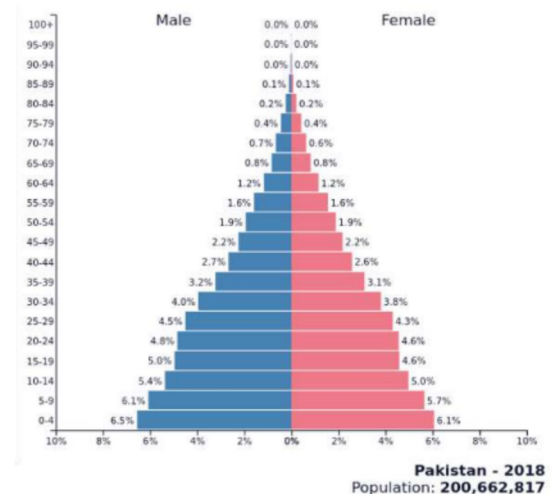


# SCHOOL MEAL PROGRAMME FOR CHILDREN

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## THE DEMOGRAPHIC OPPORTUNITY & CHALLENGE

According to the National Human Development Report<sup>1</sup> for Pakistan published in 2017 by the UNDP (United Nations Development Programme), Pakistan has the largest population of young people ever recorded in its history. A whopping 64% are under the age of 29, with some 30% between the ages of 15 and 29. For at least the next three decades, Pakistan will continue to be a younger country. This youth bulge, while fraught with challenges, also presents us with a unique opportunity to bring about phenomenal progress in the country. Their ideas and energy can lead the way for social, economic and political progress. However, this opportunity comes with a heightened responsibility of developing this youth to become that powerful force which can bring transformational development to the country. The challenges in capitalizing this opportunity are, conservatively speaking, more than a few, with education and training of the youth sitting at the top.



## THE CASE FOR ACTION

The UNDP Report identifies and examines Pakistan's human development challenges and opportunities from the prism of youth. It looks at three key drivers of youth empowerment: quality education, gainful employment and meaningful engagement. The first of these levers, quality education is the most important tool for empowering the youth and improving their development. It enhances the youth's capabilities, their freedoms and their choices. Therefore, education, education, and education is what we need to, and ought to, be delivering. And for its effective delivery, it is imperative that we significantly improve the quality and quantity of Pakistan's education system and its delivery units.

Then, there is health of the population which is a direct source of human welfare. While this may be intuitively obvious there are many studies to prove the positive linkage of people's health to economic health of a country. In one such article, it has been effectively proven that; "health has a positive and statistically significant effect on economic growth"<sup>2</sup>. Therefore, investment in health is not only desirable but essential even if looked at purely on the grounds of its return on investment – labor productivity increases and so does the output of the country's economic engine. The benefits of this investment are further compounded if it is youth-focused and based on preventive healthcare philosophy rather than curative.

<sup>1</sup> Pakistan National Human Development Report Unleashing the Potential of a Young Pakistan  
<http://www.pk.undp.org/content/dam/pakistan/docs/HDR/PK-NHDR.pdf>

<sup>2</sup> The Effect of Health on Economic Growth: A Production Function Approach' by David E. Bloom, David Canning and Jaypee Sevilla

The framers of our constitution fully understood the importance of these two foundational building blocks, education and health, and therefore enshrined them among the fundamental rights of every citizen of the country. Sadly, we have eternally fallen short in providing for these fundamental rights which has had a devastating impact on our growth. As a nation, it is amoral to continue with this deficit. We must invest in education and health for the benefit of our people, for the benefit of our country, and for the benefit of our coming generations.

## THE DEVASTATING MALNUTRITION

Underscoring the importance of health and its compounding effect on education, our case in this paper is to actively canvass and invest time and resources in pursuit of improving the quality of health of the youth in their learning stage. Towards that objective, we know that the menace of malnutrition,

***If you had \$75 billion for worthwhile causes, where should you start?***

***Fighting Malnutrition!***

prevalent among our youth, needs to be addressed urgently and effectively. Fighting malnutrition is where we propose to put our effort. We know that this investment will make a huge impact on the overall delivery of a healthy and robust population.

