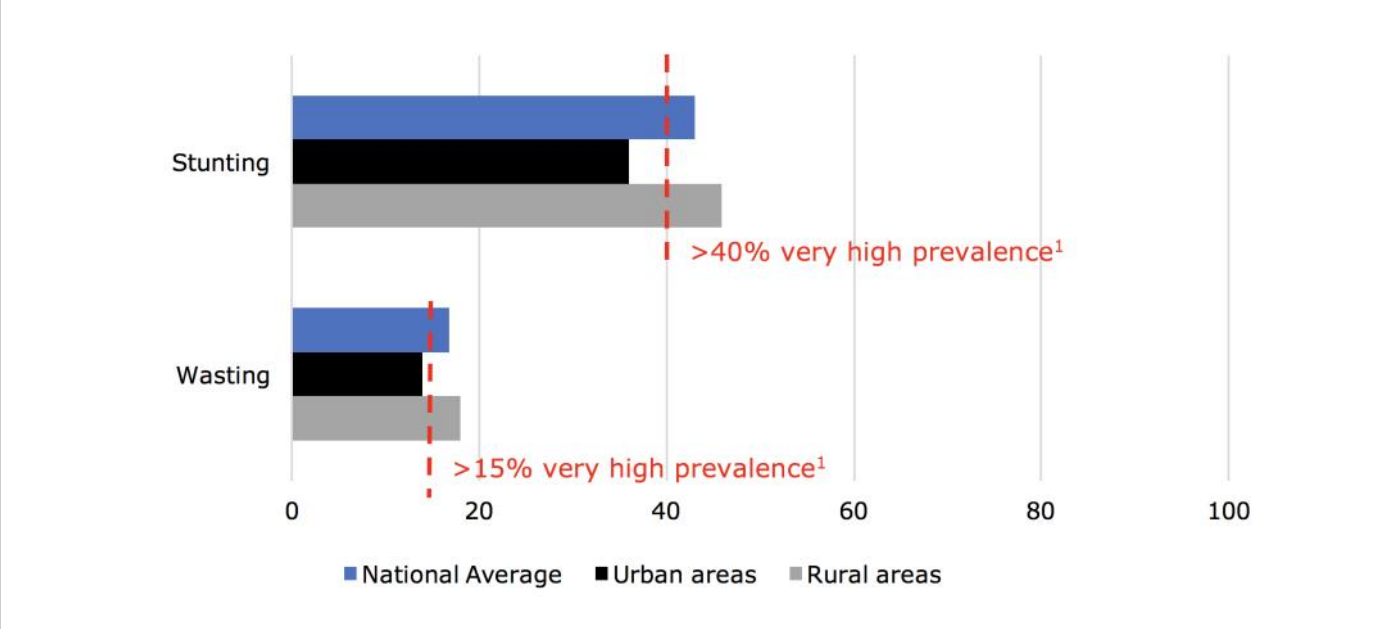
- The per capita monthly cost of the nutritious diets ranged from Pakistani Rupees (PKR) 2061 (USD 19) in Punjab, to PKR 2415 (USD 23) in Balochistan, and was slightly higher in urban areas than rural areas.
- The cost of providing the nutritious diet was higher in summer months and in urban areas in KP, Sindh and Punjab, and in rural areas in Balochistan.
- Household non-affordability of the nutritious diet was positively correlated with stunting prevalence.
- The challenge of meeting the requirements for certain nutrients increases the costs of the nutritious diet. These nutrients include calcium and iron for all members of the family and vitamins A, C, B1, B12 and pantothenic acid for lactating women and children aged 12–23 months.

2.

NUTRITION INDICATORS SHOW A VERY HIGH PREVALENCE OF CHILD MALNUTRITION IN PAKISTAN, WITH LITTLE IMPROVEMENT OVER THE PAST FOUR DECADES.

Malnutrition amongst children is still widespread and the most socio-economically vulnerable are disproportionately affected (See Figure 3).

Figure 3: Indicators of malnutrition status for infants and young children under 5 in Pakistan by area (National Nutrition Survey 2011)



[1] World Health Organization (WHO) cut-off points for malnutrition severity
http://www.who.int/nutgrowthdb/about/introduction/en/index5.html

[2] Stunting defined as Height for Age Z score (HAZ) of <-2 as per WHO standards (WHO, 2006)

[3] Wasting defined by Weight for Height Z score (WHZ) of <-2 as per WHO standards (WHO, 2006)

3.

UNDERNUTRITION IN INFANTS AND YOUNG CHILDREN HIGHLIGHTS POOR MATERNAL AND ADOLESCENT DIETS.

