

PREVENTING UNDERNUTRITION
THROUGH MULTI-SECTORAL
INITIATIVES IN PAKISTAN
A LANDSCAPE ANALYSIS

MQSUN REPORT

July 2015

ABOUT MQSUN

MQSUN aims to provide the Department for International Development (DFID) with technical services to improve the quality of nutrition-specific and nutrition-sensitive programmes. The project is resourced by a consortium of six leading non-state organisations working on nutrition. The consortium is led by PATH.

The group is committed to:

- Expanding the evidence base on the causes of undernutrition
- Enhancing skills and capacity to support scaling up of nutrition-specific and nutrition-sensitive programmes
- Providing the best guidance available to support programme design, implementation, monitoring and evaluation
- Increasing innovation in nutrition programmes
- Knowledge-sharing to ensure lessons are learnt across DFID and beyond.

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CONTENTS

About MQSUN	2
List of Abbreviations	4
Executive Summary	5
Underlying determinants	13
IMMEDIATE CAUSES.....	13
UNDERLYING CAUSES	19
THE ENABLING ENVIRONMENT: NUTRITION GOVERNANCE AND FUNDING.....	29
Political context and championing	29
RECOMMENDATIONS	50
REFERENCES	52
ANNEX 1: Summary of data and coverage for various interventions (in % of population covered)...	54
Annex 2: Key nutrition-sensitive interventions	57

LIST OF ABBREVIATIONS

ADP	Annual Development Plan
AKU	Aga Khan University
ANC	antenatal care
BCC	behaviour change communication
BHU	Basic Health Unit
BISP	Benazir Income Support Programme
BMI	body mass index
CHW	community health worker
CMAM	community-based management of acute malnutrition
CPR	contraceptive prevalence rate
CSO	civil society organisation
DFAT	Department for Foreign Affairs and Trade
DFID	Department for International Development
ECD	Early childhood development
EU	European Union
FAO	Food and Agriculture Organization (of the United Nations)
FATA	Federally Administered Tribal Areas
GAIN	Global Alliance for Improved Nutrition
GDP	gross domestic product
HANDS	Health and Nutrition Development Society
HPI	Health Partners International, Inc.
ICFI	ICF International
IDP	internally displaced person
IDS	Institute for Development Studies
INS	Inter-sectoral Nutrition Strategies
IYCF	infant and young child feeding
IYCN	infant and young child nutrition
KPK	Khyber Pakhtunkhwa
LBW	low birthweight
LHW	lady health worker
M&E	monitoring and evaluation
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
MQSUN	Maximising the Quality of Scaling Up Nutrition Programmes
NGO	nongovernmental organisation
NNS	National Nutrition Survey
ODF	Open Defaecation Free
PC	Planning Commission
PCRWR	Pakistan Council for Research in Water Resources
P&DD	Planning and Development Department
PDHS	Pakistan Demographic and Health Survey
PTI	Pakistan Tehreek-e-Insaf
SUN	Scaling Up Nutrition
TWG	technical working group
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, sanitation, and hygiene
WINS	Women and Children/Infant Improved Nutrition in Sindh
WFP	World Food Programme (of the United Nations)
WHO	World Health Organization

EXECUTIVE SUMMARY

The nutritional situation in Pakistan is a cause for much concern and hitherto intransigent to change. Although the proportion of underweight children under 5 years has declined from 38% to 32% between 2001 and 2011, during the same period stunting has increased from 37% to around 44% and so has wasting, from 13% to 15%. Furthermore, a quarter of all newborn infants are born low birth-weight (Bhutta 2004), which is unsurprising considering that 18% of women were underweight (BMI < 18.5 kg/m²). In some districts the proportion of underweight women exceeds a third (Di Cesare et al 2015). Pakistan is also a country in economic transition where 19.3% of women of reproductive age are overweight and 9.5% obese with a marked difference between urban (15.7%) and rural areas (6.5%) (NNS 2011). Nutrition of adolescents is a cause for much concern and largely ignored; as many as 22% are stunted, while 17% are obese or overweight.

Exclusive breastfeeding rates are inordinately low (13.0%, NNS 2010/11) and while 77.3% of mothers continued breastfeeding up to 12–15 months, the quality of home available foods given as complementary foods is very poor. The prevalence of micronutrient deficiencies is also widespread in non-pregnant women and children under 5 years as shown in Table 1 and is exacerbated by pregnancy.

Table 1. Micronutrient deficiencies in women and children 2010/11		
<i>Micronutrient deficiency</i>	<i>Non-pregnant women</i>	<i>Children under 5</i>
Anaemia	50.4%	61.9%
Iron deficiency anaemia	26.8%	43.8%
Vitamin A deficiency	42.1%	54.0%
Zinc deficiency	41.3%	39.2%
Vitamin D deficiency	66.8%	40.0%

Table source: Pakistan NNS 2010/11

Around 58% of the population is food insecure with a rural and urban variation of 60 to 52%. According to the Economic Survey of Pakistan (2015), the per capita availability of calories and commodities is insufficient with limited availability of vegetables and fruits to the poor. The NNS 2011 found that only 3.0% of children received a diet that meets the minimum standards of dietary diversity and overall, 56.4% of mothers provided food to their children with an acceptable meal frequency.

Disease burden affecting nutrition remains high. Diarrhoea and pneumonia account for more than 30% of all under 5 deaths in Pakistan (PDHS 2013) and yet ORS fluids were only given to 38.0% of diarrhoea cases and antibiotics administered to 41.5% of pneumonia cases (PDHS 2012-2013). Furthermore, the coverage of target populations by the Lady Health Worker (LHW) programme (LHWs are frontline health workers at community level including the delivery of some nutrition services) at provincial level varies between 28–58% (Pakistan MDG report 2013). The overall vaccination coverage in Pakistan has only increased from 35% in 1990 to 47% in 2006-07 and to 53.8% in 2011-12 (PDHS 2013).

The role of determinants of maternal and child undernutrition in Pakistan is well recognized. Not only do repeated pregnancies lead to “maternal depletion” but short inter-pregnancy intervals are

associated with higher rates of stunting among children. While there has been a decrease in the overall fertility rate from 5.4 in 1990 to 3.8 in 2012 and a slow increase in the age at marriage from 18 to 19.5 years over the same time period, Pakistan is not even close to meet the MDG 5 goal to increase the Contraceptive Prevalence Rate (CPR) to 55% by 2015.

Access to safe water and sanitation are basic determinants of health and are closely linked with nutrition status. According to a World Bank Water and Sanitation Program (WSP) study estimated that 58 million people (36 %) either defecated in the open or had access to shared toilets. In rural areas, 45% of the population still practiced open defecation. The NNS 2011 suggests that around 50% of the population has access to piped water while other measures indicate that the majority of households (90%) do not treat their drinking water, and only 8% of households use an appropriate water treatment method. Despite limited high quality data on safe water supply (as opposed to “improved” water, there is consensus that the problem is worse in rural and urban slum households.

In Pakistan, a positive relationship was found between the nutritional status of infants and maternal nutrition and educational status (Liaqat et al 2006, Cesare et al 2015). The average adult literacy rate is 67% for men and 42% for women (NNS 2011) and there is a lower primary school attendance rates amongst girls than boys in all provinces apart from in Baluchistan in 2010. Pakistan is also significantly weak in terms of maternal secondary education and has universally high rates of girls dropping out of school.

Although Pakistan has managed an agricultural growth of over 4% per annum in the past three decades (1970–2000), the sector faces several challenges which may contribute to this growth not being translated into nutritional improvements. These include the fixed wheat price which may not be beneficial to poorer farmers, disempowerment of the tenant farmers particularly in South Punjab and Sindh where feudalism still exists, the high proportion of small farmers (89.5% of farmers have less than 12.5 acres (Agricultural Census 2010) and significant post-harvest losses (approximately 20-40% of fruits and vegetables are lost). Food safety is also an important consideration since food is among the most important factors in transmitting pathogens that cause diarrheal illness (Motarjemi et al. 2012).

There are also economic and political factors that influence undernutrition. The Pakistan economic climate is unstable leading to significant impacts such as the Pakistani rupee being devalued to 40% since 2007, the unemployment rate being estimated to around 6.2% and inflation of 8.7%. The distribution of resources is unequal and even during relatively fair periods of aggregate economic growth there were limited reductions in the number of people below the poverty line. Furthermore, Pakistan faces challenges such as flooding and internal conflicts which affect mostly the northern part of the country.

While there is much greater recognition of nutrition post-devolution, progress has been slow, much more so for integrated nutrition strategies. There has been a push to develop key frameworks to guide nutrition efforts to address undernutrition. These include the Pakistan Integrated Nutrition Strategy (PINS) as well as Policy Guidance notes and Intersectoral Nutrition Strategies at the Provincial level. Attention has currently turned to the placement of nutrition responsibility with the provincial Planning and Development Departments (P&DDs) for effective steering across sectors and the establishment of coordination networks such as Steering Committees and Technical Working Groups at Provincial level. In addition, Pakistan joined the Scaling Up Nutrition movement (SUN) in January 2013. However, there continues to be an absence of meaningful political support for nutrition from the executive and political leadership partly due to the ongoing perception that nutrition is a health, not a developmental issue.

While nutrition specific interventions are being implemented to a certain extent, such as through the Lady Health Workers (LHW) programme or by non-governmental actors such as the EU Women and Children/Infants Improved Nutrition in Sindh (WINS) programme in Sindh and GAIN's support for food fortification, provincial planning for nutrition sensitive interventions has seriously lagged behind. Low capacity for designing nutrition sensitive schemes within the relevant sectors, lack of international best practice lessons for nutrition sensitive areas, and an absence of catalytic support from development partners are major underlying reasons for slow action. Turning the provincial strategies into plans has also been slow due to lack of political will, lack of funding and lack of support structures, although the 2015-16 fiscal years is the key year being targeted for logging in of activities into the provincial Annual Development Plans. These plans still fall under the umbrella of project focused development funding rather than sustained recurrent development expenditure.

All provinces have health Planning Commission 1 (PC-1s) in place and two provinces are planning nutrition-sensitive PC-1s water, sanitation and hygiene (WASH) (Punjab), agriculture (Punjab and Sindh) and school feeding (Punjab). The preference amongst provinces is for separate funding lines for each sectoral PC-1; the exception is Baluchistan where there is preference for the creation of a separate nutrition sensitive programme. The World Bank is managing a multi-donor trust fund (MDTF) that is funding activities from 2012 to 2017 with a focus on supporting nutrition specific and nutrition sensitive activities in provincial plans. The preferred role for a federal platform is for loose coordination rather than policy steering or monitoring which would include bringing cross-learning, provision of technical capacity in required areas and implementation of evaluation surveys. The general consensus is that this federal nutrition platform should be placed in the Planning Commission and indeed the SUN government focal point is the Chief of Nutrition in the Planning and Development division of the Planning Commission.

Although post devolution education sector plans (2013-17) are in place in all four provinces, these have not been geared towards nutrition sensitive interventions. However, school feeding programs are in place in some provinces but none have integrated child development strategies therein especially among younger children. Given the significance of gender in relation to undernutrition, the Ministry of Women Development has not been active in gender sensitive nutrition interventions apart from the girl child feeding Tawana Project in the 2000. However, three notable gender sensitive interventions have been formulated in recent years: i) reducing gender disparities in schooling by Education Department in Sindh and KPK; ii) breast feeding protection legislations by Health Departments in all provinces; iii) empowering women for agriculture- Finance Department in Sindh province.

In the agriculture sector some nutrition sensitive interventions are planned or are underway. In Sindh, a draft Agriculture & Food Security PC-1 is in progress for the next budgeting cycle and similarly in Punjab a draft PC-1 has been developed for livestock support aimed to low income rural women. Interest on home-gardening is also increasing although there is scant data on their effectiveness and impact. NGOs such as ACF, Save the Children and Merlin are implementing home garden projects, which will hopefully generate some evidence in the near future, although some of these efforts were not originally designed to have an impact on nutritional outcomes. As part of its humanitarian and resilience efforts, DFID has also supported agricultural activities for flood and conflict affected households and latterly an integrated approach has been taken, combining agriculture, livelihood, shelter and WASH activities to increase resilience and affect nutrition outcomes. In spite of this in general, there is a clear "disconnect" between agriculture and nutrition in Pakistan with little cross-talk between these sectors beyond food security and overall agricultural productivity.

Given widespread poverty and recent progress in addressing this through pro-poor schemes and safety nets, there is much potential for social protection schemes to target undernourished populations. Additionally, progress in introducing nutrition relevant conditionalities in social protection schemes has been very slow. In Sindh, EU-WINS support in three districts provides social protection alongside nutrition specific interventions while DFID funded ‘Research on Food Assistance for Nutritional Impact (REFANI)’ project is currently testing the effectiveness and cost-effectiveness of different cash transfer schemes on reducing the risk of undernutrition using ACF’s Programme in Sindh as a vehicle for the research.

In summary, notwithstanding myriad challenges and geographic disparities, Pakistan is ripe for concerted and integrated investments in nutrition specific and sensitive interventions. There are significant nutritional needs in Pakistan, and some of the associations with undernutrition that reflect intergenerational problems, such as the influence of maternal height, suggest that targeting interventions to key groups mainly mothers, adolescent girls, and children under 5 is key. Other key drivers such as poverty alleviation and maternal education also reinforce the need for a multi-sectoral approach. Notwithstanding the exacerbation of water insecurity in Pakistan by global climate change and environmental factors, public-sector investments in providing secure and safe water to the population must be scaled up. Similarly, a massive national campaign must be launched to improve environmental and living conditions and reduce the risks of faecal contamination.

In the post-devolution context, nutrition cross-sectoral dialogues have begun in each of the provinces, led by the P&DD and technically supported by development partners. Whilst momentum has been built for nutrition, it has to be sharpened and sustained. A bidirectional approach will be needed, aimed at securing both political and programmatic commitment. Political championing at the highest level is needed to establish nutrition as a development agenda across sectors. These policy dialogues can be strategically supported by refining roles between national and provincial governments. Whilst nutrition will have a strong provincial strategic home, there need to be links with federal overarching budgetary frameworks and with federally retained structures such as the Ministry of Food Security and Benazir Income Support Programme (BISP). Adoption of a nutrition lens is needed in sectoral planning across key sectors, such as poverty, food, agriculture, health, WASH, education, and disaster management. This would require identification and adoption of nutrition indicators in relevant sectors and a cross-sectoral nutrition framework to ensure sustainability. This must also be linked to non-state sectors and a nexus developed with Community Support Organisations (CSOs), experts, and media to segmentally target policymakers, implementers, and community. This landscape report and the accompanying options for action suggest a number of strategies for making this happen. Pakistan is ripe for this change and the time for mainstreaming across within and across sectors is now.

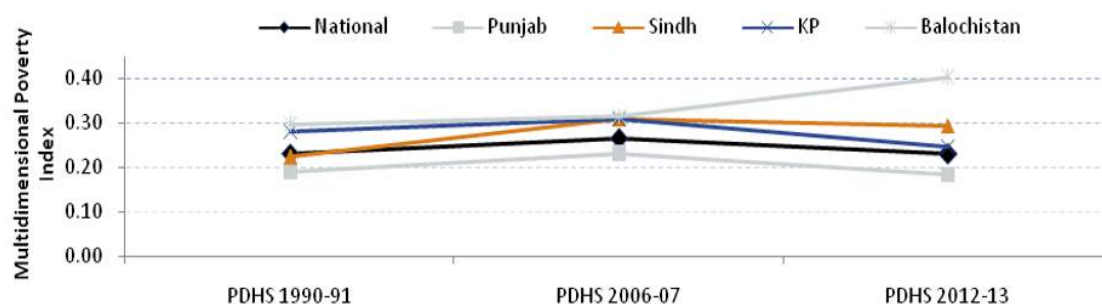
1. CURRENT BURDEN AND TRENDS OF MORTALITY, MORBIDITY, AND NUTRITION

Undernutrition in all its forms, including micronutrient deficiencies, accounts for 45% of all under-5 child deaths (Black et al. 2008). Progress in Pakistan over the last few decades in reducing maternal and child mortality and malnutrition has been slow. Data from recent national and international surveys suggest that Pakistan lags behind in most of the Millennium Development Goals (MDGs) including those related to maternal and child health. Progress in addressing key social determinants such as poverty and female education and empowerment has also been slow, and unregulated population growth has further compromised progress.

1.1 Poverty trends

In 2010, 12.7 per cent of the population were living on less than US\$1.25 per day, while 50.7% were living on less than US\$2 per day (World Bank 2015). Figure 1 shows the multidimensional poverty index for Pakistan since 1990, which has hardly shown any progress; of Pakistan’s four provinces, the situation is worst in Baluchistan, followed by Khyber Pakhtunkhwa (KPK), Sindh, and Punjab.

Figure 1: Pakistan multidimensional poverty index

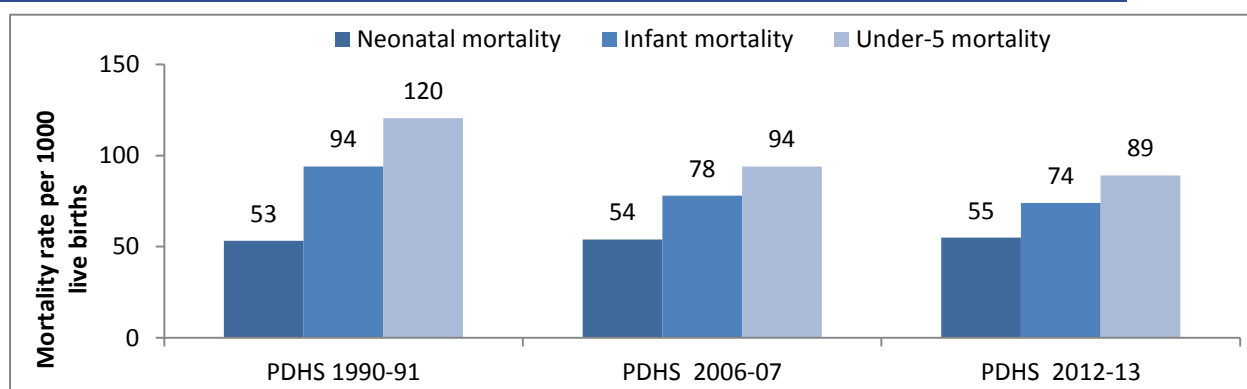


Source: Pakistan Demographic and Health Survey (PDHS) 1990-91, 2006-07, and 2012-13

1.2 Child mortality

Pakistan currently ranks 26th in the world for high under-5 child mortality (Hazir et al. 2013). Even though under-5 mortality rates have reduced from 120/1000 in 1990 to 89/1000 in 2012, they are far from the MDG4 goal of 46/1000 by 2015. Around half of under-5 deaths occur in the first month of life (202,000/year) (PDHS 2013, Bhutta et al 2013a). One in every 14 Pakistani children dies before reaching his/her first birthday, one in every 11 does not survive to the fifth birthday, and on average an infant dies in Pakistan every three minutes (Figure 2). The annual rate of reduction in under-5 mortality is 2.2% (Confidence Interval: 1.5–2.9) (Hazir et al. 2013). At this rate, Pakistan will not achieve MDG4 until 2033, which would be 18 years past the deadline. The rate of neonatal mortality has shown no reductions (from 53/1000 to 55/1000 live births) since 1990.

Figure 2: Trend data of neonate, infant, and under-5 mortality

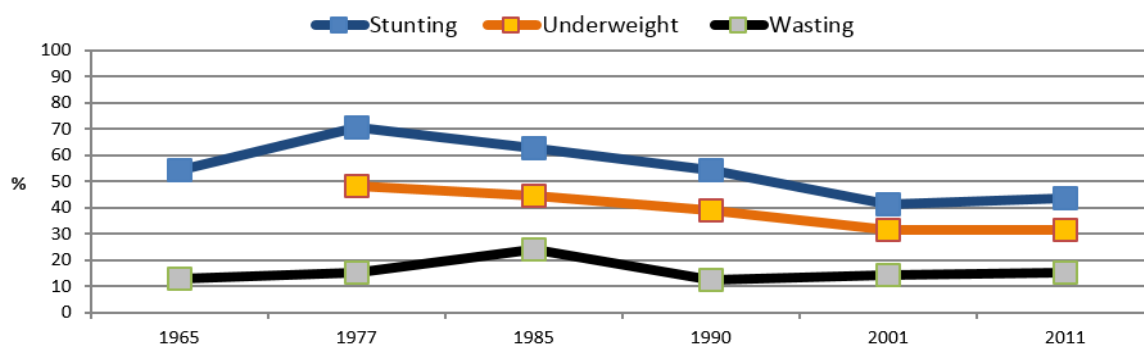


Source: Pakistan Demographic and Health Survey (PDHS) 1990-91, 2006-07, and 2012-13

1.3 Malnutrition in children under 5 years

Although the proportion of underweight children under 5 years has declined from 39% to 31.5% since 1990 (as observed in both rural and urban areas), stunting has increased between 2001 and 2011, from 39% to 43.7%. The prevalence of wasting has also increased from 12.5% in 1990 to 15.1% in 2011 (Figure 3). There is an urban/rural variation in the prevalence of stunting (urban 37%, rural 46%) and underweight (urban 26.6%, rural 33.3%), but the prevalence of wasting showed relatively smaller difference between rural and urban populations (urban 13%, rural 16%).