In May 2012, the third global Copenhagen Consensus was held, putting together the world's smartest minds to analyze the costs and benefits of different approaches to tackling the world's biggest problems. The aim was to provide an answer to the question:

If you had \$75 billion for worthwhile causes, where should you start?

A panel of economic experts, comprising some of the world's most distinguished economists, was presented with nearly 40 investment proposals designed by experts to reduce the challenges of Armed Conflict, Biodiversity Destruction, Chronic Disease, Climate Change, Education Shortages, Hunger and Malnutrition, Infectious Disease, Natural Disasters, Population Growth, and Water and Sanitation Shortages. They found that fighting malnutrition should be the top priority for policy-makers and philanthropists<sup>3</sup>.

Eradication of malnutrition has become the focus of attention in many countries of the world, both developed and developing. Poor nutrition begets lower learning performance, which in turn results in less education, fewer job opportunities follow, resulting in lower socioeconomic status, which brings us back to the poor nutrition because of the lower income and the vicious circles continues.

## NUTRITION IMPROVES LEARNING

Several studies<sup>4</sup> show that nutritional status can directly affect mental capacity among school-aged children. Deficiencies in vitamins and minerals, are shown to inhibit cognitive abilities and mental concentration. There are also studies showing that

***"Poor nutrition in the crucial early years triggers irreversible mental and physical defects that have a lifelong impact on a child's productivity and immunity against disease and earning capacity as an adult" - Dr Atif Habib, assistant professor at AKU's department of pediatrics and child health said at the launch of the National Nutrition Survey 2018***

<sup>3</sup> <https://www.copenhagenconsensus.com/copenhagen-consensus-iii>

<sup>4</sup> <https://articles.extension.org/pages/68774/3-ways-nutrition-influences-student-learning-potential-and-school-performance>

improvements in nutrient intake can influence the intelligence levels of school-aged children<sup>5</sup>. Therefore, proper nutrition is not only critical to children's health and well-being it has very positive impact on children learning. And, this is especially true for low-income students who need the nutrition to ensure learning throughout the day.

In one study released by Save the Children, UK, it has shown how much malnutrition harms children's chances of learning – malnourished children scored 7% lower in mathematics tests, were 19% less likely to be able to read at age 8 and were 13% less likely to be in the appropriate grade for their age than those who are well nourished.

## WHAT TO DO?

Pakistan's nutritional-scape was analyzed and laid out in November 2017<sup>6</sup> in a study conducted by World Food Programme (WFP) and Government of Pakistan. It, unfortunately, declares in clear terms

In 2015 the global community adopted the 17 Global Goals for Sustainable Development (SDG)\* to improve people's lives by 2030.

**Goal 2 – Zero Hunger – pledges to end hunger, achieve food security, improve nutrition and promote sustainable agriculture.**

Pakistan has signed on to the SDGs with a pledge to “end hunger and ensure access for all, especially for the poor and vulnerable, to nutritious and sufficient food the year round.” Goal 2 is also a priority of the World Food Programme.

\*for more details on the 17 goals go to <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

that “malnutrition is widespread” in the country. It goes into much detail and identifies many contributing factors – unaffordability of, and poor physical access to, nutritious foods; rapid population growth, especially in urban areas; and poverty, the most significant factor of all.

It is said that a nation is as strong as its youngest members. We ask; how strong are our youngest members; and how strong can we make them? I hypothesize that continued inaction to eradicate malnutrition will gradually impact the gross national intelligence (if there was a metric that measured national intelligence level) of the country which will have devastating effect.

The ‘Fill the Nutrient Gap’ study<sup>2</sup> identifies priority interventions by different sectors. Therein it

### At a Glance

- *Pakistan has made gains becoming a **food surplus country***
- ***60 percent** of the population is still facing food insecurity*
- *Pakistani household spends **50.8 percent** of monthly income on food*
- ***15 percent of children under 5** suffer from acute malnutrition, the second highest rate in the region.*
- ***7.3 million children** of primary school age are not enrolled, 57 percent of whom are girls.*

Source: World Food Programme  
<http://www1.wfp.org/countries/pakistan>

<sup>5</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1529733/pdf/amiph00742-0034.pdf>

<sup>6</sup> 2017 - Fill the Nutrient Gap - Pakistan

recommends introduction of nutrition-sensitive school meals as one of the prioritized interventions. Therefore, we define our overarching objective to be:

***“To Invest in the Health of the Youth through Nutrition”***

And the means to achieve the above objective is:

***“To Introduce Nutrition-Sensitive School Meals”***

## **MID-DAY SCHOOL MEAL PROGRAMME**

The school feeding page of the World Food Programme (WFP) website<sup>7</sup> starts....