One fifth to one quarter of infants in Pakistan are born too small and a quarter of children already experience growth faltering before 6 months of age. This can indicate limited intrauterine growth as a result of poor maternal nutrition, and poor exclusive breastfeeding. In general, there is inadequate understanding of current dietary practices and preferences of women and adolescent girls in Pakistan. In some areas women and girls may be disadvantaged by customs related to food distribution within the household. Data on staple food, fruit and vegetable consumption suggest low dietary diversity and poor consumption of nutrient dense foods by women across all provinces.

4.

THERE IS A HIGH PREVALENCE OF MICRONUTRIENT DEFICIENCIES ACROSS THE POPULATION AND LITTLE DIFFERENCE IS SEEN BETWEEN URBAN AND RURAL AREAS OR ACROSS WEALTH QUINTILES[5], INDICATING UNIVERSALLY POOR DIETS.

- Almost two thirds (62.1 percent) of children in Pakistan are anaemic, above the WHO cut-off for severe prevalence. One third (33.4 percent) have iron deficiency anaemia.
- There is a high prevalence of deficiencies in zinc, calcium, vitamin A and vitamin D in women. Vitamin D deficiency affects over two thirds of women, and anaemia and calcium deficiencies occur in more than half of women.
- Analysis in Punjab shows that there were no significant differences in the prevalence of micronutrient deficiencies among young children across wealth quintiles.
- Prevalence of deficiencies for some micronutrients differed between provinces which could indicate regional differences in access to, and use of, nutritious foods, and regional dietary preferences.
-

5.

QUANTITY AND QUALITY OF DIETARY INTAKE IS POOR, INCLUDING ENERGY AND MACRONUTRIENTS AND MICRONUTRIENTS. THIS PARTICULARLY AFFECTS WOMEN, CHILDREN AND FAMILIES.

Available data shows inadequate energy intake and extremely poor dietary diversity at the household level and for vulnerable target groups across the country. For example, 44 percent of the population consumes less than the threshold of 2350 kcal/day and only 39 percent of households have adequate food consumption scores, indicating that dietary diversity is low. Household consumption data indicate that the majority of the population in Pakistan does not consume adequate amounts of vitamin A and iron, and many do not consume enough zinc or protein.

The diets and feeding practices of infants and young children are inadequate across the country. Diets lack sufficient amounts of energy, protein and essential micronutrients. Only 3 percent of infants and young children consume an adequately diverse diet. Rates of exclusive and continued breastfeeding are poor. Dietary intake is negatively impacted by traditional beliefs and practices concerning IYCF, and vary within and across provinces.

6.

THE DOUBLE BURDEN OF MALNUTRITION – THE CO-OCCURRENCE OF UNDERNUTRITION AND OVERWEIGHT – IS A GROWING CONCERN.

Nationally representative anthropometric data from the 2012–13 Demographic and Health Survey (DHS) suggested that between 3.2 percent and 5 percent of children aged less than 5 years were obese or overweight. Prevalence was higher in urban areas where 36 percent of children were stunted. Forty percent of women nationally and 55 percent in urban areas were overweight/obese. Secondary analysis of Demographic and Health Survey and Multiple Indicator Cluster Survey data from Punjab also suggests that one in four stunted children have overweight mothers.

5. Using the wealth index, each person in the population is given a score which represents how wealthy they are based on the characteristics of their household. With this score, five 'wealth quintiles' are created; with the poorest 20% of the population in quintile one, up to the wealthiest 20% in quintile five.

7.

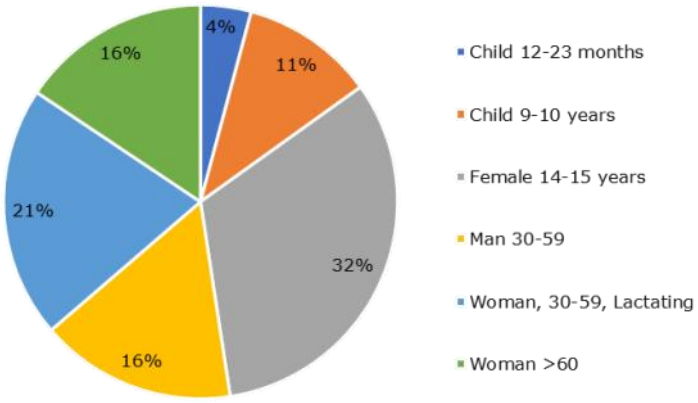
THE ADOLESCENT GIRL HAS THE MOST EXPENSIVE NUTRIENT NEEDS IN THE FAMILY.