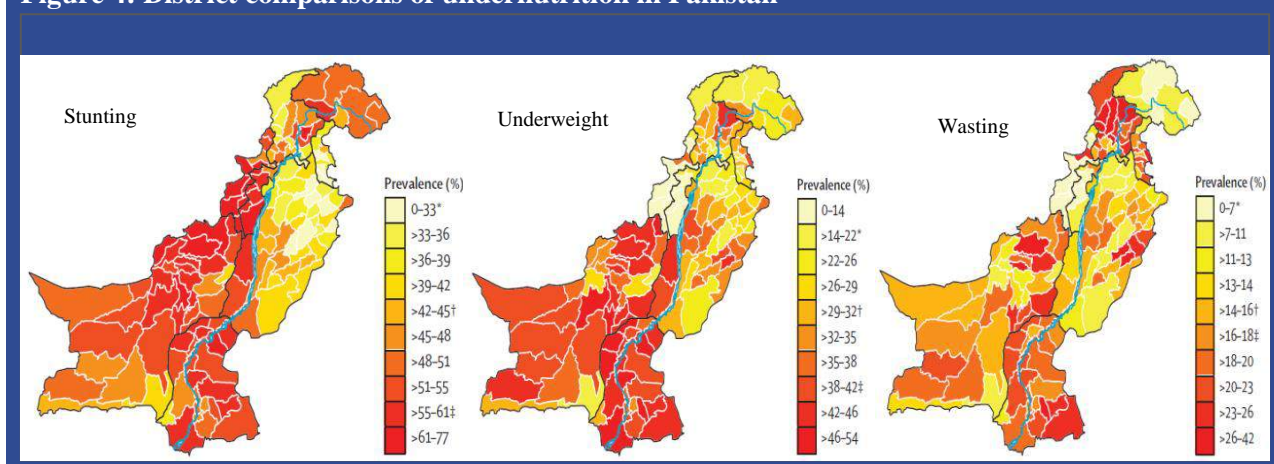
Figure 3: Trends in stunting, wasting, and underweight for children under 5



Source: 1965 NS West Pakistan; 1977 MNS; 1985-7 National Nutrition Survey (NNS); 1990-4 NHS; 2001-2 NNS; 2011 NNS

The provinces of Baluchistan and Sindh share the maximum burden of undernourished children. As shown in Figure 4, stunting prevalence varies greatly in Pakistan's districts, ranging between 22% and 76%. The lowest figures for wasting and underweight were both less than 2.5% and the highest were 42% for wasting and 54% for underweight.

Figure 4: District comparisons of undernutrition in Pakistan



Source: Di Cesare et al. 2015

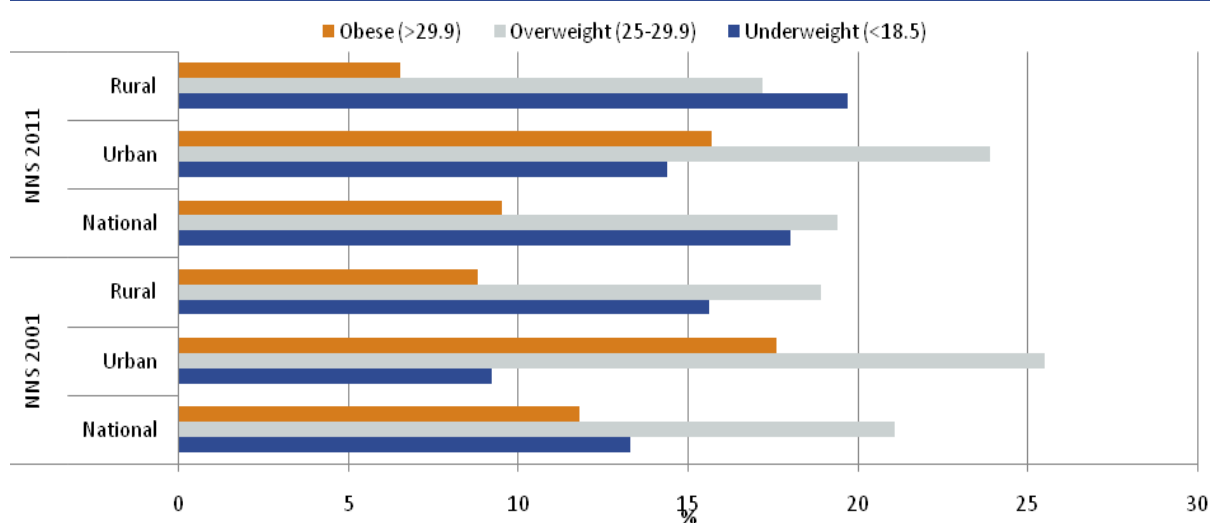
Micronutrient deficiencies are endemic in children in Pakistan; this reflects a combination of dietary deficiency, poor maternal and child health and nutrition, a high burden of morbidity, and low micronutrient content of the soil especially for iodine and zinc (National Nutrition Survey [NNS] 2011). Most of these micronutrients have profound effects on immunity, growth, and mental development, and these deficiencies may underlie the high burden of morbidity and mortality amongst children in Pakistan. NNS surveys reveal that more than half of under-5 children are anaemic and that

this proportion has increased from 2001 to 2011. Also, almost one third of the children have iron-deficiency anaemia, and the prevalence of severe and moderate vitamin A–deficiency has also worsened over the decade.

1.4 Malnutrition in women and adolescents

Malnutrition in all its dimensions is also widely prevalent in women in Pakistan. The NNS 2011 suggests that 18% of adult women are thin or undernourished (body mass index [BMI] less than 18.5 kg/m²) and this proportion has increased from 2001 (NNS 2011) (Figure 5). On the other hand, adult obesity shows rising trends; a recent global burden of disease study estimated that one in three adults are overweight, with global and regional trends showing an increase since 1980 (Ng 2014).

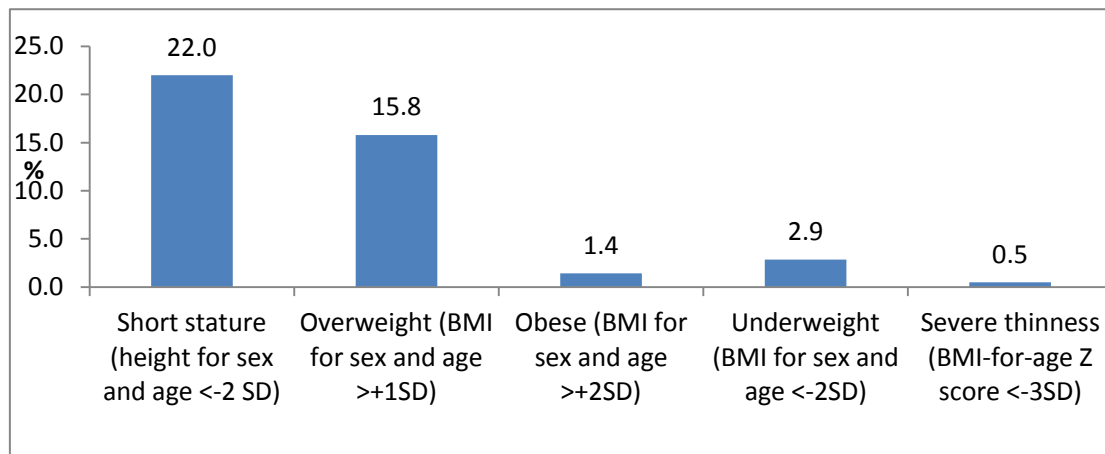
Figure 5: BMI (kg/m²) in adult women – underweight, overweight, and obese



Source: National Nutrition Survey (NNS) 2011

In a comparison of 106 districts, more women were overweight than were underweight, and in 49 of these districts more women were obese than were underweight. Among adolescents, as many as 22% are stunted, while 17% are obese or overweight (Figure 6).The latter as an emerging phenomenon in Pakistan among women of reproductive age may represent a combination of diets as well as limitations in physical mobility among young girls and women given social restrictions and limited opportunities

Figure 6: Nutrition status for adolescents 15-19 years

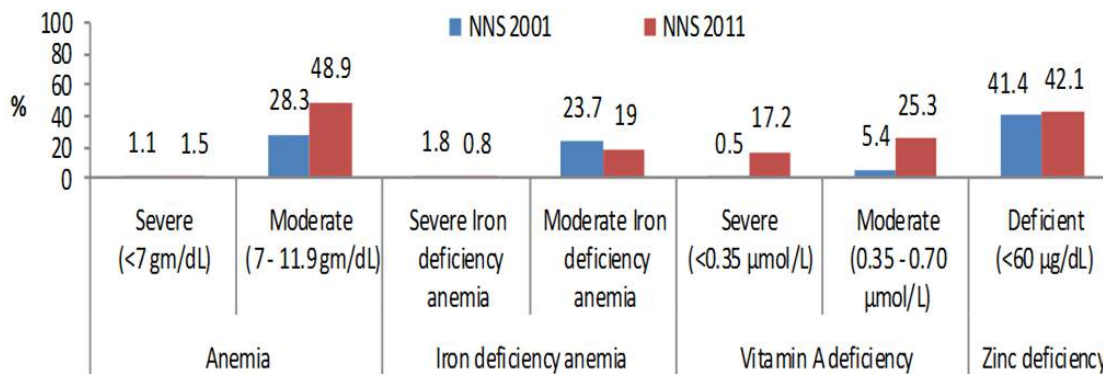


Source: Pakistan Demographic and Health Survey (PDHS) 2012-13

In 2011, 49% of women were moderately anaemic during pregnancy, which was a significant increase from 28% in 2001. Severe vitamin A deficiency increased from 0.5% to 17.2% and moderate deficiency from 5.4% to 25.3% in 2001 to 2011. Zinc deficiency is consistently high from 2001 to 2011 (Figure 7).

Among women, malnutrition results in loss of productivity, increased chances of illness, slower recovery, and intensified risk of adverse pregnancy outcomes (obstructed labour, postpartum haemorrhage, baby with low birthweight [LBW], producing insufficient or low-quality breast milk, and morbidity for herself, her baby, or both) (Imdad et al. 2012).

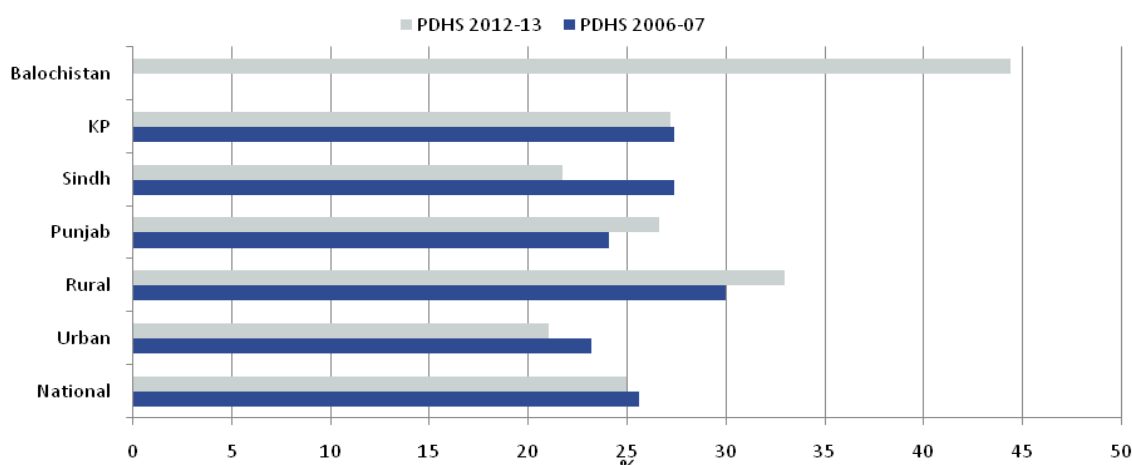
Figure 7: Trend data on micronutrient deficiencies – maternal



Source: National Nutrition Survey (NNS) 2001 and NNS 2011

It is also identified that the birth of small for gestational age (SGA) babies may be associated with almost a fifth of all recognizable stunting at 6 months of age. In Pakistan it is well recognized that almost half of all stunting is well established by 6 months of age and could be related to foetal malnutrition. Figure 8 shows the LBW burden, which has marginally improved since 2006-07 with a high urban-rural divide; the highest prevalence is in Baluchistan.

Figure 8: Low birthweight trends in Pakistan



Low birthweight (LBW) 2006-07 data are not available for Baluchistan Province. KPK=Khyber Pakhtunkhwa.

Box 1: Associations with undernutrition

Cesare et al. (2015) looked at the associations between determining factors and undernutrition. For children, these determinants included the child's age and sex; mother's education, height, and BMI; household wealth index, food security, water, sanitation, and type of fuel used for cooking; and rural versus urban place of residence. For women, associations with education; household economic status, food security, access to clean water, access to sanitation, and type of fuel used for cooking; and rural versus urban place of residence were analysed.

Disaggregated data suggest that there is prominent inequity between the nutritional indicators of urban and rural populations, with rural faring the worst, and data by wealth quintiles also suggest that children from the poorest wealth quintile are at a disadvantage. Interestingly, the gender comparisons suggest that malnutrition is more prevalent in male children than female. An analysis also shows that children were better nourished if their mothers were taller or had higher weight, if they lived in wealthier households, and if their mothers had 10 or more years of education.

Another analysis suggests that underweight is more likely to occur among the poorest, uneducated, and rural-dwelling Pakistani women, suggesting that targeted nutrition intervention for the underprivileged populations is crucial for improved outcomes.

2. UNDERLYING DETERMINANTS

This landscape analysis identifies several determinants of malnutrition in Pakistan with a focus on 1) immediate causes, 2) underlying causes, and the 3) nutrition governance and enabling environment.

2.1 IMMEDIATE CAUSES

2.1.1 Infant and young child feeding practices

Poor infant and young child nutrition (IYCN) practices are widely prevalent in Pakistan and a key determinant of child malnutrition in the country (Table 1). All IYCN indicators in Pakistan are ‘undesirably low’ compared to other countries in South Asia. An analysis of most recent IYCN data from Pakistan, Bangladesh, Sri Lanka, Nepal, and India makes Pakistan conspicuous for having the lowest rates for early initiation of breastfeeding, exclusive breastfeeding rates, and timely initiation of complementary feeding, as well as the highest rate in the region for bottle-feeding. According to multivariate analysis of the Pakistan demographic and health survey, bottle-feeding practices are more common among educated women, working women, women residing in the urban areas, and women falling in the upper income quintiles. Since such women are looked upon as role models in the society, it is essential that they do not communicate wrong messages by opting in favour of bottle-feeding (Hazir et al. 2013).

According to NNS 2011, immediate breastfeeding was initiated in 38% to 41% of all births (PDHS 2013) whereas exclusive breastfeeding was carried out for only 13% of infants younger than 6 months (NNS 2011). Overall, 90% of mothers did breastfeed their children at least once (NNS 2011), which declined to 77% of children until 12 to 15 months of age and 54% until 23 months (PDHS 2013). Complementary feeding is encouraged to start at 6 months of age, but in Pakistan 19% of children aged 4 to 5 months were being fed solid to semi-solid food in addition to breastfeeding (PDHS 2013) and complementary feeding practices are far from optimal. Furthermore, 20% of children aged 2 months and 46% aged 9 to 11 months were reported using bottles with nipples (PDHS 2013).

Table 1: Breastfeeding (BF) and complementary feeding (CF) rates in Pakistan									
	NNS 2011		PDHS 2013		National CF survey (2006-07)		Food consumption survey (2011-12)		
Exclusive BF under 6 months	2174	13	1164	37.7	298	30.5	285	3.5	
Continued BF 12–15 months	166	77.3	864	80.6	335	68.7	52	62.5	
Continued BF at 2 years	753	54.3	837	56	499	43.9	57	42	
Age-appropriate BF of children (0–23 months)	9083	63.6	4262	56			768	33	
Introduction of semi-solid food (6–8 months)	1591	51.3	466	66	1043	64.6	140	68.6	
Minimum dietary diversity (6–23 months)*	6909	3	2855	22.2	1075	8.7	498	8.6	
Minimum meal frequency (6–23 months)**	6909	56.4	2855	62.7	1075	90.7	498	65.3	
Minimum acceptable diet (6–23 months)***	6909	7.3	2855	14.8	1075	8.1	498	4.8	

Source: National Nutrition Survey (NNS) 2011; Pakistan Demographic and Health Survey (PDHS) 2013; national complementary feeding and food consumption surveys

*Proportion of children 6–23 months who received food from four or more food groups in the past 24 hours. The seven food groups used to calculate this indicator are: grains, roots, and tubers; legumes and nuts; dairy products; flesh foods; eggs; vitamin A-rich fruit and vegetables; other fruits and vegetables.

**Proportion of children 6–23 months who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more (breastfed: $\times 2/\text{day}$ for those 6–8 months; $\times 3/\text{day}$ for those 9–23 months; non-breastfed: $\times 4/\text{day}$ for those 6–23 months).

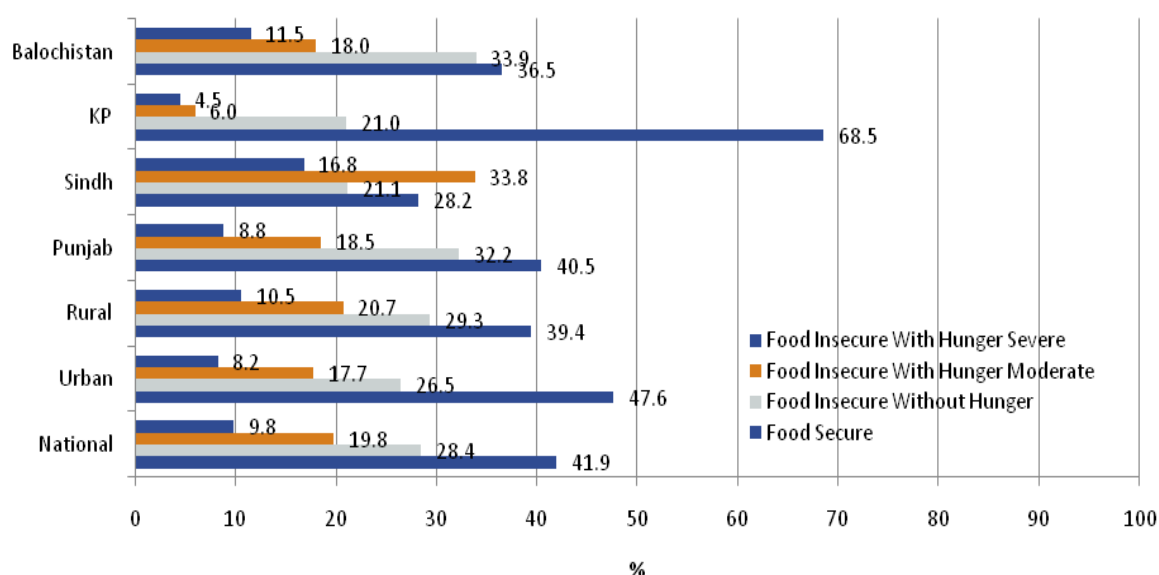
***Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breast milk). This is calculated using the minimum dietary diversity and the minimum meal frequency indicators.

Evidence also suggests that hospital deliveries result in higher rates of bottle-feeding. In addition to lack of awareness, poor food choices underlie the widespread use of inappropriate complementary foods with poor micronutrient content and bioavailability. Although nationally representative data are limited, available information suggests that most home-available foods offered to infants are of poor dietary quality and that inappropriate complementary feeding practices are often prevalent even in food-secure households. Relatively low literacy rates especially among women, women’s lack of empowerment and involvement in decision-making, early marriages, high fertility rates with lack of birth spacing, and poor access to health care facilities are all important proximal determinants of child and maternal nutrition practices in Pakistan (NNS 2011).

2.1.2 Dietary intake, diversity, and quality

Pakistan currently ranks 57th on the Global Hunger Index (von Grebmer et al. 2012). Food security is defined by the Food and Agriculture Organization (FAO) of the United Nations as food availability (availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports), food access (access by individuals to adequate resources for acquiring appropriate foods for a nutritious diet), utilization (utilization of food through adequate diet, clean water, sanitation, and health care to reach a state of nutritional well-being), and stability (access to adequate food at all times). A major challenge in assessing accurate food security data is that most estimates are indirect and inexact and few if any estimates of consumption relate to directly observed food availability or intake. Based on reported estimates of household-level food security using standard questionnaires, around 42% of Pakistan's population is food secure, with a rural and urban variation of 40% to 48%. As shown in Figure 9, KPK has the highest rates of food security (69%), whereas Sindh has the lowest (28%) (NNS 2011).