‘Every day, countless children across the globe turn up for school on an empty stomach, which makes it hard to focus on lessons. Many simply do not go, as their families need them to help in the fields or around the house.

For all of them, having food at school every day can mean not only better nutrition and health, but also increased access to and achievement in education. It is also a strong incentive to consistently send children to school.....’

The WFP page goes on to highlights its accomplishments, such as:

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**18.3 million**

schoolchildren in 60 countries received meals, snacks or take-home food through WFP in 2017

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**39 million**

schoolchildren were indirectly reached in 2017 in 65 countries where WFP provided technical assistance to government school feeding programmes

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## **MID-DAY SCHOOL MEAL PROGRAMME IN PAKISTAN**

It is envisioned that meal program for all schools are started in Pakistan on an urgent basis starting with low-income area schools – strengthen the nation’s young ones to unleash their potential to the fullest.

Right next door, in India, it is mandated<sup>8</sup> that all the State Governments and Union Territories are to implement the mid-day meal scheme in every Government and Government assisted school. As per the scheme, every child must be provided with a prepared mid-day meal on every school day. This, they did in 2001. The benefits of the programme that they foresaw were:

- Avoid classroom hunger and malnutrition

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<sup>7</sup> <https://www1.wfp.org/school-meals>

<sup>8</sup> [http://www.righttofoodindia.org/mdm/mdm\\_scorders.html#28nov2001](http://www.righttofoodindia.org/mdm/mdm_scorders.html#28nov2001)

- Increase school enrolment
- Increase school attendance

The above benefits are very generic and can be expected whenever a school meal programme is instituted. In a Pakistan specific scenario, the additional benefit is that the school meal programs will offer an alternate to the low-income parents who send their children to the *madrassas* where free meals for their students is also provided. As per some estimates, there are over 35,000 *madrassas* across the country. With meal programs in regular schools the low-income parents will have a choice.

One foundation to benchmark is Akshaya Patra in India that started the Mid-Day Meal Programme (see the Harvard Business School study<sup>9</sup>) in June 2000 by serving mid-day meals to 1,500 children across five government schools in the Karnataka state. Though this foundation has a humble beginning, it now reaches out to 1,762,133 children across 12 states of India, providing them with freshly cooked meal on all school days. The initial days of implementing the programme were not a smooth sail, however with private donors and government support they achieved impressive results in addressing the classroom hunger, malnutrition and thereby increasing the school enrolment and attendance. They plan to increase the number of schools served to hundreds more from their current number of 14,702.

This paper proposes to start a program similar to Akshaya Patra's, but with a humbler beginning – serving school meal for a 160 children school in Orangi, Karachi (the school has been identified)

## **MID DAY MEALS FOR CHILDREN IN SCHOOL**

The meal plan that follows has been developed based on the Pakistan Dietary Guidelines for Better Nutrition (PDGN)<sup>10</sup> developed by WHO (World Health Organization) and the Government of Pakistan in May 2018. The guideline recommends following requirements:

### **Children 3 - 10 Years**

Growth and development of children 3-10 years continue at a moderate pace but there is a continuous demand of nutrients to meet the body needs. In general, children gain about 2-2.5 kg body weight/year and 5-6cm height/year. Mean body weight and length of boys is generally greater than their corresponding age girls. Energy requirements for boys and girls are estimated at 80 kcal/kg/day and 77 kcal/kg/day at age 3 but decreased to 67 kcal/kg/day and 61 kcal/kg/day at age 10 for boys and girls, respectively. Recommended protein requirements for children 3-10 years are estimated at 1.2 g/kg/day.