Adolescence is the second most physically demanding growth period after the first year of life. An adolescent girl's access to good nutrition and healthcare determines not only her own health and development but also that of the next generation. Yet one in five adolescent girls are underweight and babies born to girls under 20 years of age were more likely to be reported small at birth (24.3 percent) than those born to women aged between 20–34 years (18.6 percent) (DHS 2012–13).

The CotD analysis shows that in a model family consisting of six to eight members, the nutrient needs of the adolescent girl are the most expensive to meet (see Figure 4). This is due to her high need for essential micronutrients relative to energy, which requires a higher intake of nutrient dense – and generally costly – foods.

Almost one in five 19-year-old girls in Pakistan is pregnant or has already had a child, and adolescent pregnancy rates are significantly higher in rural areas (DHS 2012–13). Associations between adolescent pregnancy rates, limited access to and use of contraception, and child malnutrition further highlight the need to safeguard nutrition for adolescent girls.

Figure 4: Cost of the nutritious diet by household member as a percentage of overall household cost for Sindh (seasonal and regional average). Other provinces showed a similar pattern



8.

NUTRITION CHALLENGES ARE COMPOUNDED BY FAST POPULATION GROWTH, RAPID URBANISATION AND NATURAL AND MAN-MADE SHOCKS.

Pakistan's population increased from 37.5 million in 1950 to nearly 189 million in 2015 and is set to grow to almost 310 million by 2050. At the same time, Pakistan is experiencing a rapid urbanisation rate of 3 percent annually, the fastest in South Asia; half the population will live in urban areas by 2030. Many in Pakistan, especially in urban areas, benefit from good access to markets as a result of rapid infrastructure development. However, those in rural and remote areas have been left behind.

On average, one in five households was affected by shocks (floods, price hikes, earthquakes and droughts) in the three years preceding 2016. These impacted most in areas of high poverty (Ministry of National Food Security and Research 2016). Pakistan faces the triple challenge of political fragility, complex security issues and high vulnerability to natural disasters, all of which compound food insecurity and lack of nutrition.

9.

INTERVENTIONS TARGETING INDIVIDUALS CAN REDUCE THE COST OF MEETING NUTRIENT NEEDS FOR PRIORITY GROUPS.

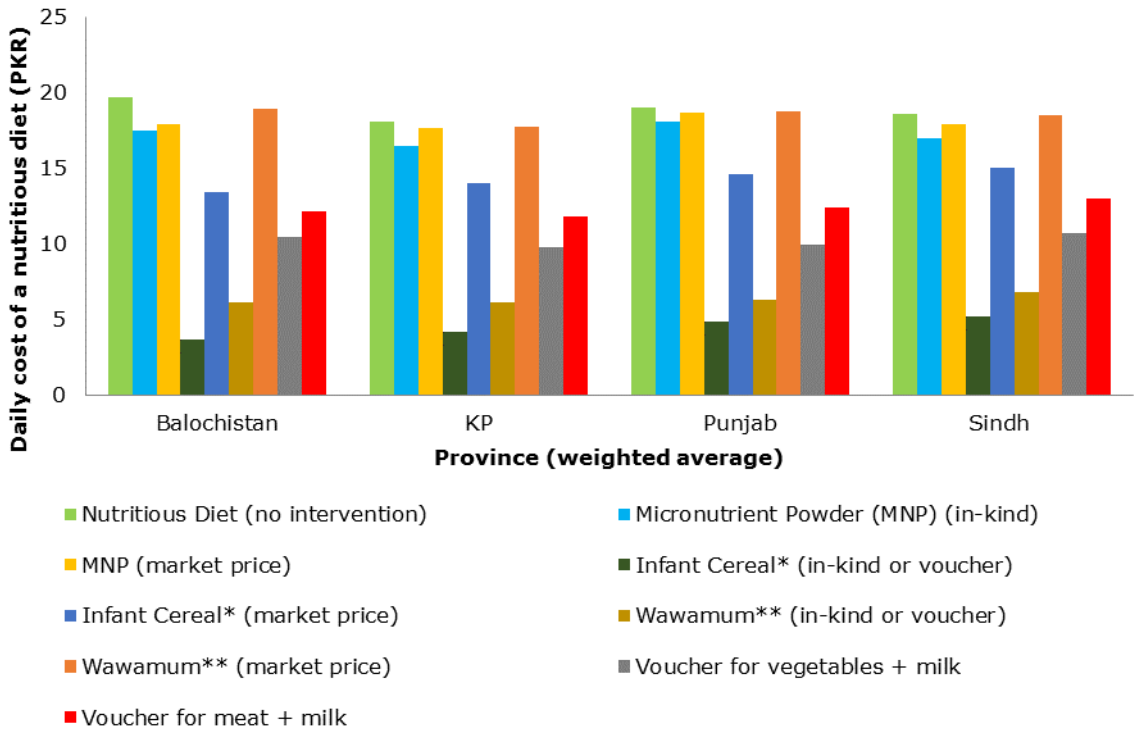
A range of interventions were modelled using the CotD for individual target groups, as guided by the secondary data analysis and stakeholder consultation (Figure 5).

