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Fill the Nutrient Gap (FNG) Afghanistan

Brief: The Potential for Fortification

Introduction

Industrial food fortification is recognized as one of the most cost-effective interventions to help prevent micronutrient deficiencies and their consequences. This is the practice of adding micronutrients to food as it is being processed, for example as grain is milled to flour. Though fortification is not aimed at replacing a balanced and diverse diet, it can be a powerful tool in contexts where there is limited access to diverse foods or where staple foods make up a large part of the diet. Mandatory food fortification requires very little change in food consumption patterns and is able to provide large segments of the population with steady access

to nutrients. If there is adequate infrastructure for production, distribution and quality control, fortification can be implemented relatively quickly with wide reach.

As part of the Fill the Nutrient Gap (FNG) analysis in Afghanistan, this brief assesses the potential impact of fortified wheat flour on the cost and affordability of a nutritious diet in the country. Evidence generated by the FNG analysis can be used to raise awareness of how fortified foods could reduce the cost of the nutritious diet, improve access to, and affordability of, essential micronutrients, and prevent nutrient

deficiencies. As fortification programmes require coordinated multisectoral efforts, this evidence can be relevant across sectors such as agriculture, health and commerce, and can be used to guide strategic policy planning across these sectors and provide a basis for multisectoral dialogue on food fortification in Afghanistan.

Fortification in Afghanistan

Salt iodisation programmes have been successfully implemented in Afghanistan. However, implementation of fortification of wheat flour and edible oil remains weak. If improved, it has the potential to deliver essential micronutrients to a population which has high consumption of staple foods and low dietary diversity.

Consumption of iodised salt has proven to be an effective tool in combatting iodine deficiency and goitre in Afghanistan. Fortification of salt with iodine began in Afghanistan in 2003 and became mandatory in 2011. Since then, the national capacity to produce iodised salt has been greatly expanded with 32 producers spread across 14 provinces (GAIN 2014, Hamid et al. 2014). Data from the 2015 Demographic and Health Survey show that more than half of households used iodised salt, with a slightly greater use in higher income households and in urban areas (87 percent and 82 percent respectively). A 2017 survey by the Global Alliance for Improved Nutrition (GAIN) found that consumption of salt in its fortifiable form was universal in Afghanistan, while the 2013 National Nutrition Survey results on the median urine iodine concentration suggested that iodine sufficiency had been achieved at a national level (Hamid et al. 2014). Despite these achievements, there is still a need to strengthen iodisation programmes so that iodised salt reaches all households.

Fortification of oil and staple foods is far less common than fortification of salt. Afghanistan's National Public Nutrition Policy and Strategy (2015-2020) recognizes the importance of fortifying these food items and the need for clear strategies on fortification, but there is a need for improved regulatory monitoring and updated data on utilization and coverage of fortified foods.

Overall, almost 80 percent of the population purchases cereals, with close to 95 percent of the urban population and 70 percent of the rural population depending on markets to source their cereals. The 2016/17 Afghanistan Living Conditions Survey (ALCS) found that food insecure households spend a larger proportion of their food budget on cereals such as wheat flour and rice compared to other food groups, and have low dietary diversity. This is especially true in the central highlands and north east regions of the country. Diets largely consist of oil, wheat flour and sugar, making the need for fortification of edible oil and wheat flour even stronger to ensure that individuals receive essential micronutrients.

Oils and fats contribute between 10 and 15 percent of total calories in Afghanistan (ALCS 2016/17). Consumption of oil, in any of its forms, is almost universal in the country, and could therefore serve as a good vehicle for providing fat-soluble vitamins. In 2014, the Afghanistan National Standards Authority (ANSA) issued the Fortified Edible Oils and Ghee Specification, which requires edible fats and oils to be fortified with vitamins A and D. The standards are based on a calculated coverage of 40 percent of the recommended daily intake of vitamin A for an adult with a daily consumption of 40 grams of oil. Fortified oil is being used in social protection programmes which provide foods in-kind, particularly to the most vulnerable households.





Wheat flour and wheat flour products are widely consumed in Afghanistan across provinces and throughout wealth quintiles. The estimated adult daily intake of wheat flour is 430 grams per person (ANSA 2014), providing 1,700 kcal, approximately two thirds of total adult energy needs. If implemented adequately, fortified wheat flour could serve as an excellent vehicle to deliver key micronutrients to a large segment of the population. This could contribute towards reducing the prevalence of micronutrient deficiencies especially among nutritionally vulnerable populations such as children under five, adolescent girls, and pregnant and lactating women.

