ASSESSMENT OF PREMIX DISTRIBUTION IN PAKISTAN: OPTION ANALYSIS

USAID/GAIN PAKISTAN REGIONAL FOOD FORTIFICATION PROJECT

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EXECUTIVE SUMMARY

Wheat flour and edible oil are key foods consumed in Pakistan. Fortification of wheat flour with iron and folic acid is recommended across the country, and efforts are under way to make wheat fortification mandatory. Edible oil and ghee are required to be fortified with Vitamin A. The effective design of an integrated large-scale fortification program, including supply chain of quality premix (iron EDTA, folic acid, vitamin A etc.) at competitive prices, is critical for the sustainability of food fortification in Pakistan.

During the last ten years, various options, including models with full and partial premix subsidies have been tried in Pakistan. To move food fortification forward, GAIN initiated an assessment of premix distribution and related program design, supported by the USAID-funded food fortification project. **This report presents options evaluated, and conclusions drawn, as part this assessment** in line with the objectives of this study as set out in section 2 of this report**.**

The study analyzed multiple program design options covering operational complexities, premix supply, the roles of private and public sectors, branding, marketing and advocacy, cost to consumer and quality assurance. Seven options are analyzed for wheat flour in Pakistan and four for edible oil fortification. Four options each are analyzed for production in Pakistan and exports to Afghanistan. All have been evaluated from a risk management perspective covering six categories.

WHEAT FLOUR – OPTION ANALYSIS - PAKISTAN

Context: In Pakistan, provincial food departments procure and store wheat, supplying it to mills in months of short supply to maintain market price and availability. The Pakistan Flour Millers Association (PFMA), which has been working with international development partners on wheat flour fortification programs, has the knowledge and capacity to fortify flour, and millers are willing to invest in micro feeders. But poor demand for fortified wheat flour and lack of agreement on a fortification cost pass-through mechanism with provincial food departments have emerged as major impediments to program sustainability.

Currently, there is no formal supply chain process for large quantities of wheat flour premix in Pakistan. Local firms have expressed interest in importing and distributing premix if groups of millers or programs commit to buy certain quantities. Given the volume produced by large flour mills and number of mills involved, it is critical that an integrated program is designed and implemented for large-scale wheat flour fortification. An initiative in this regard has already been taken with the support of the United Kingdom's Department for International Development (DFID).

Drivers for fortification must be put in place soon. Stakeholders are already mobilized, and industry has the capacity to support a program to fortify a substantial percentage of the flour produced by large mills. This study reviews multiple program design options, including operational complexity, premix supply, private and public sector roles, branding, marketing and advocacy, cost to consumer and quality assurance, to come up with an optimal solution for fortifying wheat flour.

Of the seven options covering subsidy, revolving fund and public sector support-based models for program design and premix distribution, the **Partial Premix Subsidy Model** option offers an integrated solution to key issues, including premix availability, diminishing cost absorption through premix subsidy, demand generation through mandatory fortification and social marketing, and regulatory monitoring through provincial food departments. DFID in Pakistan has committed to support this through the Food Fortification Program (FFP) it funds, which is already in the process of designing a subsidy based program.

The next best option, the **Public Sector Premix and Quality Revolving Fund Model**, addresses sustainability, where subsidy-based programs only work as long as the subsidy is in place. Provincial food departments would procure premix, supply it to millers and ensure quality in accordance with their regulatory mandate. Since this new concept will take time to design and implement, it is proposed that Partial Premix Subsidy Model tasks related to socialization and design of public sector or open market models be included as a sustainability handshake at the end of the subsidy period. The public sector related model is defined as part of this option analysis. A third option is **an open market option**; private millers could get quality premix from open markets through multiple suppliers at competitive prices. Detailed analysis is presented in Sections 8 & 9 of this report.

WHEAT FLOUR – OPTION ANALYSIS – EXPORTS TO AFGHANISTAN

Context: The dynamic of exporting wheat flour from Pakistan to Afghanistan differs from that of a national wheat flour fortification program. Key considerations include the limited number of producers exporting there, the role of middle agent traders, the involvement of multiple government ministries in Afghanistan and the geopolitical environment. From a sustainability perspective, the idea of a revolving fund was quite attractive, with the joint effort of stakeholders on both sides of the border, but could be challenging depending on the geopolitical situation.