- In most urban and rural areas across the four provinces, the provision of SNF (in-kind or through vouchers) would be the most effective interventions to reduce the cost of meeting nutrient needs for children 12–23 months and pregnant and lactating women.

- Fresh food vouchers (providing access to local animal source foods and vegetables) are the most effective to reduce the cost to meet nutrient needs for adolescent girls.

- The modelling shows that while staple food fortification is useful, it is not enough to meet the needs of vulnerable groups which require specific targeted interventions.

Figure 5: Impact of selected interventions on the daily cost (PKR) of the nutritious diet for children aged 12–23 months using in-kind, full voucher and market price transfer modalities



*Infant cereal porridge containing wheat, soy, milk powder, sugar, oil, vitamins and minerals.
**Wawamum is a fortified, chickpea-based medium quantity lipid-based nutrient supplement (MQ-LNS) developed by WFP and produced locally in Pakistan.

10.

A PACKAGE OF INTERVENTIONS IMPLEMENTED ACROSS MULTIPLE ENTRY POINTS OFFERS PROMISING BENEFITS FOR HOUSEHOLDS.

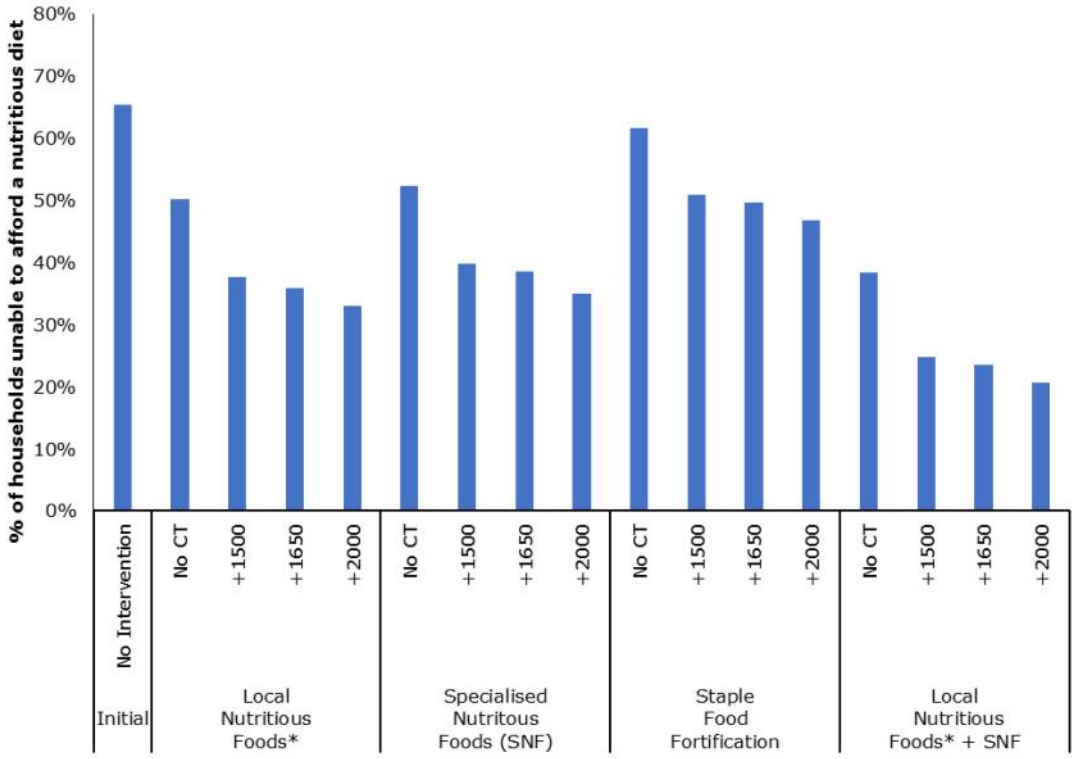
The most cost-effective interventions for individual target groups from each province were combined into household packages, as shown in the example from Punjab in Table 2 and Figure 6. These were further tested with cash transfers of PKR 1,500–2,000 (13.25–19 USD) per month, based on historical, current and proposed future Benazir Income Support Programme (BISP) amounts. The results show that a combined household package of targeted interventions including SNF and local nutritious foods, plus a cash transfer, has the greatest impact on improving the affordability of the nutritious diet at the household level across provinces. These results demonstrate the possible benefits that could be gained by increasing household nutrient access via a package of interventions across multiple entry points and sectors. An important assumption behind the modeled interventions is that adequate demand creation strategies are in place to ensure that any cash transfers or vouchers provided would be spent on nutritious food.