With this objective, ANSA issued the Fortified Wheat Flour National Standard in 2014, applicable to both locally produced and imported wheat flour. This standard recognizes the cost-effectiveness and technical feasibility of wheat flour fortification for a range of micronutrients, including B group vitamins, folic acid and iron. The regulation also mandates the

creation of a National Independent Fortified Foods Board, with representatives from different ministries and government agencies.

As part of its mandate, the government is required to monitor the implementation of the fortification standards and carrying out quality control of domestic and imported fortified wheat flour.

A cost-benefit analysis of wheat flour fortification in Afghanistan showed that the benefits of a successful fortification programme would outweigh the costs more than 12 times over a ten year period. This is due to the high economic losses that result from undernutrition in Afghanistan. Failure to tackle the nutrition problem will cost the country billions of dollars due to poor health and lower productivity. Despite its comparatively lower implementation cost, fortification policies and programmes have been slow to roll out at scale and there is little to no enforcement of the national standard.

Impact of fortified wheat flour on the cost of a nutritious diet

Replacing standard wheat flour with fortified wheat flour can reduce the cost of a nutritious diet by 13-22 percent, improving the affordability of a nutritious diet. The impact is greater in provinces where there is low availability of fresh nutritious foods and a higher nutritious diet cost, and for nutritionally vulnerable individuals within the household.

A Cost of the Diet (CoTD) assessment conducted as part of the FNG analysis in Afghanistan calculated the lowest cost of a nutritious diet that covers energy, protein and micronutrient needs. The assessment used food price data collected by WFP (December 2019 – January 2020)

in all 34 provinces, disaggregated by urban and rural. This cost was compared to household food expenditure from the 2019 Afghanistan Seasonal Food Security Assessment to estimate the percentage of households that would not be able to afford a nutritious diet.

To estimate the potential impact of wheat flour fortification on the cost and affordability of a nutritious diet, a scenario was modelled where all wheat flour consumed was fortified as per national standards without a change in price. Modelling was conducted in urban and rural settings in Balkh, Herat, Kabul, Kunduz, Nangarhar and Takhar.

The analysis shows that the impact of wheat flour fortification on the cost of a nutritious diet varies by region and by location (Figure 1). By consuming fortified flour, the cost of the nutritious diet reduces by 10 percent in rural Balkh and 22 percent in urban Herat.

Figure 1: Daily cost of a nutritious diet for a 7-person household, with unfortified and with fortified wheat flour