Figure 9: Food security trends in Pakistan



Source: National Nutrition Survey (NNS) 2011

Food basket assessments and food consumption surveys, although fraught with incomplete information around women and children, suggest that more than half of the population have inadequate caloric consumption, consuming less than 2,100 kcal per person per day (World Food Programme [WFP] 2014). A comparison of a minimum food basket with the food availability and consumption in Pakistan during 2010-2011 shows that the minimum food basket in the country is below the food availability whilst the consumption is even lower. When food availability is taken into consideration, there is enough food for everyone, with at least 2,720 kcal available per person/day globally (FAO 2009) and 2,428 kcal/person/day in Pakistan (FAO 2012). The problem is that most people do not have the purchasing power or access to food, resulting in food insecurity and malnutrition (WFP 2014).

According to the most recent Economic Survey of Pakistan (2015), the per capita availability of calories and commodities is not sufficient and the availability of vegetables and fruits is also lacking, suggesting diversification of dietary intake is required (Table 2). Pulses (masoor, gram, mash, moong) are cultivated in barani (rain-fed) areas and are greatly dependent on favourable weather conditions;

therefore their production is quite unpredictable. These crops are the main source of proteins for the poor, since meat products are beyond affordability for this segment of the population. Milk is the only source of animal protein that is available to the rural population. A majority of rural households keep two to four mulch animals, but with the onset of big dairy industry and aggressive milk collection campaigns, this commodity may also become scarce for the rural poor.

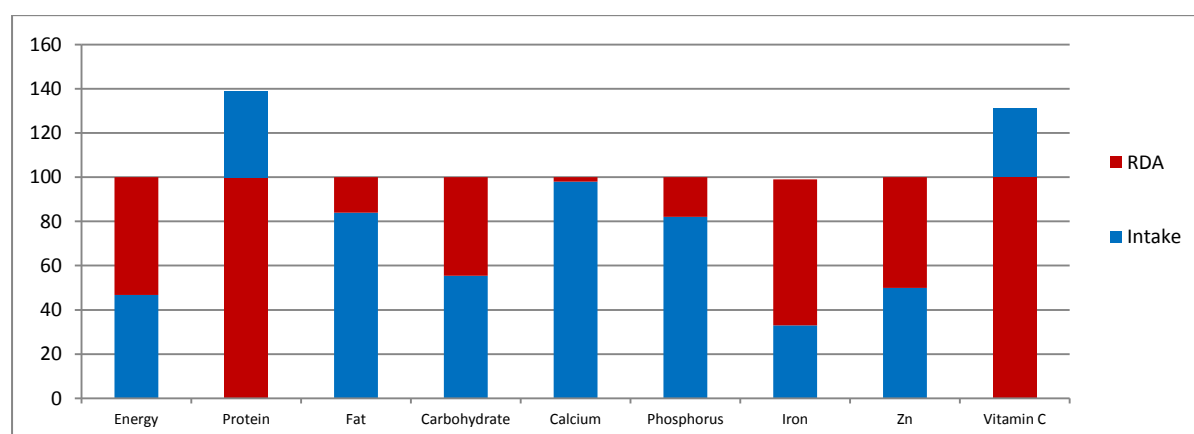
Table 2: Per Capita Availability of Calories (%) in Pakistan

Item	Year/Unit	2010-11	2011-12	2012-13	2013-14	2014-15
Cereals	Kg	159	160	160	161	162
Pulses	Kg	7	7	7	6.5	7
Sugar	Kg	27	30	31	32	32.5
Milk	Litre	113	97	100	135	170
Meat	Kg	21	22	19	21	21.5
Eggs	Dozen	6	6	6	6	6
Edible oil/Ghee	Litre	13	13	13.5	12.6	13
CALORIES	Per day	2,420	2,430	2,450	2,484	2,490

Source: Ministry of Planning, Development, and Reforms 2015

A major determinant of appropriate feeding among children beyond 6 months of age and maternal nutrition is the dietary quality and diversity (range of food categories) of food available and administered at home. Figures 10 and 11 show the dietary patterns of Pakistan women and children. The intake of maternal and child micronutrients (except vitamin C) is below the recommended level, while the energy intake is far below the required level.

Figure 10: Average diet of child 0-23 months as part of RDA (recommended daily allowance)

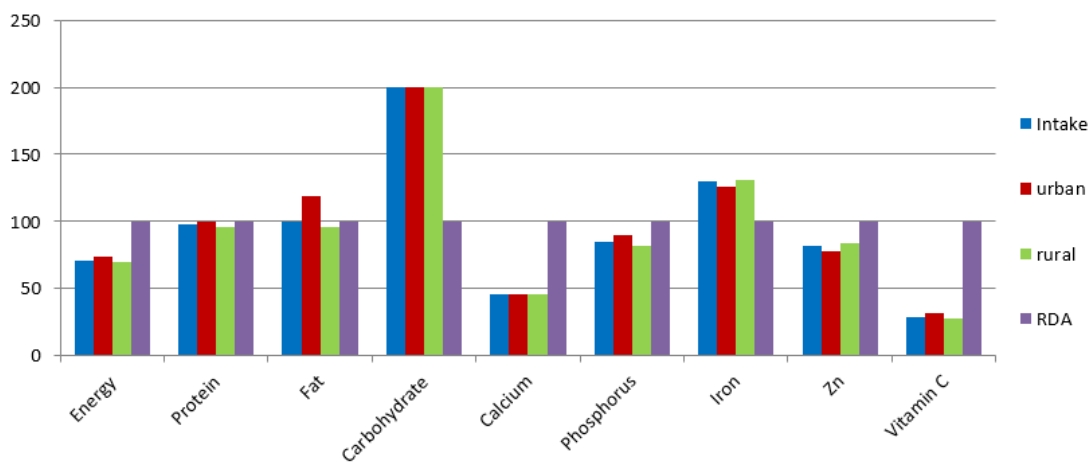


Source: National Nutrition Survey 2011

Minimum dietary diversity is estimated as the proportion of children 6 to 24 months of age who received foods of four or more food groups out of a total number of seven food groups defined. The NNS 2011 findings revealed that only 3.0% of the children received a diet that meets the minimum

standards of dietary diversity. Children in urban areas were more likely to receive a minimum dietary diversity than those in rural areas (5.6% compared to 1.9%). Overall, 56.4% of mothers provided food to their children at an acceptable meal frequency. The minimum meal frequency practice was higher in urban areas (65.4%) than in rural areas (52.4%). About half of all mothers practiced minimal meal frequency in all provinces. An average child under 2 years of age consumes around 500 kcal/day, 18 gm of protein, 25 gm of fat, 55 gm of carbohydrates, 489 mg of calcium, 376 mg of phosphorus, 3.6 mg of iron, 1.5 mg of zinc, and 19 mg of vitamin C. A typical diet for children (0 to 23 months) included wheat (18.9 gm/day), rice (13.8gm/day), pulses (23.9 gm/day), eggs (2.9 gm/day), meat (3.1 gm/day), vegetables (8.3 gm/day), fruit (14.4 gm/day), milk (244 ml/day), and tea (31.4 ml/day). All intakes were higher in urban versus rural areas.

Figure 11: Maternal food intakes as proportion of recommended daily allowance (RDA)



Source: National Nutrition Survey 2011

Use of certain foods at certain seasons is affected by common perceptions of foods as having “hot” or “cold” properties. Cold foods are considered to affect the digestive system and can cause or worsen a cold, while hot foods are perceived to lead to gastric problems that can be transferred vertically from mother to child both during pregnancy and lactation. Cold foods include vegetables, mangoes, apricots, rice, and dairy. Hot foods are seafood, meat, clarified butter, eggs, spinach, soup, and spices.

According to the NNS 2011, women said they served men first and overall children are given first priority when there is a food shortage. However, care providers said that women and girls were neglected and their dietary needs were not met sufficiently. Lessons from Alive and Thrive projects indicate that these perceptions could be addressed through behaviour change interventions.

	Sindh FANS UNICEF		Punjab FANS UNICEF		AKU Surveys
	North Sindh	South Sindh	Severely affected	Moderately affected	
Has the child received Vitamin A supplementation					
Yes	118 (25.8%)	320 (80%)	247 (40.6%)	410 (80.1%)	298 (32.2%)
No	339 (74.2%)	80 (20%)	362 (59.4%)	102 (19.9%)	602 (65.1%)
Don't know	-	-	-	-	25 (2.7%)
N	457	400	609	512	925
Child illness during the past two weeks					
Yes	248 (54.6%)	168 (42.6%)	438 (72.5%)	321 (61%)	630 (66.7%)
No	206 (45.4%)	226 (57.4%)	166 (27.5%)	205 (39%)	315 (33.3%)
N	454	394	604	526	945
Diarrhoea in last two weeks					
Yes	62 (25%)	33 (19.6%)	90 (20.5%)	40 (12.5%)	325 (34.6%)
No	186 (75%)	135 (80.4%)	348 (79.5%)	281 (87.5%)	613 (65.4%)
N	248	168	438	321	938
ARI in last two weeks					
Yes	73 (29.4%)	36 (21.4%)	49 (11.2%)	40 (12.5%)	315 (33.4%)
No	175 (70.6%)	132 (78.6%)	389 (88.8%)	281 (87.5%)	628 (66.6%)
N	248	168	438	321	943

Source: Hossain et al. 2013

2.1.3 Childhood diseases affecting nutrition

Childhood illnesses including neonatal sepsis, diarrhoea, and pneumonia also contribute to malnutrition, and in recent years the important contribution of recurrent respiratory infections to childhood undernutrition has also been recognized. Diarrhoea and pneumonia are the two most common killers of children under 5 and account for more than 30% of all under-5 deaths in Pakistan (PDHS 2013). There have been negligible improvements in the coverage of essential interventions including oral rehydration solution (ORS) for diarrhoea and antibiotics for pneumonia (Table 3 and Table 4).

Universal immunization of children under age one against major vaccine-preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, hepatitis B, Haemophilus influenza type B [Hib], poliomyelitis, and measles) is one of the most cost-effective means of reducing infant and child morbidity and mortality and improving nutrition (Brenzel et al. 2006; Jones et al. 2003). Overall vaccination coverage in Pakistan has gradually increased from 35% in 1990 to 47% in 2006-07 and to 53.8% in 2011-12 (PDHS 2013). A lot more is desired to achieve universal coverage and the progress has been largely off track. There is also regional variation observed in vaccination coverage. Punjab and KPK have shown a slight improvement in their routine immunization coverage, but there has been an alarming decline in Sindh and Baluchistan.

Table 4: Coverage for diarrhoea and pneumonia interventions in children

	Diarrhoea (last 2 weeks)	Care seeking for diarrhoea	ORS fluids	ORT	Pneumonia (last 2 weeks)	Care seeking for Pneumonia	Antibiotics for pneumonia
PDHS 1990-91	14.5	48.3	38.8	47.6	16.0	66.4	41.5
PDHS 2006-07	21.8	54.5	41.1	55.1	14.1	69.3	50.3
PDHS 2012-13	22.5	61.0	38.0	45.9	15.9	64.4	41.5

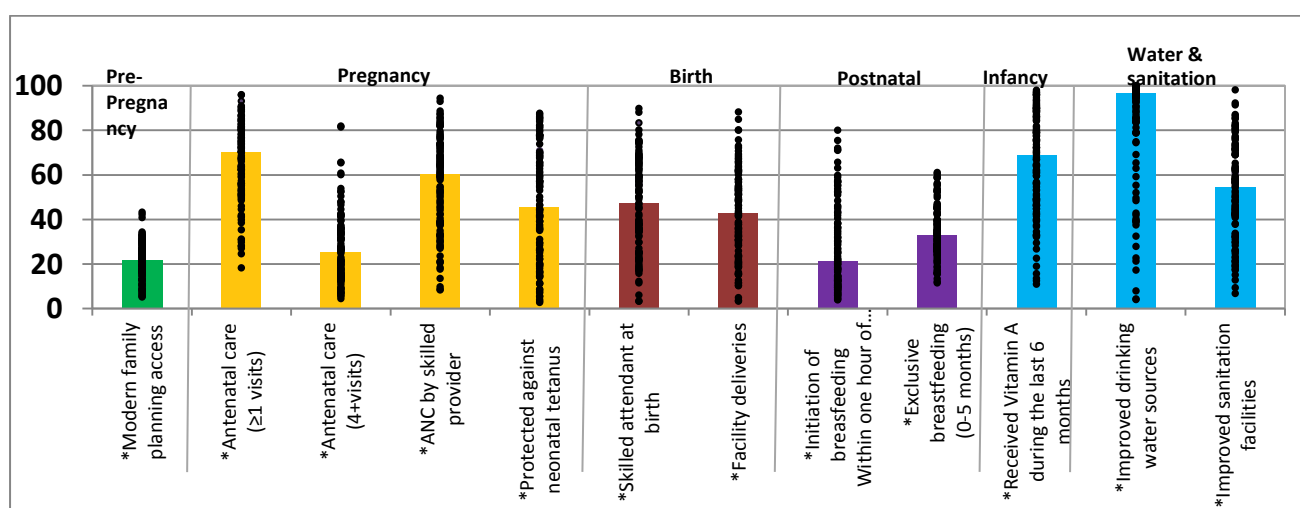
Note: ORS = oral rehydration solution; ORT = oral rehydration therapy; PDHS = Pakistan Demographic and Health Survey

3. UNDERLYING CAUSES

3.1 Access to nutrition and health services

At community level, the lady health worker (LHW) is the main implementing agent for nutrition programmes, distributing micronutrient supplements, undertaking screening for acute malnutrition, and conducting IYCN counselling and education. They also refer pregnant women for antenatal care services at the Basic Health Units (BHUs) and provide family planning advice and basic health care. Sparse and patchy time series data show that the coverage of target populations by LHWs at provincial level has remained between 28% and 58% (Pakistan MDG Report 2013). Evaluation findings suggest that the population served by LHWs had substantially better health indicators than the control population. Coverage remains imbalanced, however, partly because in some areas the entry-level qualifications are too high, resulting in few or no candidates. Pakistan has a good coverage of vitamin A supplementation, ranging from 80% to 90% between provinces, but there are uncertainties around the data. Notwithstanding the presence of interventions in the health sector and nutrition systems, current coverage rate gaps and differentials between districts are huge (Figure 12 and Annex 1).

Figure 12: Median coverage and district-wise range of selected essential interventions

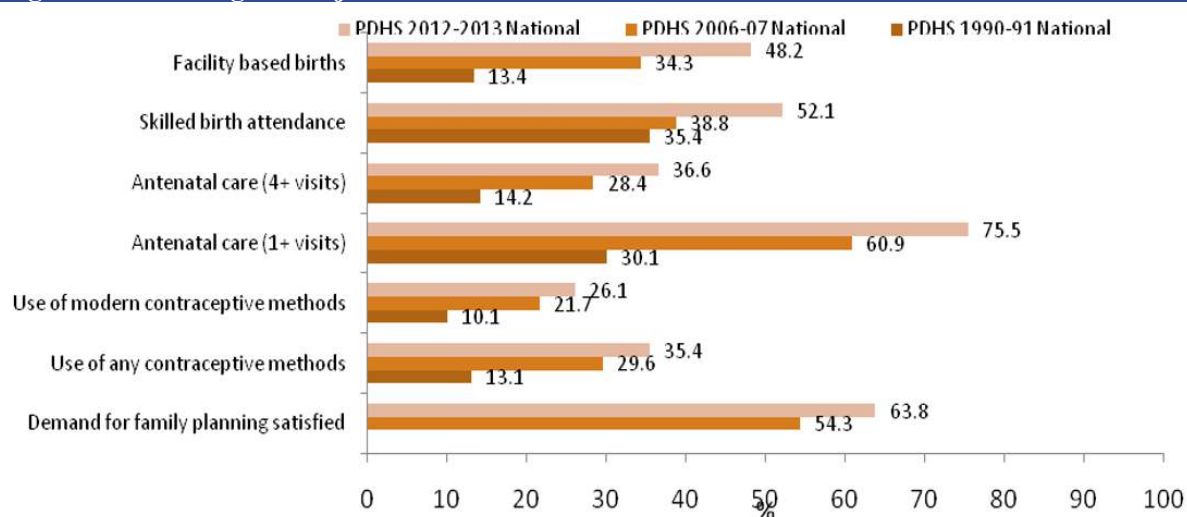


Source: *Pakistan Demographic and Health Survey (PDHS) 2012-13

Maternal and child health services, particularly prenatal care and skilled birth attendance (delivery conducted by a trained health professional, rather than by an untrained birth attendant or a family

member) is an important determinant of maternal health. Women who have access to these services are likely to have a healthy pregnancy and a healthy baby (Bhutta et al. 2014). DHS data show that in Pakistan access to health care has increased over the decade for care-seeking during pregnancy and for delivery (Figure 13) but still these are far from universal coverage. In 2013 almost three quarters of pregnant women received antenatal care (ANC) once from skilled providers. A marked increase has been observed in the coverage of ANC from 30% in 1990 to 61% in 2006-07 and 75% in 2012-13, although only 36% women receive the recommended four or more visits during pregnancy (Figure 13). From 1990 to 2006, the proportion of births conducted by skilled health professional has been almost stagnant (35% to 39%), while in the past six years, there has been an increase of 13 percentage points to 52% in 2012-13.

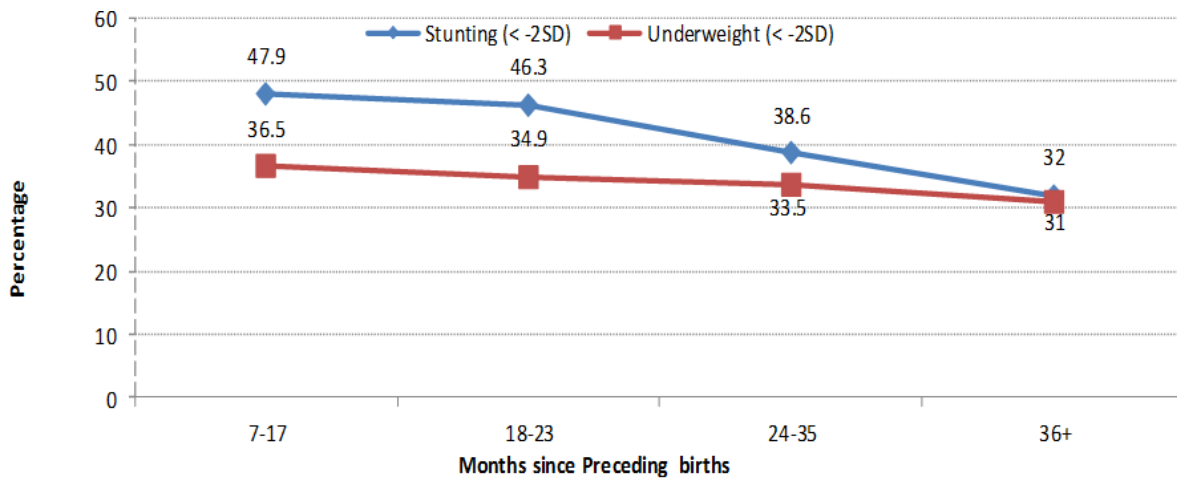
Figure 13: Coverage of major interventions for women in Pakistan



3.1.2 Fertility rates and family planning

Although the important contribution of high fertility rates to high rates of population growth and limited resources is well recognized, the way that high fertility rates affect maternal and child malnutrition is less well appreciated. Not only do repeated pregnancies lead to “maternal depletion” but short inter-pregnancy intervals in Pakistan are also associated with higher rates of stunting among children, as evidenced by the relationship within the NNS 2011 data (Figure 14).