Details of a **Premix and Quality Revolving Fund Model** are presented in the next section of this report. Draft terms of reference of the Revolving Fund are also attached as Appendix D to this report. For sustainability, a mid-period hand shake with the public sector or open market option is recommended. Exports to Afghanistan are limited compared to total wheat flour production in Pakistan. Plans to initiate a large-scale wheat flour fortification program in Pakistan funded by DFID will also cover mills exporting to Afghanistan. Until this national program is in place, a revolving fund has been proposed so immediate action can be taken to improve nutrition in Afghanistan.

EDIBLE OIL & GHEE – OPTION ANALYSIS - PAKISTAN

Context: Pakistan's edible oil and ghee industry is well regulated and Pakistan is currently ranked as the world's fourth largest palm oil importer. Edible oil is required to be fortified with vitamin A. There are more than 100 refineries, almost all operating under corporate structure. National regulations authorize only refineries to import edible oil, with a 35% custom and tax tariff on palm oil, which is refunded if it is used for export of processed oil. However, about 30% of market demand is met by the non-regulated sector at a much lower price than oil produced by regulated refineries. Fortifying all edible oil produced by the regulated sector will require around 62,000 kg of premix each year. With current imports of vitamin A in the range of 10,300 kg, it is clear fortification coverage is limited. A vitamin A premix supply chain is available in Pakistan for edible oil and ghee.

The Pakistan Standards and Quality Control Authority (PSQCA) regulates the sector and has defined the standard with which refineries label their brands. A monitoring and quality assurance mechanism is part of the licensing process, but has not been very effective: vitamin A coverage is limited and quality has not met standards. QA reporting and enforcement are identified as critical fortification program success. As food quality is a provincial matter and PSQCA is a federal institution, there are issues of jurisdiction for enforcement. PSQCA and provincial departments must coordinate effectively to ensure production and fortification to agreed standards.

Through a **Partial Premix Subsidy** Model, PSQCA would have a leading role in updating quality assurance testing, reporting and enforcement regulations and the model proposes an incentive in the form of subsidized quality premix to oil refineries. Past l ack of compliance was due to limited regulatory testing by PSQCA and provincial food departments and price competitiveness causing low profit margins. This option proposes a significant increase in QA testing and monitoring at mill and retail level along with an incentive to refineries in the form of partial subsidy. The Food Fortification Program (FFP) is currently considering a 20% subsidy which will be funded by DFID.

EDIBLE OIL & GHEE – OPTION ANALYSIS – EXPORTS TO AFGHANISTAN

Given the few exporters of edible oil/ghee to Afghanistan, and the limited quantity of exports compared to these refineries' total production, as well as the limited time available to design and implement a fortification program, the Premix and Quality Revolving Fund is proposed. Details of proposed options are presented in the next section. The role of provincial food and health departments and PSQCA as lead regulatory agencies is key to the success of all programs. An integrated approach of demand generation, availability of quality premix, proper branding, labeling and quality assurance could lead to program success. For Afghanistan, effective communication between government officials and private sector players will be critical.

KEY FACTS ABOUT SUPPLY CHAIN OF WHEAT, WHEAT FLOUR, EDIBLE OIL & GHEE AND RELATED FORTIFICATION PREMIX

Wheat & Wheat Flour – Pakistan

i.	Wheat available for processing in Pakistan	24.380 million MT
ii.	Production of wheat flour in Pakistan	19.463 million MT
iii.	Production of wheat flour by Chakkis (small mills)	9.057 million MT
iv.	Production of wheat flour by large flour mills	10.405 million MT
v.	Annual exports to Afghanistan in the range of	0.600 million MT
vi.	Current market value of wheat flour produced by large mills using average retail price of wheat flour of USD 0.40 (Rupees 42.5) per kg is in the range of	USD 10.405 billion
vii.	Wheat flour industry profit s are in the range of 5% of retail price, thus estimated total annual profit for wheat flour produced by large mills is in the range of	USD 210 million

Analysis of supply chain quantities along with assumptions and source of data is presented as Appendix A to this report.