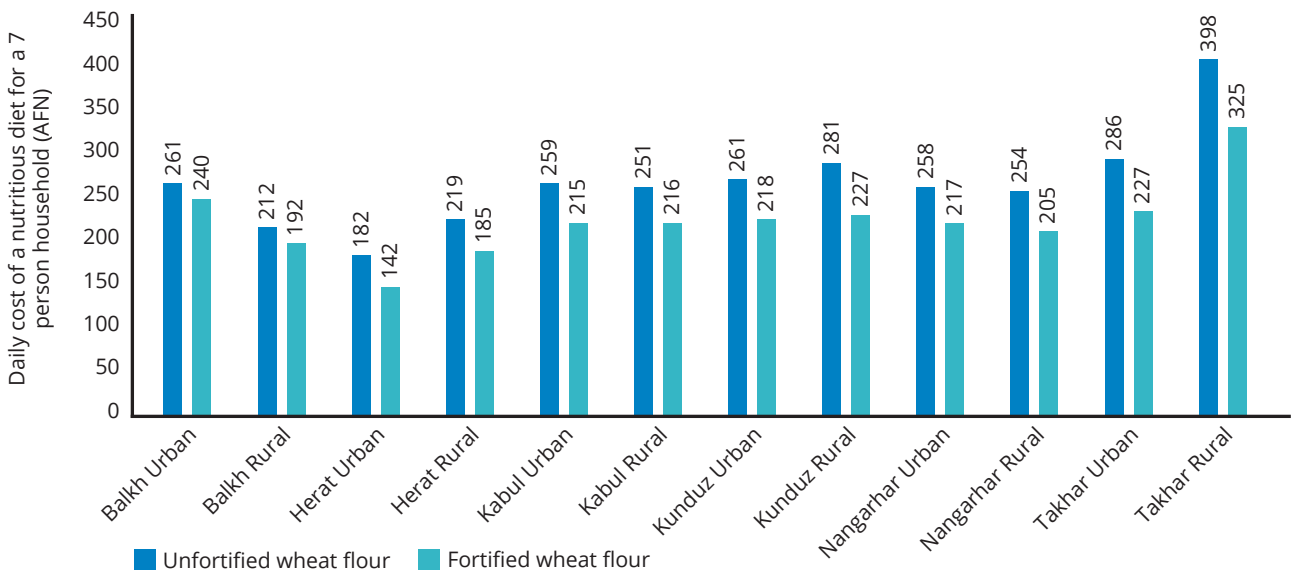
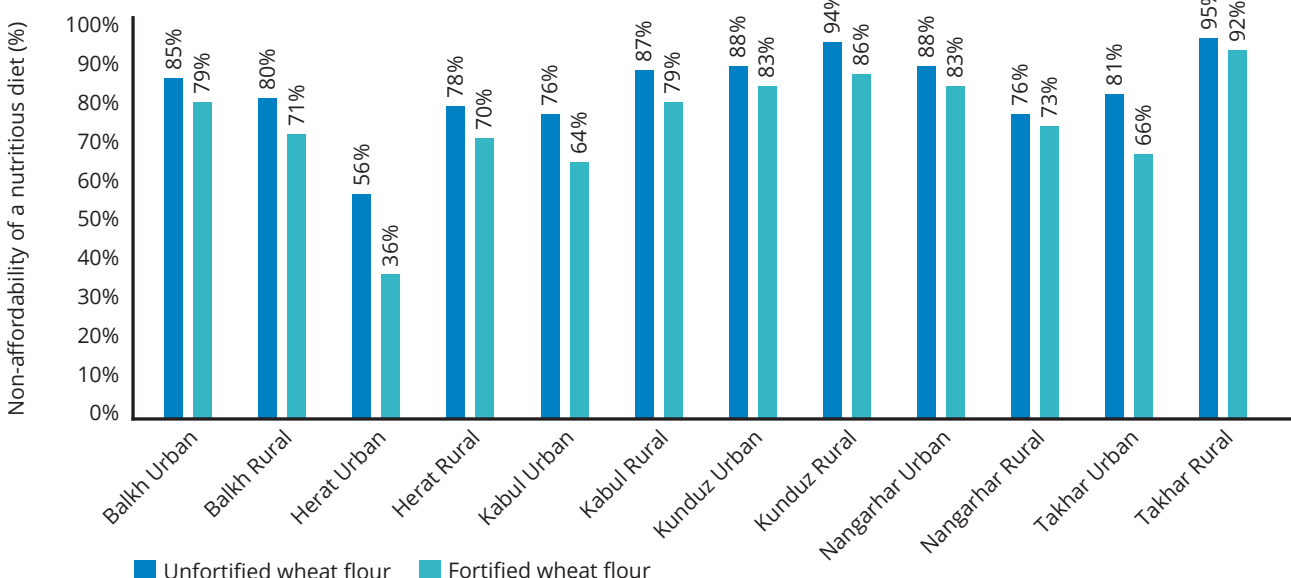


Figure 2: Comparison of non-affordability of a nutritious diet with the consumption of unfortified and fortified wheat flour



Non-affordability reduces by the greatest degree in urban Herat, from 56 percent to 36 percent of households. The variation in cost reduction is largely influenced by availability and cost of nutrient-dense alternatives in the market. Fortification may reduce the required quantity of fresh, micronutrient-dense foods such as green leafy vegetables, meat or other animal source foods, which are often relatively more expensive (Figure 3).

The benefit of fortifying wheat flour was found to be higher in those provinces and settings where the cost of a nutritious diet was higher. The cost of a nutritious diet without fortified flour, and hence the impact of fortification, is also related to the number of fresh nutritious foods available in the market. As can be seen in Figure 4, a higher daily cost of a nutritious diet for a 7-person household correlates with a lower number of fresh nutritious foods available in the market.