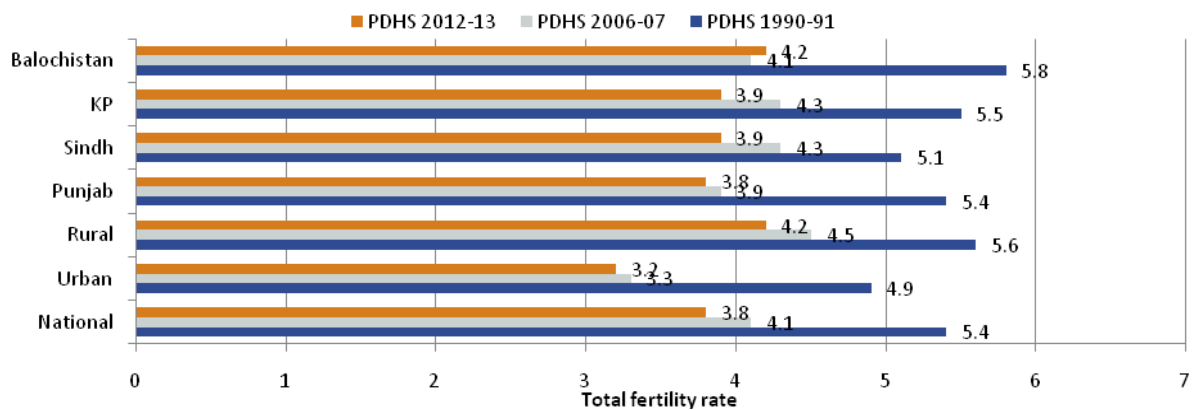
Figure 14: Relationship of inter-pregnancy interval with childhood stunting



Source: National Nutrition Survey 2011 (secondary analysis)

Level of contraceptive use provides the most obvious and widely accepted criterion of the success of a family planning programme. Currently 35% of married women are using some sort of contraceptives and about 26% are using modern contraceptives. Small progress has been observed in the contraceptive prevalence rate (CPR) from 10% in 2006-07 to 26% in 2012-13. The MDG 5 goal is to increase the CPR to 55% by 2015, and the progress has been far from satisfactory as it is not even half way to the proposed target.

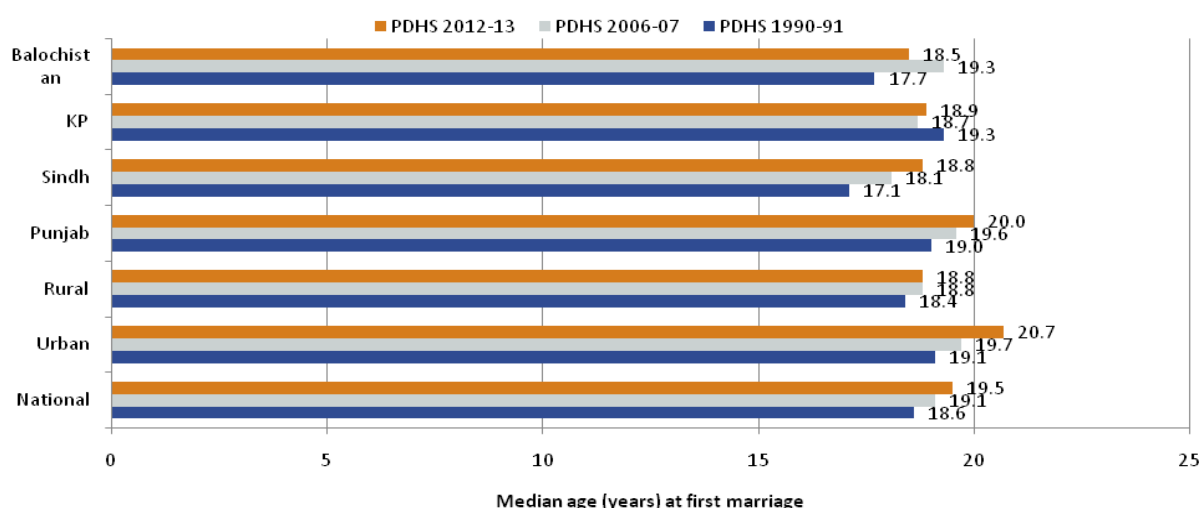
Figure 15: Fertility trends since 1990 in Pakistan



Source: Pakistan Demographic and Health Survey (PDHS)

There has been a decrease in the overall fertility rate, which has declined from 5.4% in 1990 to 3.8% in 2012 (Figure 15), and the age at marriage has slowly improved from 18 to 19.5 (Figure 16) over the same time period. However, there are major differences between provinces, with Baluchistan faring the worst on these two indicators.

Figure 16: Trends of age at first marriage in Pakistan

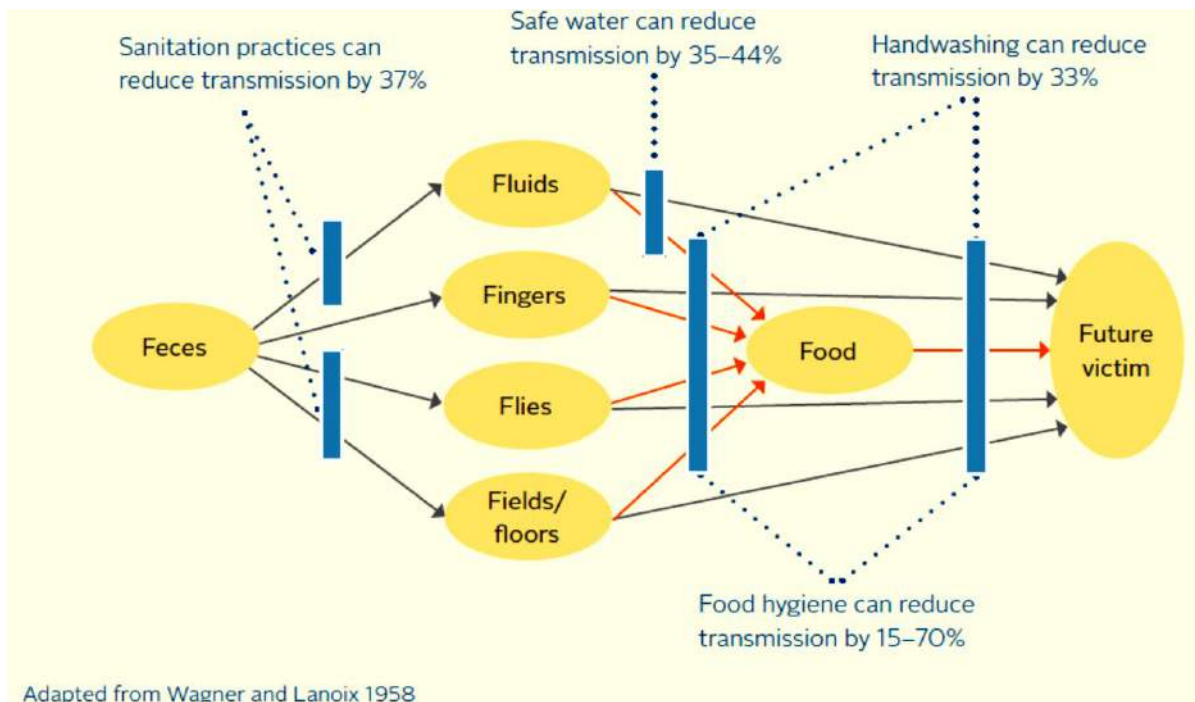


Source: Pakistan Demographic and Health Survey (PDHS)

3.2 Water, sanitation, and hygiene

Access to safe water and sanitation are basic determinants of health and are closely linked with nutrition status. There is considerable evidence to link access to safe water and especially sanitation to child health and stunting. The latter may be related to excess risk and burden of diarrhoea but is probably mediated through excess exposure to environmental pathogens, enteropathy, and systematic factors. Diarrhoeal diseases are the second leading cause of death among children under 5 years of age in low-income countries and responsible for approximately 10.5% of child deaths annually (Child Health Epidemiology Reference Group 2012). Diarrhoea can cause acute wasting and is the most important infectious determinant of stunting of children’s linear growth (Black et al. 2013). Food is among the most important factors in transmitting pathogens that cause diarrhoeal illness (Motarjemi et al. 2012) and an estimated 70% of diarrhoeal episodes among young children could be due to pathogens transmitted through food (Motarjemi et al. 1993; Esrey and Feachem 1989). Figure 17 outlines the pathways of faecal transmission of pathogens and the key practices that will result in reductions in diarrhoea.

Figure 17: Pathways of transmissions of faecal pathogens and reductions of diarrhoea from improved practices



A recent World Bank report based on analysis of trends in DHS data suggests that open defaecation explained 54% of international variation in child height by contrast with gross domestic product (GDP), which only explained 29%. A 20 percentage point reduction in open defaecation was associated with a 0.1 standard deviation (SD) increase in child height (Spears 2013). The World Bank Water and Sanitation Program (WSP) report also estimated for the year 2006 that poor sanitation access cost Pakistan US\$5.7 billion annually. The same study used a variety of sources, including subnational studies, to estimate that the coverage level for sewage collection was around 50% nationally (20% coverage in rural areas), with only 10% of sewage being effectively treated. Treatment plants existed in only a few cities, with many being non-functional. The latest WHO and UNICEF Joint Monitoring Report (JMP – 2014) estimated that only 48% of the population were accessing improved toilet facilities, falling well short of Pakistan’s MDG sanitation target of 64% by 2015. Of the total population, approximately 41 million people (23%) defecate in the open, and an estimated 10.8 million people (6%) used shared toilets. In rural areas, 34% of the population still practice open defaecation. Poor sanitation, unhygienic practices and poor quality water has primarily lead to a high diarrhea disease burden that has led to the deaths of 110 children under the age of 5 every day in Pakistan and contributed to the current high rates of stunting (IGME 2014).”

Another major issue is water security and safety. According to the Pakistan Council for Research in Water Resources (PCRWR), out of 12,000 water supply schemes, only 3200 schemes have been completed and a survey revealed that 35% of these are non-functional due to insufficient funds, repair or maintenance problems, low pressure in the system, drying of the source, etc. and that only 20% of schemes have an available water treatment facility. Water quality is unsafe for drinking in a majority of locations: 72% unsafe at the source (83% bacteriological contamination) and 83% unsafe at the user end (86% bacteriological contamination) (PCRWR 2014).

Data quality on water supply and trends remains problematic given the inaccuracy of data collection and classification of “improved” water. The NNS 2011 suggests that around 50% of the population has access to piped water, with wide inter-province variances. While much of rural Pakistan and urban slums do not have access to safe water and sanitation, a major stumbling block is the quality of available data and some of the definitions used for characterizing “safe water” including rain water

collections. Other data have indicated that the majority of households (90%) do not treat their drinking water, and only 8% of households use an appropriate water treatment method. Rural households are much less likely than urban households to treat their water appropriately (2% and 21%, respectively). Overall, boiling water prior to drinking is the most common treatment method (7%), with a breakdown of 1% of rural households and 19% of urban households.

Finally, in relation to water quality, we need to factor in the intermittency of water supply and potential sewage admixture, which may make piped water a greater risk factor in some areas. This is especially the case in urban slums of mega cities. Important contributors to the adverse influences of unsafe water and inappropriate sanitation are hygiene practices, especially hand hygiene. Handwashing with soap and water has been shown to reduce the burden of diarrhea (and also respiratory infections) (Bhutta et al 2013) and may be clearly related to education level of households as well as availability of water.

3.3 Education

The average adult literacy rate in Pakistan is 54.9% (World Bank 2014), breaking down to 67% for men and 42% for women (NNS 2011). There are lower primary school attendance rates amongst girls than boys in all provinces apart from Baluchistan in 2010 (Table 5). Pakistan is significantly weak in terms of maternal secondary education, and this lack of education impacts the nutritional status of children. A positive relationship was found between the nutritional status of infants and educational status of mothers. A study revealed that the majority of Pakistani infants falling in various degrees of malnutrition belonged to the uneducated mothers. A similar relationship was observed between the educational status of respondents and the introduction of complementary foods at an appropriate age (6 months) of infants. It was noted that a high percentage of respondents (34.8%) who introduced complementary foods to their infants at 6 months were educated. Similarly educated Pakistani mothers were more aware of the appropriate frequency of complementary feeding in every age group. The study concludes that a mother's education play a vital role in increasing receptivity to nutritional requirements of their infants and improved complementary feeding practices (Liaqat et al. 2006).

Table 5: Primary school attendance rate by gender (MICS surveys)

	Gender	Percent attending primary school
MICS Punjab 2011	Male	60.8
	Female	57.8
	Total	59.4
MICS Baluchistan 2010	Male	11.6
	Female	19.1
	Total	9.4
MICS KPK 2008	Male	51.6
	Female	37.9
	Total	45.1
MICS Sindh 2003-04	Male	43
	Female	35
	Total	39

Source: Multiple Indicator Cluster Surveys (MICS)

3.4 Agriculture

Pakistan has managed agricultural growth of over 4% per annum in the past three decades (1970-2000) following the introduction of new high-yielding varieties of wheat and rice in the 1970s, combined with increased fertilizer use and better irrigation. Subsequently the pace of agricultural growth slowed to less than 3% because of many structural and administrative weaknesses and political instability. Nonetheless, the production of wheat has consistently been increasing, reaching approximately 25 million tonnes, and the production of other economic crops like rice, maize, and sugarcane has also been consistent (Table 6). However, production of cotton, the main cash crop, has also been quite unstable along with rain-fed crops such as legumes, which has affected the agricultural growth.

Table 6: Production of important crops (thousands of tonnes)

Year	Cotton (bales)	Sugarcane	Rice	Maize	Wheat
2007-08	11.655	63.920	5.563	3.605	20.959
2008-09	11.819 (1.4)	50.045 (-21.7)	6.952 (25.0)	3.593 (-0.3)	24.033 (14.7)
2009-10	12.914 (9.3)	49.373 (-1.3)	6.883 (-1.0)	3.261 (-9.2)	23,311 (-3.0)
2010-11	11.460 (-11.3)	55.309 (12.0)	4.823 (-29.9)	3.707 (13.7)	25.214 (8.2)
2011-12	13.595 (18.6)	58.397 (5.6)	6.160 (27.7)	4.388 (17.0)	23.473 (-6.9)
2012-13	13.031 (-4.1)	63.750 (9.2)	5.536 (-10.1)	4.220 (-2.7)	24.211 (3.1)
2013-14 (P)	12.769 (-2.0)	66.469 (4.3)	6.798 (22.8)	4.527 (7.3)	25.286 (4.4)

P: Provisional (July-March), figures in parentheses are growth/decline rates

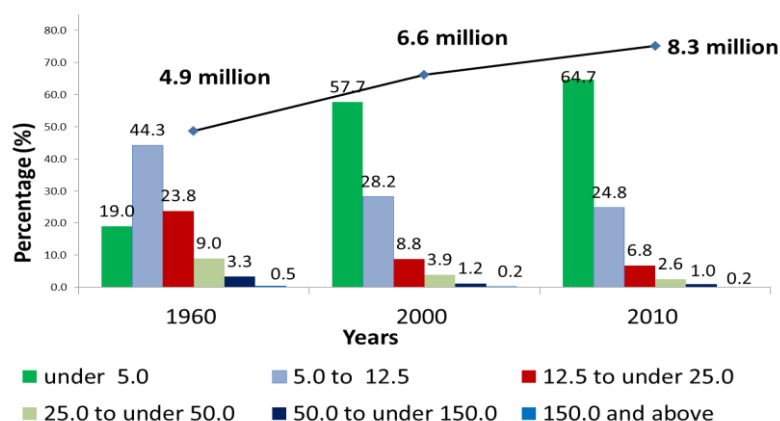
Source: Pakistan Bureau of Statistics 2015

Wheat has a support price that the government agencies pay when they procure it from farmers after the harvest. This year, domestic procurement at the fixed “support price” has been in excess of open market prices; thus, large farmers who sell wheat to government in bulk benefit most. Wheat is then supplied to flour mills at a fixed “release price” that is below open market prices. These subsidies have been in place for a long time to provide some relief to the population at large, but aren’t particularly focused on the poor.

Land ownership and disempowerment of the tenant farmers may affect the production of appropriate or sufficiently varied crops, particularly in South Punjab and Sindh, where feudalism still exists. Feudalism is not dependent only on land ownership but is a mind-set that is an obstacle in transferring any benefits to the rural poor. The landlord/tenant relationship in many areas of Sindh is one of the major determinants of poverty. There were some measures to institute land reforms in the early 1970s by the Pakistan People’s Party but these were later declared un-Islamic by the Islamic Sharia Court. In KPK and Punjab, there has been a trend to reduce large land holdings, but large land holdings are still seen in south Punjab and Sindh.

According to the Agricultural Census (2010), there were 8.3 million farming households in Pakistan, with 89.5% being categorized as small farmers having below 12.5 acres (Figure 18). With the law of inheritance being practiced widely and an absence of land markets, the number of small farmers continues to increase.

Figure 18: The proportion of farms by acreage (the line shows the number of farmer households)



Source: Agriculture Census of Pakistan 2010

The small farmers are also resource poor, producing a yield gap between the national average and progressive farmers (Table 7). Other reasons for this disparity are poor marketing systems, rampant chemical use, poor storage facilities, unhygienic processing, and overuse of pesticides, which have resulted in poor quality (and sometimes unsafe) food reaching consumers. The quality of food, especially vegetables, further deteriorates when it is produced in peri-urban areas with sewage/industrial waste water and in tunnels for off-season vegetables as well as heavy use of fertilizer and pesticides.

Crop	Progressive farmers yield (tonnes/ha)	National average (of last three years) (tonnes/ha)	Yield gap (%)
Wheat	4.6	2.6	43.5
Cotton	2.6	1.8	30.8
Sugarcane – Sindh	200	54.5	72.8
Sugarcane – Punjab	130	49.9	61.6
Maize	6.9	2.9	58.5
Rice	3.8	2.1	45.6

Agricultural productivity and availability of food is also affected by post-harvest losses, which occur at several stages of the food supply chain. There is a paucity of storage facilities for cereals, especially wheat. Presently there is storage for only about 4 million tonnes of wheat, and many of these storage facilities are also not of any standard and cause of significant losses. All kinds of vegetable and fruits are available during different seasons: 12 million tonnes of fruits and vegetables amounting to Rs. 116 billion. Since these are all perishable, according to one estimate there are losses to the tune of 20% to 40%. There are no accurate estimates of post-harvest losses except that it is known that these losses are significant and should not be ignored. Much of the wastage is due to poor growing, harvesting, and handling practices. A narrow marketing base and lack of processing facilities are contributing factors for spoilage conditions. It is assumed that through improved handling and harvesting practices, about half of that wastage can be saved.

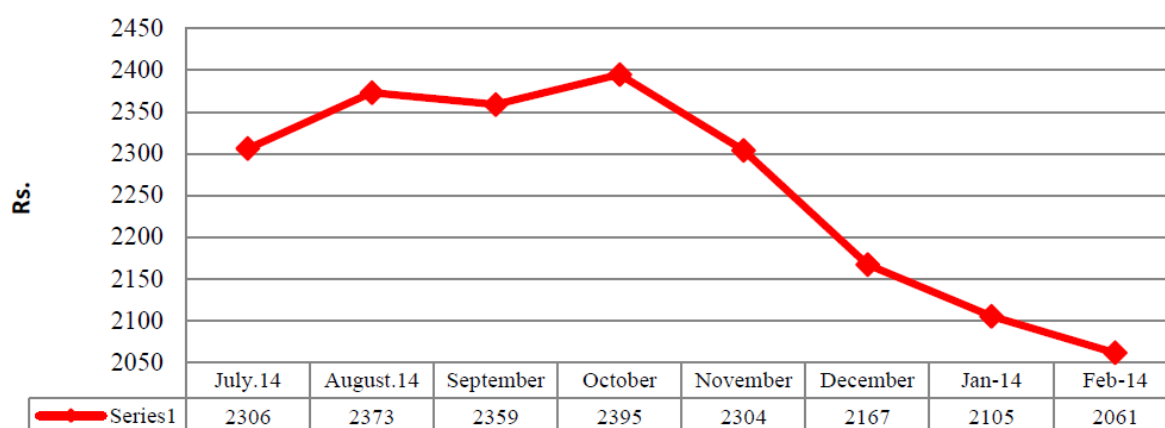
Food safety regulations exist, but they are inconsistently implemented, even though they may have huge implications for the economy. Mycotoxins, especially aflatoxins, are important factors in spoilage of some of the food products such as condiments, chillies, and peanuts. These are due to fungal infestation during storage of the fruit after harvest. These toxins are carcinogenic and thus present a need for strong quality control. Recently the export of chillies suffered due to the presence of aflatoxins.

3.5 Economic conditions and purchasing power

Pakistan is mainly an agricultural economy, with the agriculture sector providing 43.7% of the employment and 21% of the GDP with growth of 2.1% in 2014 and 2.9% in 2013. Due to myriad issues, the growth rate has been slow, with an average of 3.5% per year from 2008 to 2013, peaking to 4.14% in 2014, putting it at the 88th rank worldwide. Moreover, per capita income increased by 3.5% in 2013-14 and reached US\$1386. The unstable economic climate of Pakistan has significant impacts, with the Pakistani rupee being devalued 40% since 2007, the unemployment rate being estimated at around 6.2%, and inflation of 8.7%. The distribution of resources is unequal and even during relatively fast periods of aggregate economic growth, there was limited impact on socio-economic disparities or major reductions in the number of people below the poverty line. This has clear implications on purchasing power and household food security.