Pakistan – Wheat Flour - Premix Market

i.	If 100% of wheat flour is processed at large flour mills to current fortification standards of 150 grams per ton, total premix required will be in the range of	1.560 million kg
ii.	Current value of this quantity of premix is in the range of (@ USD 8.5 per kg)	USD 13 million
iii.	Estimate of premix imported in 2015 as per customs records	9,500 kg
iv.	Estimate of value of premix imported in 2015 as per customs records	USD 71,250
v.	Number of importers as per customs records	3

Wheat Flour Exports to Afghanistan from Pakistan

i.	Annual exports to Afghanistan in the range of	0.600 million MT
ii.	Major exports to Afghanistan from Pakistan	20 to 25 mills
iii.	Pakistan wheat flour milling market share in Afghanistan (Total annual consumption of wheat flour in Afghanistan in the range of 5 million MT)	12%
iv.	Population coverage provided by Pakistani wheat flour in Afghanistan	3.27 million people

Edible Oil & Ghee Pakistan

i.	Pakistan's ranking in world for import of Palm Oil	4th largest
ii.	Number of registered processing units around	100
i.	Total demand	2.684 million MT
ii.	Produced by non-regulated sector (around 30% of demand)	0.805 million MT
iii.	Produced by regulated sector	1.879 million MT
iv.	Market value of total edible oil & ghee produced by regulated sector	USD 2.505 billion

Pakistan – Edible Oil & Ghee - Premix Market

i.	If 100% of edible oil & ghee produced by regulated sector is fortified as per current fortification standards total premix required will be in the range of	61,999 kg
ii.	Current value of this quantity of premix is in the range of (per kg price of premix is assumed at USD 60.85)	USD 3.772 million

iii.	Estimate of premix imported in 2015 as per customs records	10,300 kg
iv.	Estimate of value of premix imported in 2015 as per customs records	USD 1.092 million
v.	Number of importers as per customs records	6

Edible Oil & Ghee Exports to Afghanistan from Pakistan

i.	Annual exports to Afghanistan in the range of	80,000 to 115,000 MT
ii.	Annual exports to Afghanistan by regulated sector is in the range of	60,000 to 86,250 MT
iii.	No. of key exporters in regulated sector	8
iv.	Market share of Pakistani edible oil & ghee in Afghanistan	21.5%
v.	Potential coverage provided by Pakistani edible oil in Afghanistan	7.232 million people

PROGRAM AND PREMIX DISTRIBUTION OPTIONS

Wheat Flour – Pakistan

Option 2 – Partial Premix Subsidy Model – Risk level of 1.75 (Low to Medium)
For 2 -3 years, production of flour by large mills will be fortified with premix supplied by the program through implementation agreements where mills agree to fortify their full production of wheat flour. Premix will be procured through a grant from DFID and supplied through selected distribution entities. Total premix required for fortification of full annual production of wheat flour through large flour mills is as follows:

On the basis of 20 ppm - 2,081,040 kg equal to USD 17,584,788
On the basis of 15 ppm – 1,560,780 kg equal to USD 13,188,591
On the basis of 10 ppm – 1,040,520 kg equal to USD 8,792,294

It is proposed that at least 2 international suppliers are engaged by the program through a competitive bidding process based on well-defined specifications developed by food quality experts and food standard setting authorities. The public sector including provincial food and health departments and other food standard setting agencies, are engaged for:

i. Mandatory Fortification legislation related to the wheat flour produced by large flour mills;
ii. Enhancement in quality assurance mechanisms by provincial food department through help from the program;
iii. Market price monitoring; and
iv. Enforcement of program agreements with flour millers.