Figure 3: Correlation between the daily cost of a nutritious diet for a 7-person household with unfortified wheat flour, and the percentage decrease with fortified flour

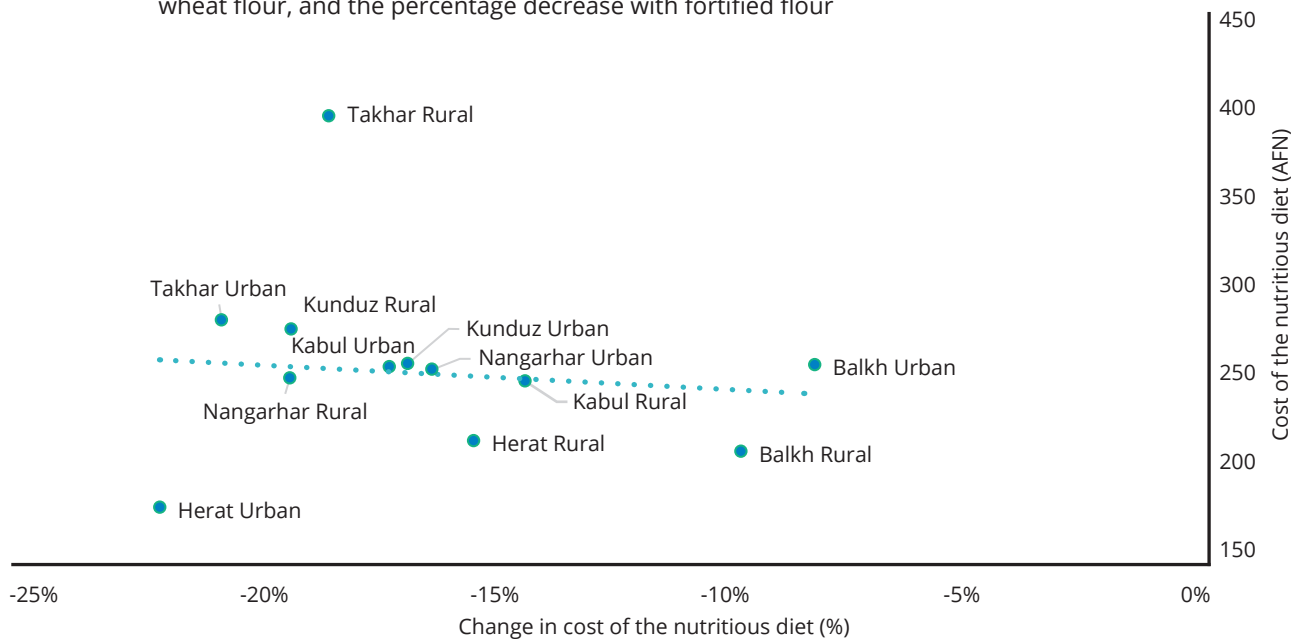


Figure 4: Correlation between the price changes in the cost of a nutritious diet for a 7-person household through wheat flour fortification and number of fresh nutritious foods available in the market