According to the Household Integrated Economic Survey (HIES) 2011, nearly 70% of household food expenditure is on dairy, wheat, fat, sugar, vegetables, meat, fruits, and pulses. Poor households spend more on wheat while non-poor spend more on dairy. The consumption of fruits, vegetables, fish, and meat is inadequate as compared to actual dietary requirements. There are also significant variations in household food expenditures as exemplified by the recent figures reflecting a 6-month period from the Economic Survey of Pakistan (Figure 19).

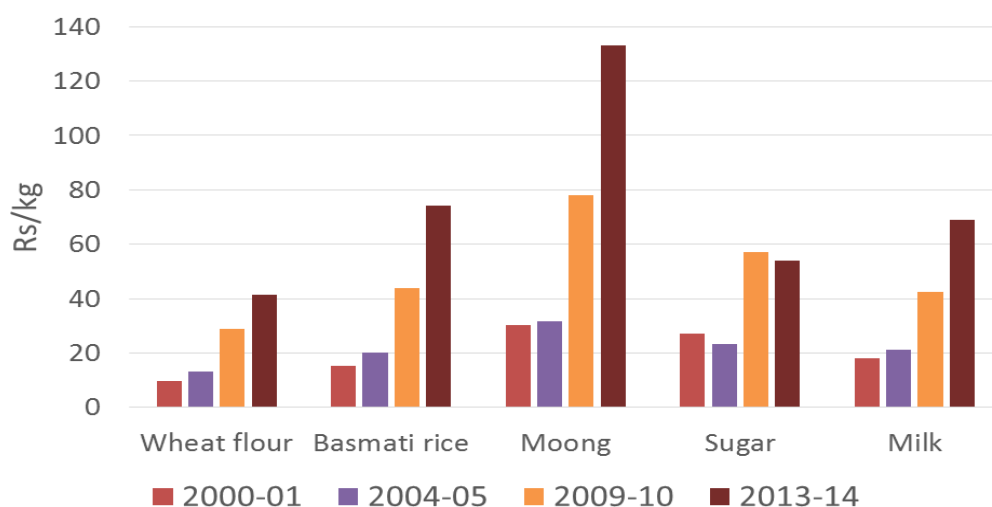
Figure 19: Average household food expenditure, 2015



Source: Ministry of Planning, Development & Reforms

These fluctuations are much wider over the longer term. Figure 20 shows that prices of food items have increased between 2000 and 2014. Moong daal (one of the commonly consumed pulses), which is regarded as the main source of protein for the poor, has shown a particularly sharp increase.

Figure 20: Trends in the prices of food items

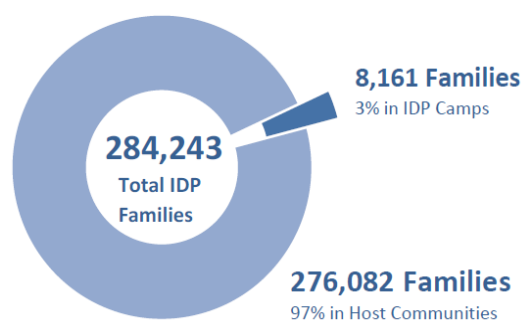


Source: GOP 2014, Economic Survey 2013-14

3.6 Conflict, disasters, and internally displaced populations

Internal conflicts affecting mostly the northern part of the country have led to internal displacements of populations. Current statistics show that the number of internally displaced families stands at around 284,000 families, of which 97% live in different host communities mainly within KPK and the rest in camps (Figure 21). These conflicts and displacements also affect the nutrition status. While some information is available on recent displaced populations in Federally Administered Tribal Areas (FATA) following military action in North Waziristan, Khyber Agency, and previously in the Swat District in KPK, there are no representative data on nutrition status and interventions among these vulnerable populations.

Figure 21: Number of displaced families in Pakistan



Source: UNHCR. The IDPs Return Fact Sheet. 31 March 2015

Notwithstanding the lack of information on nutritional status and interventions among recent internally displaced people (IDP) in FATA and KPK, surveys among affected populations from relatively recent floods in Pakistan in 2010 and 2011 (Table 8) have confirmed high rates of malnutrition.

Table 8: Data from emergency situations including flood-related nutrition surveys

	Sindh FANS UNICEF 2013		Punjab FANS UNICEF 2013		AKU Flood Surveys
	North Sindh	South Sindh	Severely affected	Moderately affected	
Global malnutrition	(98) 22.9%	(79) 21.2%	(81) 13.8%	(70) 14.0%	(103) 15.7 %
	(19.0-27.4 CI)	(17.3-25.6 CI)	(10.2-18.4 CI)	(10.5-18.4 CI)	(12.9 - 18.5 CI)
Stunting	(213) 53.9%	(185) 51.8%	(224) 46.8%	(288) 52.7%	(340) 47.6 %
	(46.2-61.5 CI)	(44.5-59.0 CI)	(42.3-51.2 CI)	(48.6-56.9 CI)	(43.9-51.2 CI)
Underweight	(196) 46.2%	(179) 47.9%	(187) 38.4%	(229) 40.2%	(413) 65.1 %
	(38.8-53.8 CI)	(41.2-54.6 CI)	(34.2-42.8 CI)	(36.3-44.3 CI)	(61.4-68.9 CI)

Source: Hossain et al. *IDS Bulletin*, 2013; 44:10-20.

4. THE ENABLING ENVIRONMENT: NUTRITION GOVERNANCE AND FUNDING

A political economy analysis demonstrated that nutrition in Pakistan has not featured prominently on the policy agenda because of large disconnects between key sectors, a lack of integrated cross-sectoral programmes, and a missing constituency for nutrition within the political and bureaucratic elites, civil society groups, and the electorate in general (Zaidi et al. 2013). Pakistan failed to develop an integrated nutrition policy or a national nutrition strategic plan in the wake of the Nutrition Survey in 2001. Presently, given the devolution to the provinces, there has been visible movement towards i) the development and approval of provincial Inter-sectoral Nutrition Strategies geared at addressing highly variable contextual needs; ii) placement of nutrition responsibility with the provincial Planning and Development Departments (P&DDs) for effective steering across sectors. Nevertheless, the balance of coordination between the federation and provinces has to be maintained to provide momentum for implementation and sharing of experiential lessons learnt across the provinces. Incremental financing from government has been made available for nutrition-specific interventions and there is initial movement towards nutrition-specific government financing in two of the larger provinces. However, for funding to be effectively utilized, urgent action to ensure effective interventions requires strong technical, planning, and implementation capacities and structures.

4.1 Political context and championing

There continues to be an absence of meaningful political support for nutrition in the provinces from the executive leadership. To some part this is also due to lack of sustained political advocacy on nutrition. Nutrition is regarded as a complex health issue and not recognized as a development issue, eroding support from higher political and bureaucratic circles. Although policy profiling was done during 2011-2012, the 2013 elections brought in new federal and provincial government, and a shuffle in senior executive bureaucracy resulted in a lack of sustained dialogue with these actors.

In Sindh, there is currently buy-in from the higher bureaucracy due to retention of the key focal persons both in the P&DD and the Health Department. Conversely, there is a lack of interest by the political leadership, which is mainly involved in day-to-day crisis management and lacks a cohesive development strategy. In KPK, Punjab, and Baluchistan, nutrition responsibility has been assigned to middle-level managers of the Health Department, and the agenda has not been well advocated for among senior bureaucracy. The elected government in Punjab is administratively strong and actively introducing reforms, and it has the potential to put in place meaningful multi-sectoral nutrition programmes if well advocated for. Baluchistan currently has the most forward-thinking provincial executive leadership in recent years, and it has a potential for support to well-designed multi-sectoral nutrition schemes through catalytic dialogue and technical support of donors. In KPK, the current political attention is on public sector accountability and local governance reforms, which has resulted in considerable reshuffling of bureaucracy, eroding the leadership capacity to carry through the multi-sectoral nutrition agenda.

4.1 Cross-sectoral Governance structures

4.1.1 Provincial central structure: While the provincial Inter-sectoral Nutrition Strategies (INS) have been approved, they do not provide detailing on nutrition coordination and implementation structures. In all four provinces, there is buy-in within the provincial P&DD for a central provincial Nutrition Section. The placement of a Nutrition Section in the P&DD as a counterpart to the Planning Commission's Nutrition Section provides structural space and authority for coordinating across nutrition-relevant sectors on project design and monitoring, as well as the presence of dedicated staff to follow up the implementation of INS. Lack of a focal nutrition structure within the P&DD has visibly slowed down the implementation of INS. With low interest and understanding of nutrition amongst the new senior P&DD leadership (as discussed above), INS implementation has been delegated to the Health Section of each P&DD and/or the Health Department, which lack the mandate for coordinating across sectors and also lack technical capacity for nutrition-sensitive interventions in other sectors.

To date, there is varying progress and also differences in terms of preferred structure, design, and responsibilities. The greatest progress is seen in Sindh, where the approach is to have a specific nutrition cell to coordinate, legislate, and make programme adjustments across different sectors. Punjab and Baluchistan are inclined to set up a separate nutrition cell within the P&DD, along the lines of Sindh, so as to effectively coordinate and make programme adjustments across all sectors. KPK sees the placement of nutrition as an added responsibility within the health section of the P&DD, and involving loose coordination across other sections of P&DD.

Inter-sectoral Steering Committees presided over by provincial P&DDs have been set up in all provinces, supported by Inter-sectoral Technical Working Groups (TWG). In two of the provinces—Sindh and Punjab—these also involve private expert representation. These groups intended to advise on the design of nutrition-related interventions; yet they meet infrequently and are not structurally linked with the government planning and budgeting process. In Sindh, Punjab, and Baluchistan, the provincial Health Departments coordinate the TWGs. In KPK, there is a TWG specific for each sector rather than an over-arching TWG, and these essentially involve public-sector officials.

4.1.2 Support for provincial governance structures: Approval of posts and accompanying budget for creation of any new section is a cumbersome process in the public sector; however, Sindh has had the Nutrition Cell structure with two dedicated posts approved by the Finance Department and are awaiting endorsement by the Chief Minister, which has been delayed for more than a year due to low political interest in nutrition. Bridge financing of core posts is needed in Sindh and Baluchistan until the government posts and accompanying budgets get notified in the current budgets. Punjab is likely to get government support for core posts this year as the P&DD is currently undergoing restructuring. In KPK, the United Nations Children's Fund (UNICEF) has recently committed to provide support for the nutrition posts in the health cell. Capacity-building and technical assistance support to the provincial Nutrition Cell and district central platforms is a key need expressed by the provinces.

The movement of summaries for creation of a permanent structure and accompanying posts in the P&DD is a positive step taken by the provinces, but even after approval of a summary by the Finance and Chief Secretary, it takes time for the new structure to come on the regular budget book. Provinces see this *interim period* support by development partners in terms of i) bridge financing of the provincial Nutrition Cell until the posts come on government budget; ii) technical support to specific sectors for best practice nutrition-sensitive interventions through the provincial Nutrition Cell, especially for Agriculture, & Food Security, Education, Social Protection and WASH; iii) capacity building for monitoring & evaluation and project management.

4.1.3 District implementation structures: Support for district focal persons is also needed and suggested by provinces to be built into PC-1s. Implementation of nutrition-specific interventions in all

provinces has very recently started through the health sector. In Sindh and Baluchistan, there are PC-1 funded posts of a District Nutrition Coordination Officer/Focal person reporting to the District Health Officer. Nutrition-sensitive interventions have only made a beginning in Sindh and are yet to be started in other provinces. However, there is presently a lack of structures at the district level for coordinating a multi-sectoral approach. Punjab and Baluchistan propose creation of a special post for a central district focal person to coordinate across both nutrition-specific and nutrition-sensitive interventions. Sindh is ready to look into a central governance structure and has requested technical assistance from development partners to undertake options and accompanying risk and benefit analysis. In KPK, there is low buy-in for a central district coordination platform due to uncertainty over exact powers that would be devolved to the districts in view of the ongoing Local Government reforms and elections. The four provinces currently have different local government arrangements. For provinces that have reverted back to the magistracy system, the nutrition post would be under the Assistant District Commissioner General in the District Commissioner's Office, whereas for those following the Nazim system (Local Government), the post can be structurally placed under the EDO-Planning in the District Coordinator Officer's Office. Additional funding at the district level can also be available in the Nazim system by tapping into the development funds transferred to the district.

4.1.4 Coordination structures at federal level: There is low buy-in from provinces for a federal role in view of the provincial autonomy over the social sector provided by the constitutionally supported devolution. The preferred role for the federal platform is loose coordination rather than policy steering or monitoring. Important areas required for coordination include bringing together provinces for sharing updates, mutual cross-fertilization of ideas and experience, provision of technical capacity in required areas, and implementation of evaluation surveys. Buy-in is perceived as the placement of a federal nutrition platform in the Planning Commission rather than the Health Ministry or Food Security Ministry. The Planning Commission is believed to provide a natural and cohesive link with the provincial P&DDs, but its capacity remains a constraint, with limited staff dedicated to nutrition and a lack of direct programmatic experience that would contribute to more nuanced technical understanding.

In 2011, Pakistan established a Nutrition Development Partners Group to help improve development partner coordination and multi-sectoral platforms at provincial level. The group is coordinated by the World Bank and has since then facilitated the process of planning and programming for improving nutrition. There is also a nutrition TWG at federal level, mainly attended by development partners, which has nutrition-specific sub-sector working groups including community-based management of acute malnutrition (CMAM), and IYCN and nutrition information systems.

4.2 Scaling Up Nutrition movement

In January 2013, Pakistan joined the Scaling Up Nutrition (SUN) Movement. The SUN government focal point is the Chief of Nutrition in the Planning and Development Division of the Planning Commission and therefore any efforts to strengthen the SUN Movement in Pakistan also include strengthening its coordination at federal level. Different development partners are supporting the development of SUN coordination structures and planning documents at federal and provincial level; the UN's World Food Programme (WFP) is providing support at the federal level while UNICEF, the Global Alliance for Improved Nutrition (GAIN), the World Health Organization (WHO), and FAO are supporting provincial structures. SUN structures and activities have yet to take off in the provinces, which is crucial given that social sector responsibility and interventions are placed in the provinces.

4.3 Cohesive and appropriate nutrition plans

All provinces have approved Inter-sectoral Provincial Strategies but progress since then has been slow in planning and budgeting of nutrition-sensitive interventions. This limited progress is despite a surge in health, education, and social sector allocation in all provinces post devolution. Interventions listed

in the provincial INS are diverse, and there is a lack of strategizing on common beneficiaries and common districts. Steering committees have been formed and meetings have been held under the chairmanship of the P&DD but there has been little progress. One of the reasons for this anomaly is that nutrition is an added responsibility within the P&DD and there is a lack of dedicated staff within the P&DD to take nutrition initiatives forward. Another reason is that there is little knowledge and experience of designing and implementing nutrition-sensitive interventions; hence, the surge in budgets post devolution haven't been effectively harnessed towards nutrition-sensitive schemes.

The 2015-16 fiscal year is the key year being targeted for entering activities into the provincial Annual Development Plans (ADPs). Although the respective INS have been approved by all the provinces, and steering committees presided over by provincial P&DDs have been set up, so far progress has been slow in implementation of the INS. This is reflected in the working of relevant sectors, which are yet to target activities towards nutrition-sensitive interventions, improve targeting, and arrive at joint programmes or cohesive coordination to target common beneficiaries.

Common challenges faced include:

- i. Lack of a Nutrition Cell/ Section in the provincial P&DDs to take forward INS implementation;
- ii. In the absence of Nutrition Cell, programming for nutrition has fallen on the provincial Health Departments, which have little mandate or indeed capacity for steering other sectors on nutrition-sensitive interventions;
- iii. Nutrition is not recognized politically as a development indicator and is perceived to have little impact on economic development

Nutrition has not been sustainably advocated for, and the politicians and senior bureaucracy in place after the 2013 elections are not cognizant about nutrition;

- iv. While health interventions are clearly identified through research, there is not much clarity and technical support available about nutrition-sensitive interventions;
- v. Supportive funding and sustained dialogue has been provided for health interventions but catalytic support for nutrition-sensitive interventions is missing.

4.4 Monitoring and evaluation

The provincial Nutrition Cell of the P&DD is considered to be the focal structure for monitoring of nutrition-sensitive interventions across all sectors and calling for programme adjustments. There is lack of an M&E plan or framework for nutrition-sensitive interventions across provinces. Punjab and Sindh are interested in technical support for monitoring mechanisms and for funding of a dedicated post within the Nutrition Cell for monitoring process indicators across relevant sectors. In the smaller provinces of Baluchistan and KPKK, the interest is for third-party monitoring. The P&DD in KPKK is now supporting third-party evaluation through government funds, which is an opportunity for nutrition-sensitive monitoring. In Baluchistan, however, there is a preference for federal management of third-party monitoring.

Although there is an information system for nutrition, termed the Nutrition Information System, it was developed to monitor CMAM programmes and as such contains detailed indicators relating to the treatment of acute malnutrition. It does not contain other indicators for nutrition-specific or nutrition-sensitive interventions, although there is a plan to include IYCF indicators. There are also no nutrition indicators in the Health Management Information System. The ultimate goal therefore is for data to be collected that allows the tracking of progress against indicators that measure the identified interventions across sectors (not just health) to impact nutrition outcomes. This would help reinforce different sectors on their roles and responsibilities in relation to nutrition, but would allow alignment. Zaidi et al. (2013) states it thus: "The development of an integrated Nutrition Information System can

bring together indicators collected from all the relevant sectors—education, health, sanitation, agriculture, and food—within the same database on a regular basis. Housing of this system within the central convening body will provide a gravitating pull towards inter-sectoral coordination.”

Monitoring is strongly perceived as a provincial responsibility across all provinces, and there is resistance to a possible federal role. The role of federal level is seen in coordinating national surveys such as the NNS measurements, but with a high level of provincial involvement. The exception is Baluchistan, where the preference is for a federal role in both monitoring and evaluation due to low government capacity.

4.5 Funding modalities

There are wide variations across provinces in terms of preferred mode of support by development partners. In Punjab, KPK, and Baluchistan, there is interest for donor funding to support nutrition-sensitive PC-1s through soft projects, while Sindh is interested in flexible donor funding that can be used to catalytically enhance the government’s operational budget, with lesser preference for PC-1s. Punjab’s preference is for routing funds through the proposed Nutrition Cell in the P&DD for strong steering across sectors while other provinces see using the P&DD Nutrition Cell for placement of technical assistance and M&E related funding, with intervention support going directly to the sectors.

There is weak technical understanding and buy-in amongst the provinces of joint funding lines across key sectors. The exception is Baluchistan, where there is a preference for the creation of a separate programme for nutrition-sensitive interventions that can be targeted towards districts where health-related nutrition work has been initiated. Setting up a new programme combining a few nutrition-sensitive interventions across two or three sectors is considered by Baluchistan as an effective way to produce meaningful results. Hence there is interest in a multi-sectoral PC-1 targeting a few cost-effective interventions that is overseen by the P&DD’s Nutrition Cell, which has a direct funding route. Sindh is interested in options for joint funding across sectors (pooled funds, devolved structures, conditionalities, etc.) if technical assistance on feasible options can be provided by development partners. In KPK there is reluctance to bring in financing innovations because of the stringent accountability and monitoring checks introduced by the Pakistan Tehreek-e-Insaf (PTI) government, which will require approval from the PTI’s highest leadership. Punjab also has a preference for separate PC-1s routed through P&DD at provincial level and its counterpart District Planning EDO at district level for strong steering.

4.6 Multi-Donor Trust Fund

The World Bank is managing a multi-donor trust fund (MDTF) that is funding activities from 2012 to 2017 with a focus on supporting nutrition-specific and nutrition-sensitive activities in provincial plans. While it is anticipated that most funding will go through provincial government, the MDTF partners increasingly recognize that results can be enhanced through government contracting out service delivery to non-state entities, and this will be encouraged through the project design. DFID is a contributor to the MDTF and is funding £20 million towards nutrition-sensitive (non-health sector) interventions, the first tranche going towards sanitation and hygiene interventions in Sindh. Similarly, the Australian Department of Foreign Affairs and Trade (DFAT) is also contributing £19 million for nutrition-specific interventions. An MDTF tied to delivery indicators was specified as a preferred mechanism in Punjab and Baluchistan. There is interest in Sindh for tying financing to agreed performance-based targets in addition to the provision of training on MDTF mechanisms. KPKK has more experience with MDTF, but finds these more challenging to manage than bilateral agreements.

4.7 Public-private and NGO coalitions

Under the SUN Movement, a SUN Business Network has been established supported by GAIN, the Micronutrient Initiative, and WFP. It is likely that its predominant focus will be on fortification. There

is also a SUN civil society coalition headed by the nongovernmental organisation (NGO) Health and Nutrition Development Society (HANDS). There is generally disenchantment in the provinces with NGOs, due to lack of coordination, choosing of comfort districts, weak government coverage, and separate accountability to donors. NGO activities mainly involve CMAM services, are placed in a few focal districts, and are supported by UN agencies.