Risk assessment level for this option is the lowest at 1.75 out of maximum risk score of 4 due to the following:

i. Pakistan's flour milling industry is already mobilized to a large extent including related public sector stakeholders;
ii. International suppliers of premix are aware of potential demand of premix from Pakistan;
iii. There is already buy in from millers' associations to make premix available at diminishing subsidy levels;
iv. Initiatives for social marketing will generate demand;
v. Food departments are willing to enact mandatory fortification if an enabling environment is created through premix availability, installation of micro feeders, social marketing and effective quality assurance;
vi. The quality assurance requirements will be enforced and monitoring will be performed.

Wheat Flour – Exports to Afghanistan

Option 4 – Premix and Quality Revolving Fund Model – Risk level of 1.80 (Low to Medium)

A premix and quality revolving fund will be established under the Pakistan Flour Mills Association (PFMA) with joint monitoring by the Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan. The funds will be allocated by multilateral or bilateral donor(s). The objective of the fund will be as follows:

i. Identify key exporters of wheat flour from Pakistan to Afghanistan;
ii. Develop a premix procurement plan on the basis of data from flour millers about exports to Afghanistan during the period July 2017 to December 31, 2018
iii. Procure the premix as per demand estimates identified in the procurement plan.
iv. Agree on the price of premix with flour millers;
v. Provide premix to identified flour millers on short term credit (maximum 6-month period);
vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan;

Wheat Flour – Exports to Afghanistan

vii. Monitoring the supply chain of premix and fortified wheat flour through an integrated MIS;
viii. Develop a Quality Assurance process for exports to Afghanistan. This may include pre-shipment testing of export consignments;
ix. Perform QA testing as per defined process and take action in case of non-compliance with standards, in coordination with ANSA in Afghanistan;
x. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and
xi. Cost of fortification which is 0.61% of current retail price, will be passed to the consumers.

The program will coordinate with Afghanistan ministries and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan to have consensus to achieve consensus and make the revolving fund sustainable. The fund will coordinate with Pakistan's national wheat flour fortification program so that when large-scale wheat flour fortification program is initiated, exports from Pakistan are fortified to ANSA standards.

As per estimated exports from Pakistan to Afghanistan, the annual premix required to fortify full exports to Afghanistan is as follows depending on the various standards:

- As per ANSA Standards (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 624,000 to USD 936,000.
- As per Central Asia – Afghanistan – Pakistan Harmonized Standard (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 471,250 to 706,875.
- As per Pakistan Standards (150 grams per Ton) 39,000 KG to 58,500 KG having estimated value of premix in the range of USD 253,500 to USD 380,250.

The estimated size of the fund is in the range of USD 500,000 to cater for on average 6-month demand of premix.

Risk assessment for this option is the lowest in all options at 1.80 out of maximum risk score of 4 due to following:

i. The flour milling industry in Pakistan require quality premix. The fund is easy to set up as it will be managed by PMFA;
ii. The quantity required for exports can be quickly imported and made available for use in Pakistan;
iii. Due to current geopolitical conditions between Pakistan and Afghanistan a private sector led program from the Pakistan side is more appropriate;
iv. Proper labelling of the product will classify the fortified wheat flour as separate wheat flour brand;
v. Social marketing among importers in Afghanistan through advocacy events through MoPH, ANSA, Ministry of Commerce and Finance will generate demand for export of fortified wheat flour from Pakistan;
vi. Pre-shipment testing will ensure quality assurance; and
vii. Rapid mobilization of activities is possible.

Edible Oil / Ghee – Pakistan

Option 2 - Partial Premix Subsidy Model - Risk level of 1.65 (Low to Medium)

For 2 to 3 years, full production of edible oil / ghee by large refineries will be fortified through premix supplied by the program, on a declining basis over three years, 75% in first year, 50% in the second year and 25% in the third. Refineries will be engaged through implementation agreements covering supply of premix and will agree to fortify their full production of edible oil / ghee as per PSQCA Standards. Premix will be procured by the Program through Grants provided by bilateral international agency(s) and supplied through selected distribution entities. For Vitamin A and D required for fortification of edible oil / ghee in Pakistan appropriate suppliers are available. The estimate of total production of edible oil / ghee in Pakistan by large edible refineries is in the range of 1.87 million ton per year. The annual market size of edible oil / ghee produced by large oil refineries of Pakistan is USD 2.5 billion (as per recent supply chain assessment). In case whole production of large oil refineries is fortified it will cost around USD 5.26 million (as per recent fortification cost assessment of Pakistan). If full fortification is subsidised the program would provide around 62,000 kg of premix each year, at an approximate cost of USD 11.3 million for a 3-year period, including premix and other fortification implementation costs.