### **Children 10 - 19 Years**

Adolescence period is accompanied by increased physiological and psychological changes with rapid physical growth and development that require increased amounts of nutrients to fulfill the body requirements. At puberty and at peak weight and height accretion, adolescents gain about 3-5 kg/year weight and 6-7 cm/year height, respectively. After the age of 17 years, weight and height gain of adolescents reduces substantially to 1.5-2 kg/year and 0.5-1 cm/year, respectively. Adolescents by and large attain 50% of adult weight and 25% of adult height for which optimal nutrition is essential. Energy requirements for adolescent boys and girls are estimated at 55-65 kcal/kg/day and 45-60 kcal/kg/day, respectively. Recommended protein requirements for adolescents are 1.1-1.2 g/kg/day.

<sup>9</sup> Harvard Business School Case Study, <https://www.akshayapatra.org/Harvard-Business-School-Case-Study>

<sup>10</sup> Pakistani-dietary-guidelines-2018 can be downloaded from <http://www.fao.org/3/ca1868en/CA1868EN.pdf>

### Recommended Food and Portion Sizes for Children in Pakistan (3 - 19 years)

Food Group	No. of Servings/day		Portion size and description
	3 - 10 Years	10 - 19 Years	
Milk and milk Products	2 - 3	3 - 4	1 serving = 1 cup of milk or 1 cup of yogurt or 1 slice of cheese or 1 cup of kheer or feerni or other milk-based products equivalent to nutrients supplied by 1 cup of milk. 1 cup of whole milk will provide 15 g carbohydrates, 6 g protein, 8 g fat and 150 calories.
Cereals	2 - 4	5 - 6	1 serving = 2 slices of bread (toast) or 1 chapatti or 1 cup of cooked rice or 1 cup of cereals equivalent to nutrients supplied by 2 slices of bread. One serving of cereals bread (2 toast x 28 g = 56 g) shall provide 30 g carbohydrates, 6 g protein, 0-2 g fat and 160 calories.
Vegetables	1 - 2	2 - 3	1 serving = ½ cup of cooked non-starchy vegetables or ½ cup of vegetables juice/soup or 1 cup of fresh vegetables/salad. One serving of vegetables will provide 5 g carbohydrates, 2 g protein and 25 calories. One serving of starchy vegetables (1 potato (100 g) or maize (1/2 cup) or peas green ½ cup) will provide 15 g carbohydrates, 3 g protein, 0-1 g fat and 80 calories.
Fruits	1 - 2	2 - 3	1 serving = 1 medium size banana or 1 apple or 1 peach or 2-3 plums or 3-4 apricots. Each serving will provide 20 g carbohydrates and 80 calories.
Meats & Pulses	1 - 2	2 - 3	1 serving of meat (28 g lean meat = 2-3 small pieces of meat or 1-2 pieces of fish or 1 egg, or ½ cup of cooked pulses). One serving of lean meat will provide 7 g protein, 3 g fat and 55 calories. One serving of meat with medium fat will provide 7 g protein, 5 g fat and 75 calories. One serving of meat with high fat will provide 7 g protein, 8 g fat and 100 calories.

Based on the above it is proposed that the following meal plan to be served for **boy and girls from class 1 – 10:**

Daily Serving/child in School	Day of Week					
	Mon	Tue	Wed	Thu	Fri	Sat
1	Milk - 1 cup (240 mls)	Yogurt - 1 cup (250 gms)	Milk - 1 cup (240 mls)	Yogurt - 1 cup (250 gms)	Kheer / Feerni - 1 Cup	Milk - 1 cup (240 mls)
2	Rice - 2 Cup	Chappati - 2	Rice - 2 Cup	Chappati - 2	Biryani with Chicken	Chappati - 2
2	Vegs* & Potato	Vegs* & Peas	Vegs* & Potato	Vegs* & Peas	Vegs* & Potato	Vegs* & Peas

1	Seasonal Fruit**	Seasonal Fruit	Seasonal Fruit	Seasonal Fruit	Seasonal Fruit	Seasonal Fruit
2	Egg	Daal - 1 Cup (say 30 gms)	Egg	Daal - 1 Cup (say 30 gms)	Meat with Biryani above	Egg
*Seasonal vegetables 1/2 cup of leafy/non-leafy and one potato or 1/2 cup green peas						
**Fruits are price sensitive therefore whatever is available at best price						