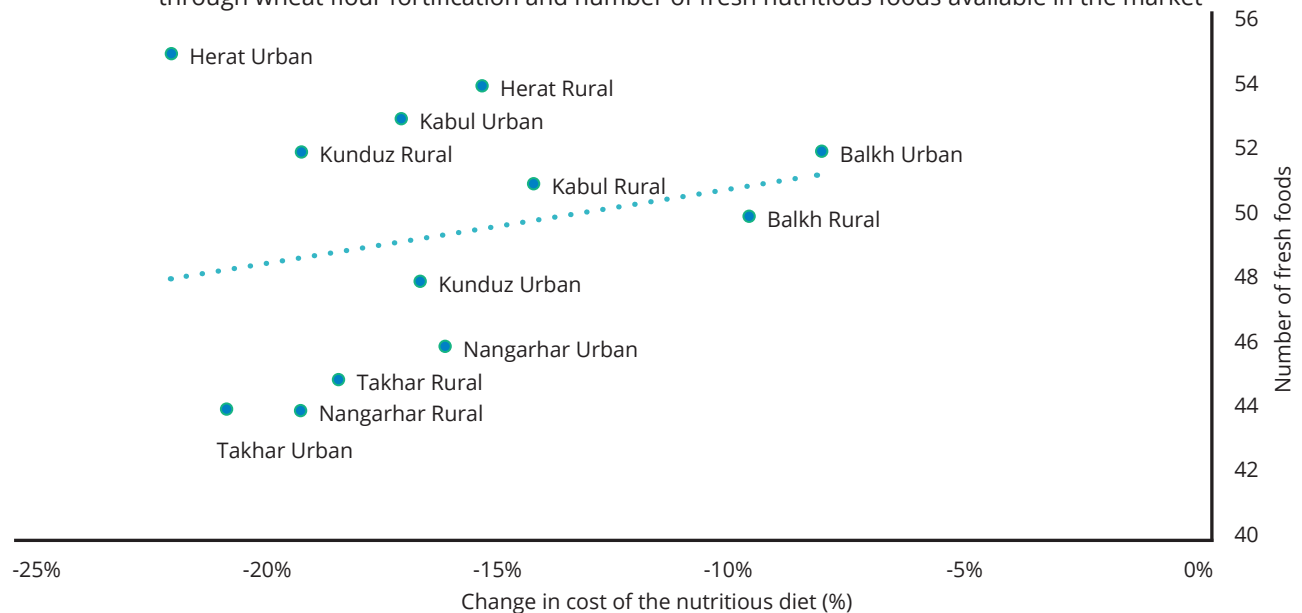


Table 1: Micronutrients added to wheat flour and their level, per the ANSA fortified wheat flour specification

Micronutrient	Target Content (mg/kg)	Acceptable Range (mg/kg)	Chemical form
Folic Acid	1.0		Folic Acid
Vitamic B ₁₂	0.008		Cyanocobalamin
Iron	15	12-18	NaFeEDTA
Zinc	50		Zinc Oxide

The ANSA Wheat Flour National Standard requires wheat flour to be fortified with micronutrients (as described in Table 1) which are likely to be deficient in household members with higher nutrient requirements. These include iron, folic acid and vitamin B₁₂. By fortifying wheat flour, the cost of the nutritious diet

would reduce by a higher proportion for adolescent girls and pregnant and lactating women. This is reflected in the intra-household distribution of cost, as can be seen for urban Kabul in Figure 5 and for rural Nangarhar in Figure 6.

Figure 5: Daily cost of a nutritious diet per household member in urban Kabul, with unfortified and fortified flour