PSQCA and provincial food authorities and health departments would play following key roles:

i. PSQCA need to review their licensing regulations especially related to edible oil / ghee;
ii. Perform their quality assurance testing, compilation of reports and actions as per results; and
iii. Market price monitoring.

Risk assessment level is the lowest in all options at 1.65 out of maximum risk score of 4 due to the following:

i. The operational risk is low since the oil industry is aware of the fortification process already and standards are in place from on time. The sector requires an incentive to fortify and effective quality control.
ii. Suppliers of Vitamin A are already available in Pakistan;
iii. The more quality assurance testing is easy to perform both at industry and retail level; and
iv. The fiduciary risk is low since premix will be provided in kind and there are no cash incentives involved.

Edible Oil / Ghee – Exports from Pakistan to Afghanistan

Option 2 - Partial Premix Subsidy Model - Risk level of 1.30 (Low to Medium)

The dynamics of edible oil / ghee exports to Afghanistan differ substantially from flour exports, coming directly from 6 to 8 refineries in Baluchistan and KPK and carried out officially so producers can claim refund of import custom duties. These products are already fortified to Pakistan standards, but not consistently. Quality assurance is controlled by PSQCA in Pakistan. A comparatively simpler structure is proposed for exports of edible oil / ghee to Afghanistan. The range of annual of edible oil / ghee to Afghanistan is 80,000 MT to 115,000 MT out of which around 60,000 MT to 86,250 MT is exported from Pakistan. All products are labelled as fortified with Vitamin A.

Under this option, a premix and quality revolving fund will be established under Pakistan Vanaspati Manufacturer's Association (PVMA) to be jointly monitored by Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan and PSQCA. The funds will be allocated by multilateral or bilateral donor(s). The objective of the fund will be as follows:

i. Identify key exporters of edible oil from Pakistan to Afghanistan;
ii. Develop a premix procurement plan on the basis of data collection from refineries about exports to Afghanistan during the period July 2017 to December 31, 2018
iii. Procure the premix as per demand estimates identified in the procurement plan.
iv. Agree on the price of premix with oil refineries;
v. Provide premix to identified refineries on short term credit period (maximum 6-month period);
vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan;
vii. Monitoring the supply chain of premix and fortified edible oil through an integrated MIS;
viii. Develop a QA process for exports to Afghanistan, which may include pre-shipment testing of goods for export;
ix. Perform QA testing as per defined process and take action in case of non-compliance with standards. Coordination will be done with ANSA in Afghanistan in this regard;
x. Significantly enhanced QA testing by PSQCA;
xi. Product label will be prescribed by the program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and
xii. Cost of fortification of 0.16% of the current retail price will be passed on to consumers.

The fund will coordinate with Afghanistan ministries and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan. The fund will coordinate with Pakistan's national wheat flour fortification program so that when a large-scale fortification program is initiated, exports from Pakistan are fortified to ANSA standards.

The Fund will liaise with importers in Afghanistan and exporters in Pakistan to convince them to demand and supply only fortified edible oil and ghee. As part of this advocacy, the potential cost of fortification will be communicated so that appropriate price could be negotiated between the exporters and importers and cost of fortification is not considered an impediment in price decisions. As per estimates of the exports from Pakistan to Afghanistan the estimate of the annual premix required to fortify full exports to Afghanistan is as follows depending on the various standards:

i. As per ANSA Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 106,623 to USD 153,271.
ii. As per Pakistan Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 120,483 to USD 173,194.

The estimated size of the fund is in the range of USD 75,000 to cover 6 months of premix for refineries exporting to Afghanistan.