Table 9: Overview of provincial nutrition architecture and response post devolution

	Political context	Provincial structure	District structure	Capacities	Financing	
Punjab	Reforms underway and new welfare projects. Low political recognition of nutrition.	<i>Existing:</i> Lacks central structure. <i>Preference:</i> Nutrition Cell in (P&DD) supported.	<i>Existing:</i> Nutrition focal person for health activities under DHO. <i>Preferred:</i> Nutrition focal person in DC Office to coordinate across specific and sensitive interventions.	Low capacity for designing and monitoring interventions.	<i>Existing:</i> Partial funds by government for nutrition-specific interventions. Government funds earmarked in 2015 for nutrition-sensitive interventions in (WASH); livestock support for rural women; and school feeding.	<i>Preference:</i> Combination of government and donor funding through development budget. Separate projects through key sectors.
Sindh	Advocates for nutrition present within P&DD and Health, but lack of cohesive direction of existing political government for development sector.	<i>Existing:</i> Nutrition Unit in P&DD in process with government funds.	<i>Existing:</i> Nutrition focal person for health activities under DHO. <i>Preferred:</i> Inclination towards a central focal person for specific and sensitive interventions, require technical options.	Low capacity for designing and monitoring interventions.	<i>Existing:</i> Partial funds by government for nutrition-specific interventions. Government funds earmarked for nutrition-sensitive interventions in WASH and agriculture sectors; targeting districts where nutrition-specific interventions	<i>Preference:</i> Combination of government and donor funding through development budget. Separate projects through key sectors.

Table 9: Overview of provincial nutrition architecture and response post devolution

	Political context	Provincial structure	District structure	Capacities	Financing	
					are active.	
KPKK	Political priority on accountability and transparency, resulting in transfers and posting; lack of advocates for reforms.	<i>Existing:</i> Nutrition Unit to be set up within Health Cell in Pⅅ in process with UNICEF funds.	<i>Existing:</i> Nutrition focal person for health activities under DHO. <i>Preferred:</i> Uncertainty due to local government reforms being worked out.	Low capacity for designing and monitoring interventions. Preference for third-party monitoring arrangements overseen by provincial government.	<i>Existing:</i> Partial funds by government for nutrition-specific interventions. No funds earmarked for nutrition-sensitive interventions.	<i>Preference:</i> Combination of government and donor funding through development budget. Separate projects through key sectors.
Baluchistan	Low political recognition of nutrition.	<i>Existing:</i> Lacks central structure. <i>Preference:</i> Nutrition Cell in P&DD.	<i>Existing:</i> Nutrition focal person for health activities under DHO. <i>Preferred:</i> Nutrition focal person in DC Office to coordinate across specific and sensitive interventions.	Low capacity for designing and monitoring interventions. Preference for third-party monitoring arrangements overseen by federal government.	<i>Existing:</i> Partial funds by government for nutrition-specific interventions. No funds earmarked for nutrition-sensitive interventions.	<i>Preference:</i> Combination of government and donor funding through development budget. Combined project combining a few key sectors.

LANDSCAPING NUTRITION-SPECIFIC AND NUTRITION-SENSITIVE SECTORS

Scaling up the coverage of various nutrition-specific and nutrition-sensitive interventions in Pakistan has huge gaps and challenges. Using available data, the table in Annex 1 provides a summary of key interventions by equity indicators and provincial coverage.

4.9 Nutrition-specific interventions

The government has incrementally increased funding through health sector–related nutrition-specific interventions; however, there are questions of sustainability. In all provinces, the larger share of nutrition-related funds is supported by the development partners, leading to funding concerns beyond the project life. In Punjab and KPK, the nutrition interventions are part of a larger, integrated Minimum Essential Health Service package with lead funding provided by the government for the overall package; hence they have somewhat better chances of continuity beyond the project life. The scope is also wider and interventions are to be implemented across all districts. DFID, under its Provincial Health and Nutrition Programme (PHNP), does contribute to the health PC-1s in Punjab and KPK. In Sindh and Baluchistan, the funding is in siloes, restricted to a separate nutrition programme within the provincial Health Departments supported mainly by donor funding. This poses greater risk of discontinuity after the project life. Table 10 presents a summary of nutrition-specific interventions by province.

Table 10: Nutrition-specific interventions of the provincial nutrition PC-1s

Baluchistan	KPK	Punjab	Sindh
Iron-folic acid supplementation in pregnancy			
Infant and young child feeding (IYCF) practices			
Vitamin A supplementation			
Expansion of salt iodization program	Not mentioned	Expansion of salt iodization program	Not mentioned
Wheat flour fortification programme (with iron and folate)	Not mentioned	Wheat flour fortification programme (with iron and folate)	Not mentioned
Fortification of edible oil/ghee	Not mentioned	Unclear	Not mentioned
Use of micronutrient powders through LHWs) and CHWs)	Not mentioned	Use of micronutrient powders through LHWs and CHWs	
Zinc supplementation during treatment of diarrhoea			
Community-based management of acute malnutrition (CMAM)			
Not mentioned	Not mentioned	Deworming	Not mentioned
Behavior Change Communication Strategies			

As mentioned previously, LHWs have a large responsibility in delivering many of the nutrition-specific interventions outlined in Table 10. Evaluation findings showed that the LHW programme was effective in delivering family planning services and immunization and in the managing of diarrhoea.

Nutrition-specific activities are also implemented by NGOs in focal districts. Under the European Union (EU) Women and Children/Infant Improved Nutrition in Sindh (WINS) programme in Sindh, Merlin, Save the Children, and Association for Charitable Foundations (ACF) are conducting activities in three districts to provide social protection alongside nutrition-specific interventions.

WFP is implementing a pilot intervention in one district of Sindh to determine whether providing nutritious foods reduces stunting. International Medical Corps is treating acute malnutrition in IDPs, and HANDS is operating in most areas of Pakistan, with activities around nutrition and IYCF education.

Following a scoping study in April 2014, DFID is supporting a food fortification programme that aims to impact on anaemia and vitamin A deficiency in women and in children under 5. The programme intends to improve access and consumption of fortified wheat flour with at least iron and folic acid and edible oil/ghee with at least vitamin A. The target reach is nationwide with 85% of the population in urban areas and 65% of the population in rural areas consuming fortified wheat and

85% of the population in urban areas and 75% of the population in rural areas consuming fortified edible oil/ghee. In addition a GAIN-supported project aims to develop a roadmap for a national, sustainable, and effective large-scale food fortification programme, a functioning regulatory monitoring system, and increased consumption of fortified foods in the country.

There has been no rigorous evaluation of nutrition-specific interventions examining the impact of interventions on nutritional outcomes. Donors may insist on external programme evaluations, but these are often too broad, evaluating the whole programme in a matter of weeks without enough rigor and sampling to enable statistical inference. Furthermore, they are not designed with control groups.

4.10 Nutrition-sensitive interventions

Provincial planning for nutrition-sensitive interventions has seriously lagged behind despite the presence of approved INS and Steering Committees in all four provinces as well as growth in spending on the social sector in the post-devolution period. This is clearly a missed opportunity. Major underlying reasons, as mentioned above, include low capacity for designing nutrition-sensitive schemes within the relevant sectors, lack of international best practice lessons for nutrition-sensitive areas as opposed to crisply worked out evidence for nutrition-specific interventions, and absence of catalytic support from development partners. A few schemes (currently in draft form) have been proposed by two of the provinces—Sindh and Punjab—for this year’s annual budgetary cycle, with financing entirely from provincial government funds. While this indicates initiation of commitment towards nutrition-sensitive interventions, proper technical designing is needed to better position the schemes towards undernutrition, geographical convergence with nutrition-specific interventions, and scaling up.

Provincial support for nutrition-sensitive interventions for two sectors is planned for this year in Sindh with support from government funds. The modality will be similar to that followed for nutrition-specific interventions and involves a PC-1 supported by annual development funds in the concerned sectors. Punjab has recently developed draft PC-1s in the areas of WASH, livestock support, and school feeding for this year’s June budgeting cycle. However, it is not clear whether these projects will converge on the same districts being targeted by the nutrition-specific interventions in Punjab. KPKK is a doubtful starter for this year, as draft PC-1s supported by government funds are yet to be developed. As in Sindh, the PC-1s in KPKK will be specific to respective sectors and there is as yet no movement towards a joint PC-1. Baluchistan is positioned to target the 2016-17 Annual Development Plans (ADPs) and is open to launching a multi-sectoral nutrition-sensitive programme in the districts being targeted by the health-focused nutrition-specific interventions. Table 11 presents a summary of nutrition-sensitive programmes by implementers and geographic areas, and Annex 2 summarizes some of the nutrition-sensitive initiatives at provincial level.

4.11 Education

Post-devolution education sector plans (2013-17) are in place in all four provinces; compulsory primary education has been legislated and sector strategies have been devised to implement it. However, these opportunities have not been geared towards nutrition-sensitive interventions. Provinces lack expertise on designing nutrition-sensitive interventions; nutrition is not one of the targeted outcomes of existing education sector strategies. Some recent and ongoing initiatives have attempted to address undernutrition but lack effective design and positioning. School feeding programmes are currently in place in Sindh, and some are planned in one district in Southern Punjab that is also targeted by nutrition-specific interventions. In Sindh, edible oil and milk powder are provided to girl school children in 500 schools in five rural districts facing low enrolment ratios through the Assistance to Girls Primary Education in Sindh (AGPES) project. However, the initiative is mainly positioned to increase school enrolment, with lesser value for undernutrition control. These initiatives target primary school children and not under-5 children.

Early childhood development (ECD) is being introduced in phases in all provinces through classes for preschool children and can be an opportunity for targeting the under-5 children for nutrition and for preventive health measures such as immunizations. Between 300 and 500 schools have started ECD in each of the provinces with additional schools coming on board. As yet, nutrition-focused activities have not been introduced in ECD planning in the provinces. Programmes targeting adolescents for nutrition counselling and supplementation can be an opportunity for impacting on future generations through prevention of maternal undernutrition, but this is an unaddressed area in the education sector plan. Furthermore, providing nutrition and WASH awareness to school children, with children as vehicles of community change, is another nutrition-sensitive measure that can be introduced in schools but has not been programmed.

Provinces implemented varying models of school feeding programmes targeted at girls 6 to 11 years of age in focal districts during the 2000s. The TAWANA Project, led by the Women's Development Department and funded by Bait-ul-Mal, was specifically targeted at nutrition through provision of locally prepared meals at girls' schools, managed by parent committees. The programme also included dietary awareness education for mothers and growth monitoring of students (TAWANA 2006). The programme's ability to improve nutrition was lessened by turf-setting and low ownership at the district level, where the Education Department, rather than Women's Development, had a visible presence. This struggle was further compounded by slow financial releases (TAWANA 2006). Subsequent school feeding schemes providing prepared food commodities such as edible oil and high energy biscuits (WFP-funded) and milk and cookies (USAID-funded) have been redesigned and implemented by the Education Department in focal districts. These have had better district ownership but are mostly short-lived projects. The WFP-supported scheme is now limited to government-run schools in FATA, while the USAID scheme has been phased out. All initiatives lacked connections with other sectors, such as the health sector for preventive health interventions, and with poverty-alleviation schemes such as the Benazir Income Support Programme (BISP) for soft conditionalities.

Semi-autonomous government organisations, namely the Punjab Education Foundation and Sindh Education Foundation, are working to set up public-private partnerships for adopting government schools in rural areas through partnerships with civil society organisations (CSOs) and NGOs. These partnerships with schools can be a potential entry point for raising awareness about nutrition to children and communities and for building community support for other nutrition interventions.

4.12 Water and Sanitation

Responsibility for design, operation, and maintenance of drinking water and sanitation usually lies with the provincial Public Health Engineering Department for rural areas and with the Municipal Corporations of Local Government and their respective Development/Water Authority in urban areas. Post INS, WASH-related nutrition-sensitive projects for rural, low-income areas have been planned for this year's Annual Development Plan.

In Sindh, activities for safe water and sanitation are underway in secondary cities supported by two projects: Municipal Services Delivery Programme and Sindh Cities Development Programme of the USAID and Asian Development Bank. However, this is primarily hardware-focused support and does not cover the villages. In Sindh, the *Saaf Suthro Sindh* Programme has been specifically designed to target nutrition-sensitive WASH interventions and is being translated into a PC-1 in the upcoming fiscal year. This focuses on communication and sensitization activities to reduce open defaecation in rural areas over 2015-17 and targets the 13 districts where the nutrition activities related to the Health Department's PC-1 will be operational. It will be implemented through the District Commissioner's Office to provide authority for drawing in relevant sectors. District Open Defaecation Committees and Plans will be formed, budgetary resources will be marked in district ADPs, capacity will be built in

behaviour change communication (BCC) of frontline Union Council staff, the private sector will be involved in marketing of low-cost sanitation material, and an M&E system will be put in place for Open Defaecation Free (ODF) certification of villages. The BCC activities will link both nutrition- and ODF-related messages through a field-tested triggering approach. There is also a special initiative to provide safe drinking water for Tharparkar District based on reverse osmosis technology, but that involves substantial maintenance and management effort.

In Punjab, the ongoing projects are the *Changa Pani* scheme and *Saaf Pani* scheme, but these are primarily targeted towards urban areas. The Punjab INS mentions a number of unapproved rural safe water schemes for reactivation as well as planned supply of chlorinated tablets, but these are yet to be logged into the ADP for this year's budgetary cycle. The INS also mentions schemes for reduction of open defaecation in four districts; the government has a plan to include it in this year's budgetary cycle, but as yet there has not been movement towards an action plan. It is not clear whether these interventions will target any of the seven districts where nutrition-specific interventions are active, and complementary management links between these initiatives and nutrition BCC are yet to be worked out. The KPKK strategy also mentions ODF villages and safe drinking water supply, but details are missing as to how these will be translated into actionable projects. The Baluchistan INS also mentions construction of safe water supply schemes, water chlorination, and social mobilization for ODF, but these similarly have to be translated into tangible schemes.

DFID funding supports two WASH Programmes: the WASH Results programme, which supports partner NGOs to improve water supply, improve sanitation, and disseminate hygiene promotion messages for the target population, and the Accelerating Sanitation and Water for All (ASWA) programme, which funds UNICEF WASH activities. Under DFID's humanitarian programme, various WASH activities have also been implemented. These include WASH activities for IDPs in KPK/FATA under the Predictable Emergencies Programme (PEP) 2013-2015 and WASH activities for people displaced by flooding and conflict under the Multi-Year Humanitarian Programme (2015-2019). DFID is also supporting the provision of WASH interventions to reduce vulnerability in the Building Disaster Resilience in Pakistan programme (2015-2021) in Sindh, with one of the objectives being to increase access to safe drinking water and reduce open defaecation and unhealthy hygiene practices, thereby contributing to improvements in the nutritional status of women and children.

4.13 Gender and empowerment

In Pakistan, there is a Ministry of Women Development in each of the provinces that had spearheaded the girl child feeding TAWANA Project in the 2000s, but since then this ministry has not been active in gender-sensitive nutrition interventions. While the ministry has ambition to develop gender-sensitive policies, it lacks district presence for implementation and relies on other programmes and sectors for ownership and management of any proposed scheme. The largest and most notable gender-sensitive intervention is the Benazir Income Support Programme (discussed below). Besides providing cash transfers, it has also piloted vocational training schemes for youth, micro-finance, and girls' education. As a result of its large outreach and systematic gender-sensitive targeting, this programme has the potential to piggyback gender-sensitive interventions onto agricultural, livelihood, and food support schemes.

Three notable gender-sensitive interventions have been formulated in recent years: i) reducing gender disparities in schooling by the Education Department in Sindh and KPKK, ii) breastfeeding protection legislations by the Health Departments in all provinces, and iii) empowering women for agriculture by the Finance Department in Sindh Province.

4.13.1 Girls' education: Education reform programmes in Sindh and KPK (supported by joint DFID and World Bank funding) are focusing on gender disparities as a key policy target and have

incorporated these also in the existing provincial Education Sector Plans. Initiatives in Sindh include recruitment and development of female teachers, better facilities in schools such as separate toilets for girls, and introduction of gender training of teachers and in school curricula as a means to increase female enrolment. In KPK, 70% of the ADP has been earmarked for girls' education. Initiatives involve stipends to girl students in seven low-literacy districts, establishment of 199 girls' community schools with the participation of the community, and establishment of 116 Community Learning Centres (CLC) for women empowerment through income generation and adult literacy schemes.

4.13.2 Breastfeeding support and oversight: The right to breastfeed is considered an empowerment issue. Pakistan in 2002 promulgated the Breastfeeding and Young Child Nutrition Ordinance, but it could not become a law due to lack of interest of the concerned authorities. An Infant Feeding Board announced by the federal government in 2006 completed its term without any progress. Post devolution, all provincial assemblies adopted the Protection of Breastfeeding and Young Child Nutrition Act—Punjab in 2012, Sindh in 2013, Baluchistan in 2014, and KPK in 2015. This legislation aims at discouragement of breast milk substitutes by manufacturers and distributors, and placement of compulsory advertising on all marketed supplies that breast milk is the best food for infants and also reduces diarrhoea and preventable diseases. The Punjab government has further notified an Infant Feeding Board to monitor the implementation of the Act; however, it is unclear as to the specific responsibilities between the Food Regulatory Authority and the Infant Feeding Board.

4.13.3 Empowering women through agriculture and livestock: Land is the single most important source of security against poverty in rural Pakistan (SDPI 2010). According to International Fund for Agricultural Development (IFAD) Report (IFAD 2001), it is easier to shift education, health, and non-farm assets to women than to give them land rights. Even though giving the former will improve women's wellbeing and welfare, giving land will increase power to women to own as well as exercise control over land (SDPI 2010).

In 2008, the Sindh government, under a land grant policy called 'Land Distribution Programme For Landless' pledged to provide 2.1 million acres of land among landless haris (farmers), preferably women tenants, in almost all the districts of Sindh. There are varying claims that only 55,000 to 70,000 acres of land have been distributed to landless women farmers. The scheme also fell short of its goal of empowerment, as the control and management of the land fell in the purview of men because of cultural factors; this raises demands to provide training/awareness opportunities, as well as legal support and extension services such as loans, credits, fertilizers, seeds, etc. to facilitate women to control and manage land on their own. Claims were also reported that uncultivable land had been distributed, raising issues of transparency of process.

Punjab's planned livestock support scheme targets low-income rural women, providing livestock to women for poverty alleviation.

4.14 Agriculture

In Sindh, a concept note for Agriculture and Food Security has been prepared and a draft PC-1 is in progress for incorporation into the June 2015 budgeting cycle. The PC-1 is targeting the nine districts for which nutrition-specific interventions are already in process through the Health PC-1. The Agriculture and Food Security PC-1 promotes milk and meat through livestock promotion and support to small land holders for vegetable and fruit production for local consumption.

In Punjab, a draft PC-1 has been developed for the June budgeting cycle in livestock support aimed at providing heifers, goats, and sheep to low-income rural women for poverty alleviation and local supply of milk and meat. To address micronutrient deficiencies and breeding for nutritional quality of

local foods, efforts are underway to develop improved breeding lines with elevated levels of iron and zinc. Harvest Plus is currently evaluating wheat with low phytates in a bid to increase bioavailability of iron and zinc. Wheat transformed with increased bioavailability of iron and zinc has been developed and is currently under field trial after completing all biosafety requirements. DFID's involvement in agriculture includes support for HarvestPlus, the South Asia Food & Nutrition Security Initiative (SAFANSI) where the aim is to increase the commitment of governments in South Asia and development partners (such as donors, the UN, and NGOs) to tackle undernutrition, and Leveraging Agriculture for Nutrition in South Asia (LANSA) which, since agriculture growth in South Asia has not translated into improvements in nutrition outcomes, aims to understand the apparent "disconnect" between agriculture and nutrition in the region.

As part of its humanitarian and resilience efforts, DFID has also supported agricultural activities for flood- and conflict-affected households. Such activities included providing households with seeds, fertilizer, kitchen gardens, small livestock, and fruit tree inputs to restore their livelihoods. Lately, an integrated approach has been taken, combining agriculture, livelihood, shelter, and WASH activities to increase resilience and affect nutrition outcomes.

The theoretical potential that home gardens increase the dietary diversity of the household is gaining more interest in Pakistan. However, there is scant data on the effectiveness and impact of home gardens. The EU and NGOs such as ACF, Save the Children, and Merlin are implementing home garden projects, which may generate some evidence in the near future, although some of these efforts were not originally designed to have an impact on nutritional outcomes.

4.15 Social protection

The social protection sector has two main categories of formal safety net programmes, with the first addressing the formal employed sector and the second geared towards those outside the formal labour force and the poor and indigent (Overseas Development Institute, ODI 2010). The latter category is discussed here and include the federally managed Benazir Income Support Programme and two provincial departments—Social Welfare and Bait-ul-Maal, and Zakat and Ushr.