Table 2: Household packages modelled in Punjab province

Package	Intervention	Modality	Target Group
Package 1: Local nutritious foods	Fresh seasonal vegetables	Full voucher	Children 6–23 months
	Fresh seasonal vegetables and eggs		Pregnant and lactating women
			Adolescent girls
Package 2: SNF	Wawamum	In-kind	Children 6–23 months
	Maamta*		Pregnant and lactating women
			Adolescent girls
Package 3: Staple food fortification	Fortified Wheat Flour	Market price	Household
Package 4: Local nutritious foods + SNF	Fresh seasonal vegetables + Wawamum	Vouchers	Children 6–23 months
	Fresh seasonal vegetables and eggs + Maamta		Pregnant and lactating women
			Adolescent girls

* Maamta is a fortified chickpea-based lipid-based nutrient supplement (LNS), 75 g/d, developed for Pregnant and Lactating Women in Pakistan by WFP and produced locally in Pakistan.

Figure 6: Impact of different intervention packages with a monthly cash transfer on the percentage of households that could not afford a nutritious diet in Punjab Province



* Fresh seasonal vegetables and eggs

11.

THERE IS A NEED FOR THE CONTINUED PROMOTION OF STRONG AND CONSISTENT MULTI-SECTORAL ACTION AND INVESTMENT IN NUTRITION.

Pakistan joined the SUN Movement in 2013. Through the national SUN office's positioning within the Ministry of Planning, Development and Reform, the secretariat has been integral in embedding nutrition within the Pakistan Vision 2025 and the development of the Pakistan Multi-Sectoral Nutrition Strategy. This indicates that the political and policy environment in Pakistan is increasingly conducive to change for improved nutrition. However, greater multi-sectorial collaboration, integrated strategies and a more in-depth understanding of all stakeholders is necessary to address the serious nutrition challenges that the country faces, especially in the context of its devolution of government.

Multi-sector participation in the FNG was a very good way to create a joint understanding and for the different sectors to identify priority interventions to improve nutrition, in particular by improving access to nutritious foods (see Table 1). Whilst it is now easier for provincial governments to develop context-specific responses to nutrition issues and for funding bodies to directly access implementers, there remains a strong need for alignment of policies between provinces and the federal government, and for federal policies to support action at the provincial level.

Different sectors (social protection, markets, education, health and agriculture) need to be used as entry points for interventions. Creating an enabling environment is critical for successful and sustainable implementation of nutrition interventions.

The SUN Movement in Pakistan has made great strides in bringing people together around the common goal of ending malnutrition. This momentum must be scaled up. Now is the time to translate policies into actions.

CONTRIBUTORS

Fill the Nutrient Gap team at the WFP HQ Nutrition Division, with particular thanks to Frances Knight, Neil Mirochnik, Giulia Baldi and Jane Badham; the WFP Pakistan Country Office team, with particular thanks to Cecilia Garzon, Ali Ahmad Khan and Pablo Rodriguez; the WFP Regional Bureau Bangkok with particular thanks to Katrien Ghoos and Jessica Blankenship; Muhammad Aslam Shaheen, Chief of Nutrition and SUN Focal Point in Pakistan at the Ministry of Planning, Development and Reform, and the Pakistan SUN Country team at the national and provincial level; and the SUN Core Group in Pakistan.

All photos: WFP/Rein Skullerud

LIST OF ACRONYMS

CotD	Cost of the Diet
FNG	Fill the Nutrient Gap
HAZ	Height for Age Z-Score
IYCF	Infant and Young Child Feeding
KP	Khyber Pakhtunkhwa
LP	Linear Programming
SNF	Specialized Nutritious Foods
SUN	Scaling up Nutrition
UN	United Nations
WFP	World Food Programme
WHZ	Weight for Height Z-Score

Printed: November 2017

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