Risk assessment level is the lowest in all options at 1.65 out of maximum risk score of 4 due to following:

i. Large exporters of edible oil to Afghanistan are already identified and mobilized;
ii. The operational risk is low since the oil industry is aware of the fortification process already and standards are in place from on time. The sector only requires some incentive to fortify and effective quality control.
iii. Suppliers of Vitamin A are already available in Pakistan;
iv. Quality assurance testing is easy to perform at pre-shipment level; and
v. The fiduciary risk is low since premix will be provided in kind and there are no cash incentives involved.

1. BACKGROUND

Wheat flour and edible oil are key foods in Pakistan. Around 19.463 million MT of wheat flour is produced annually, of which 9.057 million MT is processed in small mills and the remaining 10.405 million MT is in around 1,500 large mills (as per supply chain study performed by GAIN). Per capita consumption of wheat flour is in the range of 118.82 kg per year (325 g/day). Pakistan exports more than 0.500 million MT of what flour to neighboring countries (2.6 %). Pakistan has the largest edible oil processing capacity in the region after India and is the fourth largest importer of crude palm oil in the world. Around 2 million MT of edible oil and ghee is processed by about 100 refineries.

Fortification of wheat flour with iron and folic acid is recommended across the country and efforts to make wheat flour fortification mandatory are under way. Edible oil and ghee is required to be fortified with Vitamin A. Effective design of an integrated large-scale fortification program including supply chain of quality premix (Iron EDTA, Folic Acid, Vitamin A etc.) at competitive price is critical for the sustainability of food fortification in Pakistan. During the last ten years, various options, including models with full and partial premix subsidies have been tried in Pakistan with limited success. It therefore is important to analyze more options in consultation with key stakeholders. Accordingly, GAIN Pakistan initiated an assessment of premix distribution in Pakistan.

2. OBJECTIVES

Key objectives of this assessment are to:

i. Understand and document the current state of Pakistan's fortification premix market, including key players (suppliers), volumes and distribution;
ii. Calculate potential demand for premix over 5 years under a large-scale program;
iii. Identify international and local premix suppliers for a large-scale fortification program;
iv. Analyze distribution mechanisms including cost and profit margins to attract private sector investment in procuring and supplying premix in sustainable way; and
v. Perform options analysis and propose a solution, together with risk analysis.

3. METHODOLOGY

The following key tasks were performed:

i. Collected data on supply chain of wheat, wheat flour and edible oil/ghee in Pakistan and used it to calculate potential demand for premix for a large-scale fortification program;
ii. Consulted with key partners including NFA, PFMA, PVMA, PSQCA, PCSIR, FFP, Pakistan Pharmaceutical Manufacturers Association, Pharmaceutical Distribution Companies, International Producers and Suppliers of Premix etc.;
iii. Assessed quantity and cost of premix procured and delivered by major suppliers/distributors for the last two years and mapped distribution systems by type of premix and geographic distribution (province, district, industry units).
iv. Devised options for cost effective and sustainable premix distribution system in Pakistan for a large food fortification program;
v. Critically analyzed identified options along with risk assessment;
vi. Discussed identified options with sector experts;
vii. Performed risk assessments of each identified option covering operational, supplier, fiduciary and sustainability risk;
viii. Presented options and risk assessment to key stakeholders and secured views on best means of implementation; and

ix. Drafted solutions in detail along with expected demand of premix, potential number of suppliers, distribution framework and cost, cost margins, roles and responsibilities and sustainability framework.

After considering the supply chain of wheat flour, edible oil & ghee and the premix required, the following program implementation options were identified and analyzed based on discussions with stakeholders:

Wheat Flour (Atta) - Pakistan

i. Full Premix Subsidy Model
ii. Partial Premix Subsidy Model
iii. Premix Revolving Fund Model
iv. Premix & Quality Revolving Fund Model
v. Quality Assurance Incentive Model
vi. Food Department Premix Budgetary Support Model
vii. Food Department Premix & Quality Revolving Fund Model

Edible Oil (Ghee) - Pakistan

i. Full Premix Subsidy Model
ii. Partial Premix Subsidy Model
iii. Premix Revolving Fund Model
iv. Premix & Quality Revolving Fund Model

Separate options analysis was performed for programs related to exports of wheat flour and edible oil & ghee to Afghanistan. In this regard, the following four options are analyzed:

Wheat Flour (Atta) & Edible Oil Exports to Afghanistan

i. Full Premix Subsidy Model
ii. Partial Premix Subsidy Model
iii. Premix Revolving Fund Model
iv. Premix & Quality Revolving Fund Model

4. REPORT OBJECTIVE

This report therefore presents 7 optional scenarios for wheat flour fortification and 4 four edible oil and ghee, along with related risk assessment. This will be included in the final assessment report following discussions with GAIN representatives and key stakeholders in Pakistan.