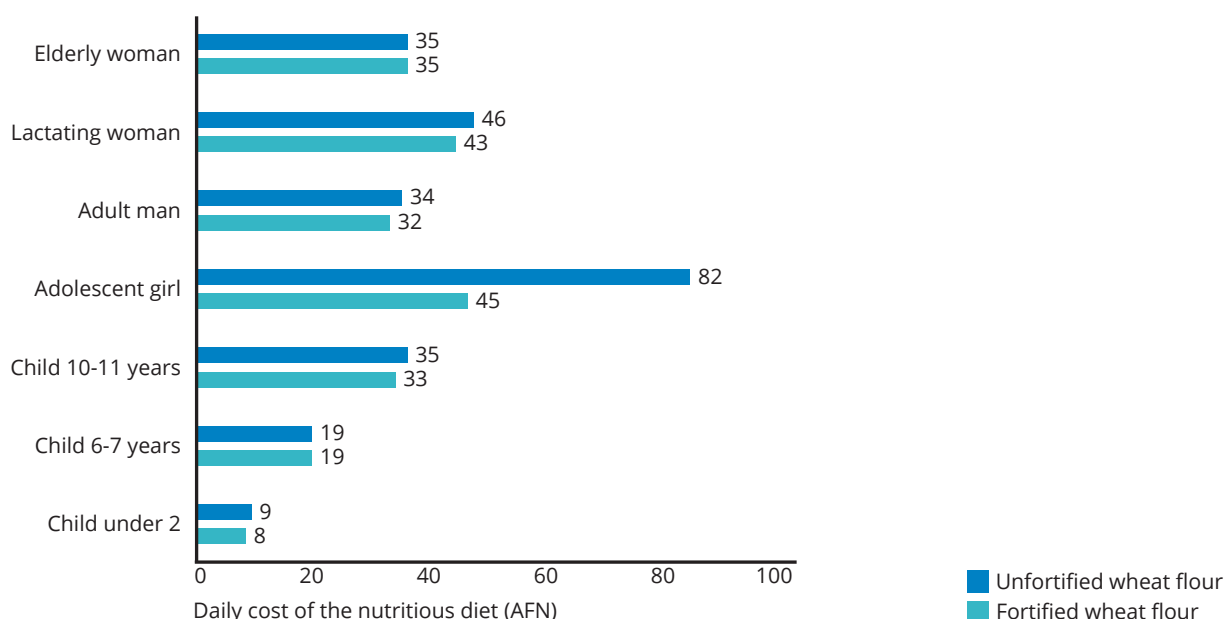
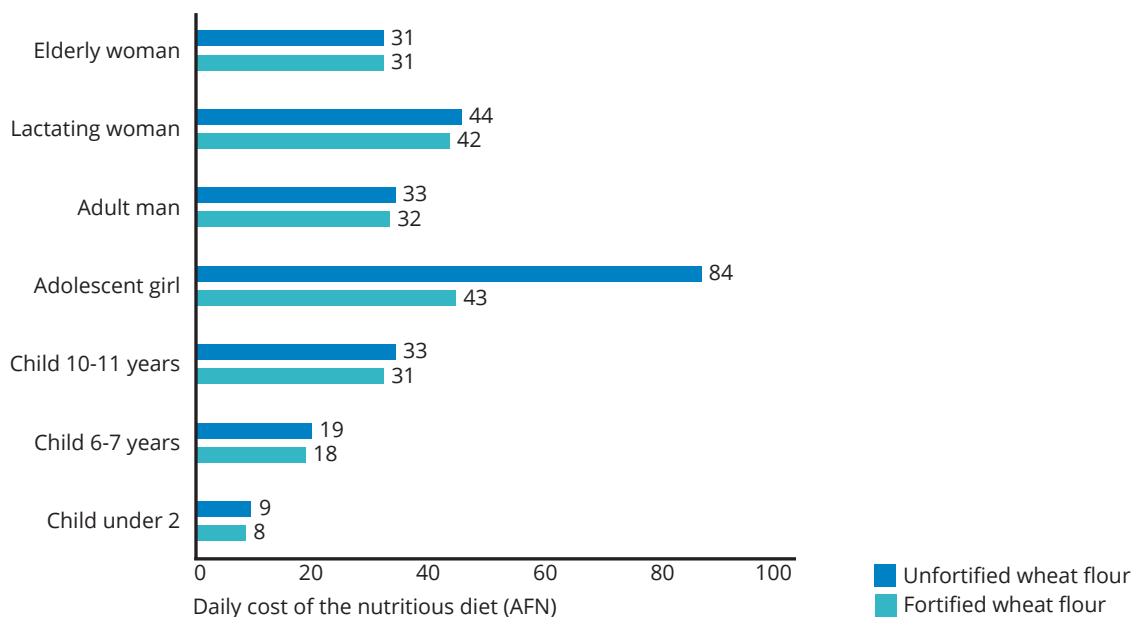


Figure 6: Daily cost of a nutritious diet per household member in rural Nangarhar, with unfortified and fortified flour



Conclusion

Fortification of wheat flour has immense potential to put regular consumption of micronutrients within reach of large portions of the population. It could reduce the cost of a nutritious diet for a household by up to 1,830 Afghani (AFN) per month, the equivalent of USD 24. If implemented and accessible to all households, it could make a nutritious diet attainable for an additional 6 percent of households and lower the affordability gap for many others, based on findings in the modelled regions.

Fortification includes the full value chain and stands at the intersection of health, agriculture, commerce, trade and private sector development, highlighting the need for adequate planning and coordination. Adequate capacity, enforcement and oversight capabilities are required for a fortification programme to be successful. Afghanistan has regulations in place for the fortification of salt, oil and wheat flour, three products universally consumed in the country. Despite having seen the