4.15.1 Benazir Income Support Programme (BISP): This is a cash transfer programme started in 2008 for low-income women in all four provinces, aiming to reduce poverty by cushioning the impact of food inflation and financial crises (USAID 2011 and Balagamwala et al. 2013). The programme is funded by the Pakistan government, and technical support for targeting mechanisms, monitoring, and evaluation is provided by DFID and other development partners. The monthly installment was initially Rs. 1000 and has been enhanced to Rs. 1500 in the current fiscal year. The premise behind BISP is that an injection of cash will help lift women out of poverty, household expenditure may improve as a result of increased food spending, women will have greater decision-making power, and health care and school enrolment will become more financially accessible.

The first phase of enrolment depended on nominations by provincial representatives, but in the second phase enrolment has been scientifically targeted using the Nationwide Poverty Scorecard Survey, the first of its kind in South Asia. The Scorecard Survey was conducted with World Bank support to identify welfare status of the households and eligible households through the application of a Proxy Means Test (PMT). There are presently 4.7 million beneficiaries, with Sindh having the largest coverage. Livelihood training, micro-health insurance, and micro-credit have also been piggybacked upon the BISP in focal pilot districts.

A baseline survey by the Oxford Policy Management Group was conducted in 2011, and results of the follow-up evaluation survey are currently being finalized. BISP beneficiaries largely spend the cash

transfer on food (80%), followed by health care (60%) and clothing (47%) (OPM 2011). While this seems promising for nutrition, an examination of types of food purchased from the BISP stipend in Sindh indicates that, although cash transfers are mainly spent on food purchase, the amount is mainly spent on high-calorie foods of low nutrition value such as oil, tea, sugar, wheat, and crisps, with little spent on foods of high nutrition value such as meat, fruits, vegetables, and milk. Moreover, there is low trickle-down to children and women, who continue to be served last (Jahangir A, Zaidi S et al. unpublished research). Another study from Sindh showed little difference in utilization of mother and child health services between BISP and non-BISP beneficiaries (Shaikh A, Bhutta Z et al. unpublished research 2013).

Criticisms related to BISP include: i) the cash provided is too low to cushion against food inflation and shocks; ii) an absence of conditionalities tied to human welfare such as preventive health measures, nutrition, and school enrolment for effective poverty reduction (ODI 2010); and iii) while women's agency may have been enhanced with the cash stipend, there is a need for communication on nutrition including preventive health so as to enable them to make informed choices for spending. The value of BISP is seen as a potential springboard to build in other gender-sensitive social development, nutrition, and safety net programmes.

4.15.2 Social Welfare and Bait-ul-Maal: Social Welfare and Bait-ul-Maal are now provincial subjects and can be harnessed by respective provinces for implementation of the INS-proposed nutrition-sensitive interventions. The Bait-ul-Maal funds, unlike the Zakat funds, do not carry any restriction in terms of usage by religious minorities, and its targeting can be made gender sensitive as at the time of the TAWANA Programme. Bait-ul-Maal has a presence at the district level with a mandate to distribute funds to needy families. Functions under its purview include provision of financial safety nets, community development programmes for socio-economic uplifting, training and rehabilitation services, and amendments in existing laws. However, an absence of formal targeting, the lack of strategic programmes, and low funding have resulted in weak performance. Outreach also needs to be scaled up as it currently reaches only 3% of the population. The Bait-ul-Maal provided funds for the Tawana school feeding programme (discussed above) which was its single largest targeted initiative for undernutrition. During 2009-2010 another initiative was implemented to provide free food to patients and their attendants in 200 designated hospitals across the country but was stopped due to the lack of a system to filter the poor.

4.15.3 Zakat: The Zakat and Ushr Departments have also been devolved to the provinces and can provide a flexible source of funding to the provinces for implementation of the INS. Zakat as a programme faces key challenges. Firstly, there is a lack of targeting in Zakat-related activities. Second, activities widely vary across the provinces and lack a concerted social welfare/protection strategy. Activities range from providing funds to madrassas, food to visitors at Sufi shrines, dowries for marriages, and medicines for needy patients, to vocational training. Moreover, funds are declining as Zakat levy collections dropped from 0.3% of GDP in the 1980s to 0.08% in 2002-03. The outreach of this programme was only 1.6 million population in 2003-04 (ODI 2010).

4.15.4 Nutrition-sensitive social protection interventions: Provinces have proposed different measures for social protection schemes targeting the undernourished population; however, none of these have been translated into project planning. KPKK has proposed food-based welfare schemes for marginalized people, while Baluchistan's INS mentions provision of food stamps and livelihood-generation skills to the BISP recipients. Punjab's INS proposes making BISP cash transfers conditionally linked to health and nutrition services, upward revision in cash transfer amount to adjust for food inflation, and linkage of BISP beneficiaries with livestock and kitchen gardening schemes. Sindh's INS similarly relies on piggybacking on the BISP and providing BISP beneficiaries with micronutrient products, soaps and water purifiers, nutrition-related M-health messaging, and mid-day

meal programmes. In Sindh, EU-WINS support in three districts provides social protection alongside nutrition-specific interventions. These include:

- In Thatta, Merlin implemented conditional cash transfers linked to nutrition counselling and screening but delinked from other preventive health interventions such as vaccinations, pregnancy care, and family planning.
- In Dadu, ACF implemented seeds and plot preparation for kitchen gardening, complementary feeding vouchers, and sanitation alongside its nutrition-related health interventions.
- In Shikarpur, Save the Children implemented food vouchers and kitchen gardening.

DFID, which has an eight-year funding commitment to BISP commissioned an exercise through the MQSUN project, in 2013 to propose an operational research design to test BISP nutrition interventions to increase the nutritional impacts for women and children. In addition, the DFID-funded Research on Food Assistance for Nutritional Impact (REFANI) project is currently conducting a study to test the effectiveness and the cost-effectiveness of different cash transfer schemes on reducing the risk of undernutrition in children 6 to 59 months and their mothers in Dadu District, Sindh Province, using ACF's programme as a vehicle for the research. The primary objective is to compare whether using seasonal, unconditional cash transfers or voucher transfers has a greater impact on the reduction of wasting and anaemia in children

Table 11: Summary of nutrition-sensitive programmes and implementers

Area of focus/ intervention	Title of programme or initiative	Geographic areas and implementing partner(s)
Education and related initiatives, including: i) school feeding schemes; ii) early childhood development (ECD); iii) female enrolment schemes	1. Sindh government initiatives: <ul style="list-style-type: none"> Recruitment and development of female teachers Improved facilities in schools such as separate toilets for girls Assistance to Girls Primary Education in Sindh (AGPES): provision of edible oil and milk powder are provided to girl school children in 500 schools in five rural districts with low enrolment ratios 	Department of Education, Sindh government
	2. KPKK government initiatives: <ul style="list-style-type: none"> Introduction of gender training of teachers and school curricula Stipends to girl students in seven backward/low-literacy districts Establishment of 199 Girls Community Schools with the participation of community Establishment of 116 Community Learning Centres for women’s empowerment through income-generation and adult-literacy schemes 	Department of Education, KPKK government
	3. Provision of nutrition facilities to the children in primary schools in District Muzaffargarh (pilot project)	Department of Education
	4. In all provinces, early childhood education is being phased in for preschool children	Early stages of implementation (all provinces) but varied coverage
Water, sanitation, and hygiene (WASH) initiatives	1. Public-sector water and sanitation schemes with variable implementation and quality control are being provided: <ul style="list-style-type: none"> - Sindh government’s sanitation scheme for Open Defaecation Free (ODF) villages in districts where nutrition-specific interventions are underway—2015 budgetary cycle. - Punjab government’s scheme to rehabilitate 100 dysfunctional water treatment facilities for brackish water targeted at rural poor—2015 budgetary cycle - Punjab government’s revitalization of ODF Phase II scheme for rural areas—2015 budgetary cycle. - In Punjab, the <i>Changa Pani</i> scheme and <i>Saaf Pani</i> scheme are already underway but are primarily targeted towards urban areas. There are plans for a scheme for reduction of open defaecation in four districts of Punjab, but as yet there has not been movement towards an action plan. - Municipal Services Delivery Programme and Sindh Cities Development Programme are primarily hardware-focused support and do not cover villages. 2. Other small-scale projects: <ul style="list-style-type: none"> The Pakistan WASH Coalition works closely with the Ministry of Environment, provincial and local governments, international agencies, civil society 	Provincial government Public Works Department initiatives City/Local government initiatives Government of Punjab DFID-funded project USAID and ADB; principally urban in Sindh
		The WASH campaign in Pakistan has been coordinated since 2003 by the Pakistan Institute for Environment–Development Action Research

organisations, and 166 partner schools across Pakistan. The aim is to roll out the National Drinking Water Policy (NDWP), to firm up the National Sanitation Action Plan (N-SAP), and to develop a National Behaviour Change Communication Strategy for WASH. The coalition is also working on two cross-cutting themes: gender mainstreaming in urban squatter settlements and capacity-building of local agencies for WASH.

- The School Hygiene project with 180 schools across Pakistan. It seeks to share best practices, strengthen conversation values for environmental care, and promote hygienic habits among children.
- The Lifebuoy 2010 school programme was undertaken over 3 months. It involved a mass media campaign as well and 225,000 students at more than 1000 schools across Lahore, Karachi, Multan, and Islamabad/Rawalpindi districts. With the efforts of the trained students, the programme was able to get five million people across Pakistan to pledge to the habit of washing hands with soap on the five key occasions of the day.

(PIEDAR)

The Centre of Environmental Education through Participatory Action Learning (CEEPAL)
Unilever Pakistan

DFID

3. Under DFID's humanitarian programme, various WASH activities have been implemented. These include WASH activities for internally displaced persons (IDPs) in Khyber Pakhtunkhwa (KPK)/Federally Administered Tribal Areas (FATA) under the Predictable Emergencies Programme (PEP) 2013-2015 and WASH activities for people displaced by flooding and conflict under the Multi-Year Humanitarian Programme (2015-2019). DFID is also supporting the provision of WASH interventions to reduce vulnerability in the Building Disaster Resilience in Pakistan programme (2015-2021) in Sindh, with one of the objectives being to increase access to safe drinking water and reduce open defaecation and unhealthy hygiene practices, thereby contributing to improvements in the nutritional status of women and children.

DFID

4. In addition, the Pakistan component of DFID-UK's WASH Results Programme involves:
 - WASH interventions by Plan International in Ghotki, Bahawalpur, Lodhran, Muzaffargarh, Rahim Yar Khan, Mardan, Swabi, Umerkot, and Islamabad districts.
 - WASH interventions by WaterAid in Badin, Thatta, and Rajanpur districts.
 - Unilever working on "school of five" hygiene promotion campaigns in schools in 21 districts.

The target number of people to be reached for Pakistan is 90,000 with improved water supply; 1,000,000 with improved sanitation; and 1,786,000 with hygiene promotion messages. The aim is to reduce under-5 mortality by 10% by 2018 from the 2012 baseline and similarly to reduce the population affected by diarrhoeal disease by 10% by 2018 compared with the 2012 baseline. The logical framework for the programme does not specifically mention nutrition but the business case acknowledges that reductions in undernutrition are likely to be associated with improved water and sanitation. DFID -UK is also supporting the UNICEF programme Accelerating Sanitation and Water for All (ASWA) in 9 Neglected Off-Track Countries, which includes Pakistan. ASWA was rolled out in 13 districts of 5

	provinces/areas of Pakistan in 2014, and one of the impact indicators in the logical framework is the reduction of stunting.	
Gender and empowerment issues	1. Benazir Income Support Programme (BISP) targets women in eligible households. Provinces post devolution have control over design and implementation of Zakat and Bait-ul-Mal departments, but these are yet to be effectively targeted to support nutrition-sensitive interventions, and systematic targeting of low-income women and children is missing.	Government of Pakistan
	2. Girl child enrolment: - Initiatives in Sindh include recruitment and development of female teachers, better facilities in schools (such as separate toilets for girls), and introduction of gender training of teachers and in school curricula as a means to increase female enrolment.	
	3. In KPKK, 70% of the Annual Development Plan has been earmarked for girls' education. Initiatives involve stipends to girl students in seven backward/low-literacy districts, establishment of 199 Girls Community Schools with the participation of community, and establishment of 116 Community Learning Centres (CLC) for women's empowerment through income-generation and adult-literacy schemes.	Provincial governments
	4. Land reform scheme of Sindh government, including distribution to females, undertaken 2008-2010.	Finance Department, Government of Sindh
	5. Punjab government's livestock support scheme for women, in 2015 budgetary cycle.	P&DD, Government of Punjab
Agriculture initiatives, including home gardening	Sindh government's nutrition-sensitive agriculture scheme for 2015 budgetary cycle, Agriculture & Food PC-1, promotes milk and meat through livestock promotion and support to small land holders for vegetable and fruit growth for local consumption in districts where nutrition-specific interventions are active.	Agriculture Department, Sindh
	Punjab government's livestock support scheme for women, in 2015 budgetary cycle, involving provision of heifers, sheep, and goats in Punjab.	P&DD, Government of Punjab DFID and HarvestPlus

	<p>HarvestPlus project is in the process of developing and implementing a zinc-enriched wheat programme in Pakistan</p>	DFID and DFAT support until 2015
	<p>The South Asia Food & Nutrition Security Initiative (SAFANSI) aim is to increase the commitment of governments in South Asia and development partners (such as donors, the United Nations, and NGOs) to tackle undernutrition. It is implemented by the World Bank, as part of the Multi Donor Trust Fund. The Australian Department of Foreign Affairs and Trade (DFAT) co-funded the first phase with DFID, which ends March 2015. The second phase is co-funded by DFID and EC</p>	<p>World Bank (WB), DFID, DFAT, European Commission</p> <p>Government of Pakistan</p>
	<p>The Leveraging Agriculture for Nutrition in South Asia (LANSA) programme, funded by DFID, aims to understand the apparent “disconnect” between agriculture and nutrition in the region, since agriculture growth in South Asia has not translated into improvements in nutrition outcomes. DFID has identified nutrition research as a priority, acknowledging the role of targeting investments in this area to speed up progress towards the attainment of Millennium Development Goal (MDG) 1.</p>	<p>DFID and EC</p> <p>Food Security and Research through the Pakistan Agricultural Research Council (PARC) Collective for Social Science Research</p>
	<p>The government launched a kitchen garden project in 1999 to 2001 that was focused on urban areas of Islamabad Capital Territory but this did not yield any significant results. Recently the National Ministry of Food Security and Research has launched a further pilot project on kitchen gardening in Islamabad and Rawalpindi. Project implementation is through imparting training on vegetable growing and is primarily focussed on urban populations.</p>	Government of Sindh
	<p>EU WINS is a four-year project to improve the nutritional status of children and pregnant and lactating women in Sindh (targeting Dadu, Shikarpur, and Thatta). This is funded by the European Union in collaboration with the Sindh government and implemented by ACF, Save the Children, and Merlin. ACF is also implementing a small-scale home garden project in Dadu but impact evaluation data are not yet available.</p>	Implementing NGOs include ACF, Save the Children, and MERLIN
Food safety measures	<p>Safe food is an essential requirement for meeting nutritional requirements. All the provinces are required to enact their food laws. Punjab has already promulgated Food Laws and established a Food Authority. These regulatory steps, though helpful, are not sufficient to ensure food safety. There has to be capacity-building of food inspectors and food safety laboratories in every district must be established.</p>	Provincial governments
Social protection and cash transfer programmes	<p>Benazir Income Support Programme (see text)</p> <p>The DFID-funded Research on Food Assistance for Nutritional Impact (REFANI) project is currently conducting a study to test the effectiveness and cost-effectiveness of different cash transfer programmes on reducing the risk of undernutrition in children 6 to 59 months old and their mothers in Dadu District, Sindh Province, using ACF’s programme as a vehicle for the research.</p>	<p>Government of Pakistan</p> <p>DFID</p>

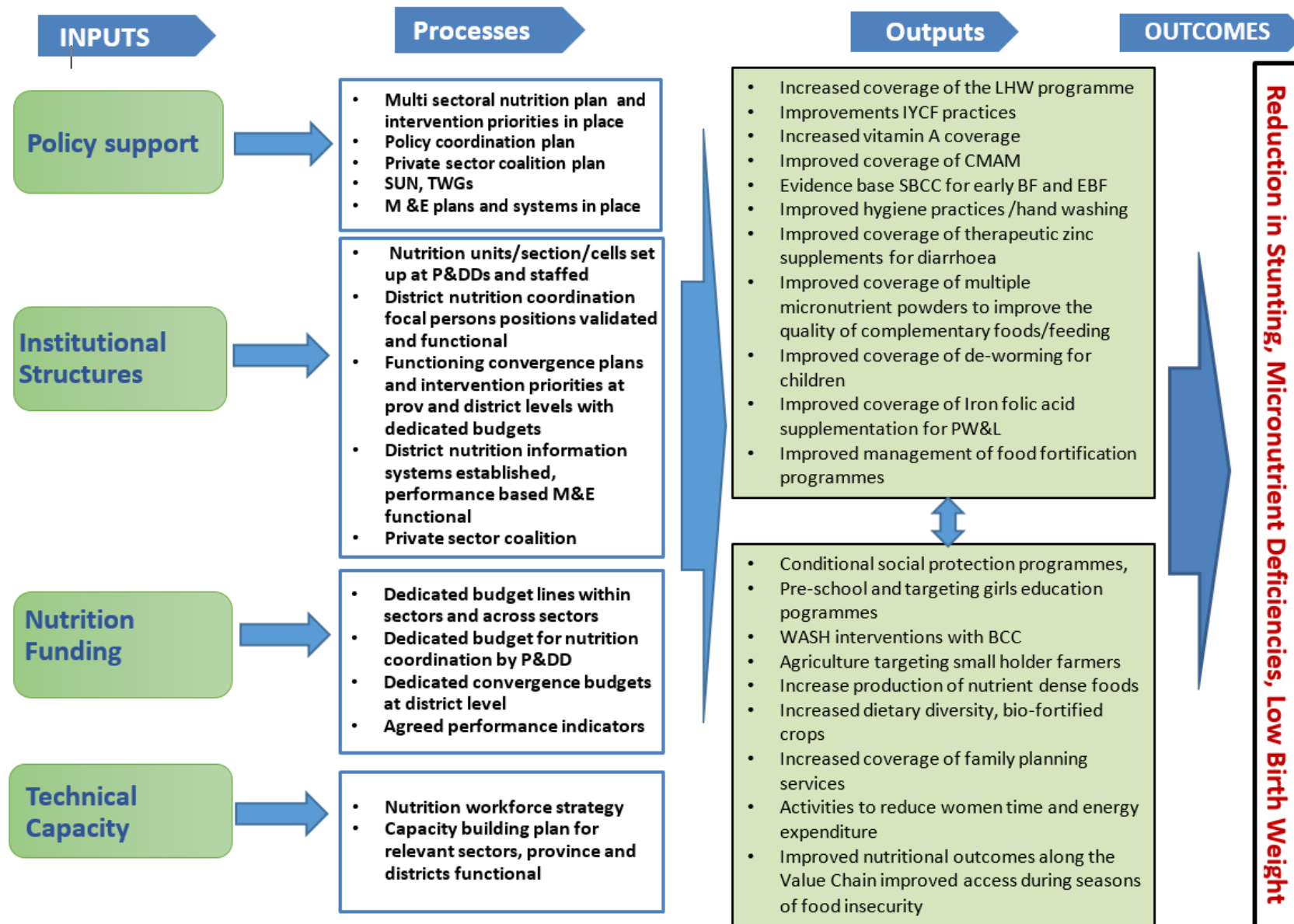
5. THEORY OF CHANGE

In order to arrive at realistic and context-specific options for Pakistan, a theory of change (TOC) has been developed to guide decision-making (Figure 22). The TOC presented below highlights a causal pathway towards improving malnutrition in Pakistan. It focuses on contextual issues specific to Pakistan identified in this landscape analysis, the Political Economy of Undernutrition in Pakistan, global evidence from the *Lancet* series on Maternal and Child Nutrition, and recent stakeholder consultations. Focusing on nutrition-sensitive and nutrition-specific interventions, the TOC identifies inputs/processes, outputs, outcomes, and impacts as well as areas of enabling environment and governance. The TOC also attempts to provide a basis for future log frame development to take forward critical inputs towards desired results. A steady relationship between inputs and outcomes is based on several key assumptions enumerated as follows:

5.1 Key assumptions and prerequisites

- Sustained political championing across party lines and steady technical leadership without frequent transfers.
- Allowance for response variations in provincial context for development of cohesive plans and interventions.
- Government as the major contributor of funding for ownership with donor contributions to incentive.
- Sufficient authority, interest, and capacity of central implementing structures to coordinate across different sectors—overcoming siloes, turf wars, and inertia.
- Co-option of a wide range of stakeholders within public and private sectors, with varied representation across sectors and not limited to health sector.
- Effective and functional health care delivery systems.
- Behavioural change communication geared to local needs and use of approaches to reach those most in need.
- Political and economic stability.
- Agreed common basket of nutrition-specific and nutrition-sensitive process indicators.
- Operational research and monitoring and evaluation.