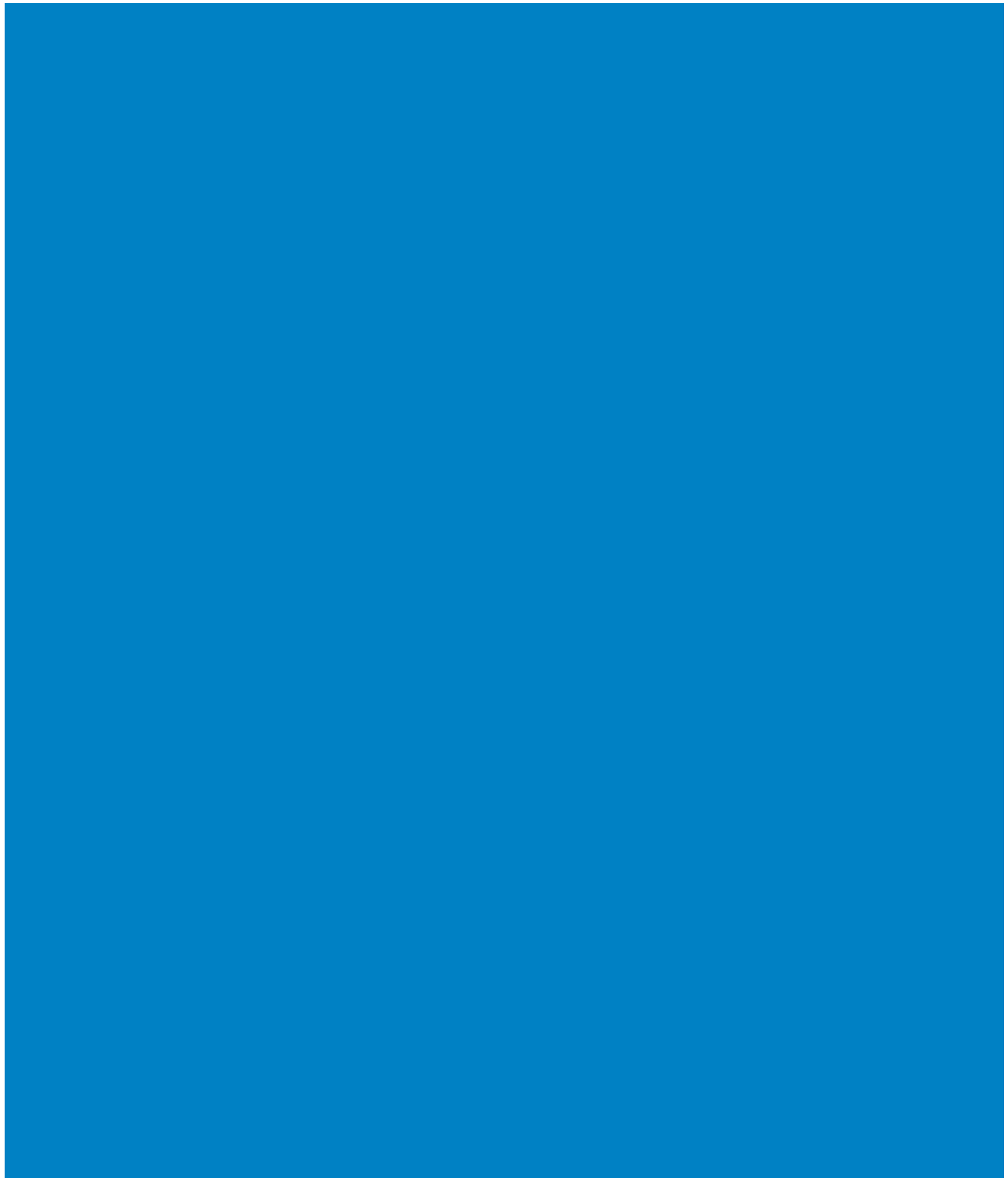
success of salt iodisation in the majority of Afghan households, oil and wheat flour have not yet had the large-scale fortification required to reach the majority of the population.

The nutrition status of the population could be improved and the prevalent micronutrient deficiencies could be prevented by increasing the availability of adequately fortified wheat flour in Afghanistan by increasing the capacity of mills to fortify wheat flour and enforcing fortification standards for imported wheat flour. In a country with such high levels of malnutrition and micronutrient deficiencies in children, adolescent and adults, the benefits of fortification would materially outweigh the costs. By enforcing the current National Standard on Fortified Wheat Flour, the cost of a nutritious diet could be substantially reduced, especially in regions where costs are high, helping to increase economic access to a nutritious diet.



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Nutrition Division (OSN)

World Food Programme
Via Cesare Giulio Viola, 68/70
00148, Rome, Italy - T +39 06 65131
wfp.org

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