Figure 22: Theory of Change



RECOMMENDATIONS

There are significant nutritional needs in Pakistan, and some of the associations with undernutrition that reflect intergenerational problems, such as the influence of maternal height, suggest that targeting interventions to key groups such as mothers, adolescent girls, and children under 5 is key. Other key drivers such as poverty alleviation and maternal education also reinforce the need for a multi-sectoral approach. Similarly, the critical role of the WASH sector in reducing the burden of disease and contributing to high rates of stunting is also well recognized. Notwithstanding the exacerbation of water insecurity in Pakistan by global climate change and environmental factors, public-sector investments in providing secure and safe water to the population must be scaled up. Similarly, a massive national campaign must be launched to improve environmental and living conditions and reduce the risks of faecal contamination. This integration of nutrition-sensitive and nutrition-specific interventions and programmes is therefore critical and in the post-devolution scenario, a huge opportunity for provinces to develop and implement and would be consonant with the recommendations of the Lancet maternal and child nutrition group (Bhutta et al 2013b).

In the post-devolution context, nutrition cross-sectoral dialogues have begun in each of the provinces, led by the P&DD and technically supported by development partners. Whilst momentum has been built for nutrition, it has to be sharpened and sustained. A bidirectional approach will be needed, aimed at securing both political and programmatic commitment. Political championing at the highest level is needed to establish nutrition as a development agenda across sectors. This necessitates bipartisan adoption across party lines to avoid the danger of marginalization of nutrition if it remains tied to a single party's agenda. For this to happen, the case for nutrition needs to be well-presented to politicians and the executive bureaucracy through well-targeted advocacy.

Policy dialogues can be strategically supported by refining roles between national and provincial governments. Whilst nutrition will have a strong provincial strategic home, there need to be links with federal overarching budgetary frameworks and with federally retained structures such as the Ministry of Food Security and BISP. Adoption of a nutrition lens is needed in sectoral planning across key sectors, such as poverty, food, agriculture, health, WASH, education, and disaster management. This would require identification and adoption of nutrition indicators in relevant sectors and a cross-sectoral nutrition framework to ensure sustainability.

Operationally, a structural home for nutrition is needed in each of the provinces to mainstream nutrition as a subject across different sectors. Planning through such central convening agents should encourage joint initiatives across sectors using well-defined interventions and common beneficiaries. Cooperation initiatives such as national Sustainable Action Plan and joint nutrition initiatives can be implemented through separate sectoral budgetary lines while ensuring strong coordination and joint M&E frameworks to monitor interim progress on nutrition. Funding has a role for placement of strategic incentives for nutrition. Donor funding may be used to increase state allocations, but both state and donor funding modalities must be carefully chosen to catalyze an evidence-based culture at both planning and local implementation levels as well as movement of nutrition from development to operational budgets.

In moving ahead, strategic coordination is also needed with the non-state sector, and their role in a multi-sector approach needs to be defined. Advocacy coalitions with Community Support Organisations (CSOs), experts, and media must be set up and segmentally target policymakers, implementers, and community. Nutrition also requires investment in community mobilization networks at sub-district and local levels for absorption of nutrition outreach activities. Clearly, funding mechanisms will be needed to accelerate investments and innovations in this area. Potential mechanisms will be detailed in an accompanying document but several principles can be underscored. Firstly, a core set of interventions needs to be introduced in all areas and additional innovations/approaches will be needed in varying contexts to scale up nutrition-sensitive approaches. While there are many civil society initiatives already in place for education in general, there is a

clear need for integration of education and nutrition initiatives in school, especially for girls. Similarly, the WASH sector and agriculture sector are well placed for integration with health, nutrition, and food security strategies and linkage with community development initiatives at the level of local and provincial governments. Pakistan is ripe for this change.

REFERENCES

- Aga Khan University. *National Nutritional Survey of Pakistan*. 2011.
- Balagamwala M. and Gazdar, H. *Agriculture and Nutrition in Pakistan – Pathways and Disconnects*. IDS Bulletin Volume 44 Number 3. p 66-74. 2013
- Bhutta ZA, Das JK, Bahl R, Lawn JE, Salam RA, Paul VK, Sankar MJ, Blencowe H, Rizvi A, Chou VB:et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? *The Lancet*. 2014;384:347–370.
- Bhutta ZA, Hafeez A, Rizvi A, Ali N, Khan A, Ahmad F, Bhutta S, Hazir T, Zaidi A, Jafarey SN. Reproductive, maternal, newborn, and child health in Pakistan: challenges and opportunities. *The Lancet*. 2013;381:2207-18.
- Bhutta ZA, Das JK, Rizvi A, Gaffey MF, Walker N, Horton S, Webb P, Lartey A, Black RE; Lancet Nutrition Interventions Review Group; Maternal and Child Nutrition Study Group. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *The Lancet*. 2013;382:452-77
- Black RE, Allen LH, Bhutta ZA, et al. Maternal, Child Undernutrition Study G: Maternal and child undernutrition: global and regional exposures and health consequences. *The Lancet*. 2008;371:243–260.
- Brenzel L, Wolfson LJ, Fox-Rushby J, Miller M, Halsey NA. Chapter 20: Vaccine-preventable diseases. In: Jamison DT, Breman JG, Measham AR, Alleyne G, Claeson M, Evans DB, Jha P, Mills A, Musgrove P, eds. *Disease Control Priorities in Developing Countries*. 2nd edition. Washington, DC: World Bank; 2006:389–412.
- Di Cesare M, Bhatti Z, Soofi SB, Fortunato L, Ezzati M, Bhutta ZA. Geographical and socioeconomic inequalities in women and children's nutritional status in Pakistan in 2011: an analysis of data from a nationally representative survey. *The Lancet Global Health*. 2015;3(4):e229–e239.
- Food and Agriculture Organization (FAO) of the United Nations. *Pakistan: Economic Indicators*. 2012.
- FAO. *The State of Food Insecurity in the World 2009*. Rome: FAO; 2009.
- Hazir T, Akram DS, Nisar YB, et al. Determinants of suboptimal breast-feeding practices in Pakistan. *Public Health Nutrition*. 2013;16(4):659–672.
- Hossain SM, Talat M, Boyd E, et al. Evaluation of nutrition surveys in flood- affected areas of Pakistan: seeing the unseen! *IDS Bulletin*. 2013;44(3):10–20.
- IGME 2014. UN Inter-agency Group for Child Mortality Estimation (IGME). Levels & Trends in Child Mortality: Report 2014. New York: UNICEF, 2014.
- IFAD Rural Poverty Report 2001: The Challenge of Ending Rural Poverty. Oxford University Press, IFAD 2001. Available at <http://www.ifad.org/poverty/ch.cont.pdf>
- Imdad A, Bhutta ZA. Maternal nutrition and birth outcomes: effect of balanced protein-energy supplementation. *Paediatric and Perinatal Epidemiology*. 2013;26 Suppl 1:178–190.
- JMP 2014. Progress on Drinking Water and Sanitation. WHO/UNICEF Joint Monitoring Programme. 2014 update.
- Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS. How many child deaths can we prevent this year? *The Lancet*. 2003;362(9377):65–71.
- Khan M, Akram DS. Effects of baby-friendly hospital initiative on breast-feeding practices in Sindh. *Journal of Pakistan Medical Association*. 2013;63(6):756–759.
- Liaqat P, Rizvi MA, Qayyum A, Ahmed H, Ishtiaq N. Maternal education and complementary feeding. *Pakistan Journal of Nutrition*. 2006;5(6):563–568.

- National Institute of Population Studies I, Pakistan. *Pakistan Demographic and Health Survey (PDHS)*. 2013
- Ng M, Fleming T, Robinson M, et al. Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet*. Aug 30 2014;384(9945):766-781.
- ODI 2010. The Benazir Income Support Programme and the Zakat Programme. A Political Economy Analysis of Gender. November 2010. Available at http://interactions.eldis.org/sites/interactions.eldis.org/files/database_sp/Pakistan/Zakat/Zakat1.pdf
- Pakistan Council for Research in Water Resources (PCRWR), Ministry of Science and Technology, Government of Pakistan. Water Quality page. PCRWR website. Available at: <http://www.pcrwr.gov.pk/water%20quality.aspx#>.
- Pakistan Ministry of Planning, Development, and Reform, Government of Pakistan. *Pakistan Millennium Development Goals Report*. 2013.
- Service WHE: World Hunger and Poverty Facts and Statistics. 2013.
- Spears D. *How Much International Variation in Child Height Can Sanitation Explain?* World Bank Policy Research Working Paper, No. 6351. Washington, DC: World Bank; 2013. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2013/02/05/000158349_20130205082533/Rendered/PDF/wps6351.pdf
- Sustainable Development Policy Institute (SDPI). Women's Land Rights: Research Findings from Pakistan. Project Report Series # 18 November 2010. Available at <http://www.sdpi.org/publications/files/Microsoft%20Word%20-%20project%20report%2018.pdf>
- The World Bank: Poverty Overview 2015. Available from <http://www.worldbank.org/en/topic/poverty/overview.2015>.
- The World Health Organization Fact book: Country statistics. 2014.
- United States Agency for International Development (USAID). Budget Support Monitoring Program: Nutrition Programs of Pakistan. 2011.
- Von Grebmer K, Ringler C, Rosegrant MW, et al. *2012 Global Hunger Index: The Challenge of Hunger: Ensuring Sustainable Food Security Under Land, Water, and Energy Stresses*. Volume 70: Washington, DC: International Food Policy Research Institute (IFPRI); 2012.
- World Bank. Poverty Overview webpage. World Bank website. 2015. Available at: <http://www.worldbank.org/en/topic/poverty/overview>.
- World Health Organization (WHO). *The World Health Organization Fact Book: Country Statistics*. 2014.
- World Food Programme (WFP). *Pakistan Food Security Bulletin*. December 2014, Issue 2. Available at: <http://documents.wfp.org/stellent/groups/public/documents/ena/wfp271228.pdf>.
- Zaidi S, Mohmand SK, Bhutta Z, Acosta AM. *The Political Economy of Undernutrition in Pakistan*. Islamabad: DFID-MQSUN; 2013.

ANNEX 1: SUMMARY OF DATA AND COVERAGE FOR VARIOUS INTERVENTIONS (IN % OF POPULATION COVERED)

	Data source	National (range)	Equity indicators by wealth quintiles					Provincial coverage				Data quality	Comments
			Lowest	Second	Middle	Fourth	Highest	Punjab	Sindh	KPK	Baluchistan		
Access to health care and reproductive health													
Modern family planning access	PDHS* 2012-13	26.1 (18.1-31.6)	18.1	22.9	26.9	30.3	31.6	29.0	24.5	19.5	16.3	Good	Key determinant of maternal health and nutrition
Percentage of adolescent girls (10-19 years) who already gave birth		38.0 (31.7-46.4)	31.7	36.8	46.4	36.8	40.6	34.2	36.7	47.4	54.0	Poor	Issues with age determination. Needs disaggregated analysis by 10-14.9 and 15-19 years bands
Antenatal care (ANC) and delivery													
ANC by skilled provider	PDHS 2012-13	73.1 (50.9-96.6)	50.9	61.5	76.7	86.9	96.6	77.8	78.2	60.5	30.6	Good	Although coverage data is available, there are few estimates of quality of services or “effective coverage”
ANC 4+ visits during last pregnancy		36.6 (12.9-77.6)	12.9	21.7	31.0	49.9	77.6	38.5	44.5	24.0	12.3	Good	Widespread perceptions of poor commodity quality and tolerance with overall coverage rates of <50%
Took iron tablets or syrup (during the pregnancy of their last birth)		44.7 (28.6-67.6)	28.6	34.5	43.1	55.8	67.6	43.7	49.2	50	17.1	Good	
Delivered in a health facility		48.2 (27.1-84)	27.1	33.8	45.6	63.4	84	48.5	58.6	40.5	15.8	Good	Low rates of facility-based births suggest that presently while referrals for childbirth are encouraged, community-based platforms will remain important for community mobilization and service delivery

	Data source	National (range)	Equity indicators by wealth quintiles					Provincial coverage			Data quality	Comments	
			Lowest	Second	Middle	Fourth	Highest	Punjab	Sindh	KPK			Baluchistan
Skilled birth attendance		52.1 (29.8-85.2)	29.8	38.1	51.2	68.9	85.2	52.5	60.5	48.3	17.8	Good	
Infant and young child feeding (IYCF) indicators													
Initiation of breastfeeding within 1 hour of birth	PDHS 2012-13	18.0 (12.8-21.9)	21.7	17.1	17.2	12.8	21.9	12.7	19.7	26.4	42.1	Good	Important data for action (target ≥ 90%)
Exclusive breastfeeding under age 6 months		38.0 (29.7-36.4)	30.8	36.4	36.3	29.7	34.3	30.3	31.7	53.7	20.6	Good	Critical determinant of health and nutrition (target ≥ 80%)
Breastfeeding and consumption of complementary foods		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Important marker of appropriate IYCF was not given by equity, province, and national (just provided by age bands)
Dietary diversity (from recall)		22.2 (11.9-38.7)	11.9	16.2	21.0	27.7	38.7	22.2	24.8	21.5	9.1	Moderate	Not a focus of intervention strategies presently; needs a strong training, advocacy, and communication push
Vitamin A supplements in last 6 months (children 6-59 months)		72.1 (62.9-77.3)	62.9	76.7	77.3	74.6	69.7	77.9	59.9	81.2	45.3	Good	
Childhood diseases													
Diarrhoea care-seeking	PDHS 2012-13	61.0 (54-76.8)	54.0	54.9	58.8	68.3	76.8	68.6	73.0	23.0	43.4	Good	Consistent with observed trends for care-seeking and clustering of mortality
Acute respiratory infection care-seeking		64.4 (56.6-78.8)	56.6	57.7	60.3	74.4	78.8	72.1	81.6	29.3	53.5	Fair	Inadequate indicator as it does not distinguish between serious respiratory infections (e.g. pneumonia and other respiratory infections)
Food security status													
Food secure	NNS*	41.9	17.5	32.5	37.9	49.4	76.1	40.5	28.2	68.5	36.5	Moderate	Standardized measurement on a

	Data source	National (range)	Equity indicators by wealth quintiles					Provincial coverage				Data quality	Comments	
			Lowest	Second	Middle	Fourth	Highest	Punjab	Sindh	KPK	Baluchistan			
	2011	(17.5-76.1)												national sampling frame but underpowered for provincial specificity
Food insecure without Hunger	NNS* 2011	28.4 (18.3-33.6)	24.9	32.7	33.6	31.7	18.3	32.2	21.1	21.0	33.9	Good		
Food insecure with hunger moderate	NNS* 2011	19.8 (4.0-35.6)	35.6	23.6	19.5	14.4	4.0	18.5	33.8	6.0	18.0	Good		
Food insecure with hunger severe	NNS* 2011	9.8 (1.4-z9)	21.9	11.2	9.0	4.5	1.5	8.8	16.8	4.5	11.5	Good		
Water, sanitation, and hygiene														
Improved water	PDHS 2012-13	93.4 (85.8-98.5)	85.8	89.6	96.1	97.3	98.5	98.6	93.7	77.5	67.2	Poor	Major issues with data quality and specificity	
Improved sanitation	PDHS 2012-13	58.7 (11.3-94.0)	11.3	42.4	64.0	81.9	94.0	58.8	56.9	61.8	46.2	Moderate	A better marker for planning might be open defaecation alone	
Improved water	NNS 2011	63.3 (38.4-80.6)	38.4	60.4	66.8	73.2	80.6	62.6	42.8	92.3	61.8	Poor	Major issues with data quality and specificity	
Improved sanitation	NNS 2011	82.6 (38.2-99.9)	38.2	82.7	96.5	99.7	99.9	83.5	74.7	93.9	73.6	Poor	Major issues with data quality and specificity	
Percentage of households where place for washing hands was observed	PDHS 2012-13	84.6 (81.6-87.7)	81.6	84.4	85.9	87.7	83.5	87.4	87.1	66.5	89.5	Poor	Major issues with data quality and specificity	
Percentage of households with soap and water only	PDHS 2012-13	63.8 (15.9-97.6)	15.9	45.0	69.8	88.1	97.6	71.9	52.4	55.4	33.4	Moderate	Relatively stable indicator	

	Data source	National (range)	Equity indicators by wealth quintiles					Provincial coverage				Data quality	Comments
			Lowest	Second	Middle	Fourth	Highest	Punjab	Sindh	KPK	Baluchistan		
Educational attainment of the female household population	PDHS 2012-13											Good	Probably the more stable indicator for assessing education impacts
No education	PDHS 2012-13	52.8 (21.1-86.1)	86.1	68.9	52.9	37.9	21.1	46.9	58.1	62.8	71.5	Good	
Primary	PDHS 2012-13	21.7 (10.9-27.0)	10.9	22.0	27.0	26.8	21.1	25.2	16.2	18.5	16.7	Good	
Middle	PDHS 2012-13	9.1 (1.9-14.4)	1.9	5.2	10.0	14.4	13.4	11.1	6.4	6.9	4.5	Good	
Secondary	PDHS 2012-13	8.1 (0.6-18.3)	0.6	2.3	6.2	12.5	18.3	9.0	8.2	5.6	4.1	Good	
Higher	PDHS 2012-13	8.0 (0.2-25.8)	0.2	1.3	3.6	8.2	25.8	7.7	11.0	5.6	2.3	Good	
Don't know/missing	PDHS 2012-13	0.2 (0.2-0.3)	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.6	0.8	Good	
Median years completed	PDHS 2012-13	0.0 (0.0-7.2)	0.0	0.0	0.0	3.4	7.2	0.8	0.0	0.0	0.0	Good	

ANNEX 2: KEY NUTRITION-SENSITIVE INTERVENTIONS

Core interventions

Additional components and innovations

(as contextually relevant)

Poverty alleviation and social safety nets

- Support from Bait-ul-Maal
- Utility stores schemes for subsidized food in both urban and rural settings
- Benazir Income Support Programme (BISP)
- Zakat funds (from local governments) for food subsidies tied with conditionalities
- Local women's saving groups
- Conditional cash transfers for promotion of nutrition and education (through BISP and Bait-ul-Maal)
- Targeted food basket support programmes (for pregnant and lactating women and at-risk children)
- Private philanthropy targeted to nutrition support and food security

Agriculture and related nutrition interventions to promote food security

- Government price support for farmers
- Agricultural loans and subsidies for seed/fertilizer and pesticide procurement
- Crop insurance schemes
- Promotion of crop diversity for national food security
- Policy reform for agriculture including land reforms
- Provision of credit on easy terms for farmers and procurement of certified seeds
- Home/kitchen garden schemes
- Conditional cash transfers for food basket support
- Food supplementation programmes for at-risk populations/households
- Judicious use of irrigation water by application of conservation technologies such as laser land leveling and drip irrigation
- Diversification of agriculture to include crops to meet nutrition requirement (e.g. biofortified wheat and varieties with low phytate content)

Education, especially female education

- Community awareness and mobilization for education, especially for girls
- Free primary and secondary education
- Improved school infrastructure and quality of education
- School feeding in ECD) classes with nutrition communication for mothers
- Nutrition awareness; child as vehicle for community change
- Adolescent girls' nutrition education and iron/folic acid supplementation

Water (clean and safe water provision)

- Provision of clean and safe water supply
- Interruption of intermittency in supply
- Ensuring water security in all health facilities and outposts
- Equitable water distribution in water-insecure populations
- Public/metropolitan water purification and chlorination schemes
- Regular monitoring and assessment of water quality and safety
- Innovations in community supply/procurement of water in water-insecure rural and urban households
- Community self-help schemes for water-supply support
- Innovations for water-quality testing at village/local level
- Subsidies for innovative, low-cost, clean, and safe water transportation (tankers and containers)
- Solar water-purification schemes

Sanitation

- Communal BCC) for open defaecation in rural areas
- Provision of communal safe toilets at village/locale level (zero open defaecation programmes) and all health facilities
- Regular monitoring of water supply for sewage contamination
- Garbage disposal and fly control schemes
- Community support for low-cost, safe toilets and sewage disposal/septic tanks

Hygiene

- Promotion of hand washing and cleanliness in schools and mass media
- Evaluation of low-cost hand scrubs in water-insecure areas

- Provision/promotion of low-cost soap
- Incentivized “best performance” schemes for competition between districts/villages through local governments
- Innovative school-based hygiene education programmes
- Community-based sanitation and hygiene days