5. SUPPLY CHAIN OF WHEAT & WHEAT FLOUR IN PAKISTAN

The wheat flour supply chain is complex and involves stakeholders at various levels. Transaction and data flow is complex, and a complete chain of supply from millers in Pakistan to consumers in Afghanistan cannot be accurately ascertained. The major players in the wheat flour supply chain are exporters who are conventional commodity traders and are not interested in being part of socially responsible programs. The number of millers exporting to Afghanistan is high, with even some 20 to 25 of the major millers involved. Supply fluctuates year by year depending on the wheat crop in Pakistan. A project designed to fortify wheat flour exported from Pakistan it will address 12% of Afghanistan's total wheat flour market of Afghanistan and will reach 3.27 million people there.

Total wheat available for processing in Pakistan is 24.380 million MT, with total production of 19.463 million MT of flour. The balance of wheat available for processing and wheat flour produced is extraction, which is used for production of by-products. Of this around 9.057 million MT is processed by small mills, while 10.405 million MT is processed by large flour mills. Current market value of wheat flour produced by large-scale flour mills is in the range of USD 4.211 billion, using average per kg retail price of wheat flour of USD 0.40 (equal to Rupees 42.5 per kg). As per recent wheat flour costing analysis, it is assessed that the profit margins for wheat flour industry are in the range of 5% of retail price, placing the total annual profit margin for wheat flour produced by large flour mills in the range of USD 210 million. It is also assessed that if wheat flour processed at large flour mills is fortified as per current recommended fortification standards at 150 grams per ton, total premix required will be in the range of 1.560 million KG. The current value of this quantity of premix is in the range of USD 13 million. A detailed analysis of supply chain quantities along with assumptions and source of data is presented as Appendix A to this report.

6. SUPPLY CHAIN OF EDIBLE OIL / GHEE IN PAKISTAN

This industry is well regulated in Pakistan, currently ranked as the world's fourth largest importer of crude palm oil. Annual imports are in the range of 2.8 to 3.3 (million ?) MT depending on domestic demand. Currently, there are more than 100 edible oil refineries, most under corporate structure. Only refinery owners are authorized to import edible oil. There is 35% custom and tax tariffs on import which are refunded if it is used for export of processed edible oil.

Current annual per capita consumption of edible oil/ghee in Pakistan is in the range of 14 kg (38 g/d), placing total expected local demand in the range of 2.7 million MT. Around 30% of this demand is met through non-regulated sector which is equal to around 0.8 million MT. Oil from the non-regulated sector is much cheaper than from regulated refineries. The non-regulated sector uses a mix of crude palm oil and used edible oil imported from other countries and collected local sources. The crude palm oil used by this non-regulated sector is also procured from oil refineries. The quality of this oil is highly questionable which is considered as a health hazard, but this sector is flourishing due to the weak food control environment. The current market size of the sector is in the range of USD 2.5 billion using an average retail price of Rupees 140 per Kg.

We performed a comparative analysis of edible oil imported from Malaysia / Indonesia and processed in Pakistan using crude palm oil imported in from Malaysia / Indonesia which is as follows:

	Malaysia / Indonesia*	Pakistan
	USD Per Ton	
Palm Oil RBD International	700.00	700.00
Transportation to Refinery	5.00	45.00
Export / Import Duty	5%	35%
	35.25	260.75
Local Transportation	10.00	50.00
Processing Cost	40.00	80.00
Post Processing Packaging	30.00	30.00
Freight to Importer	80.00	10.00
	900.25	1,175.75
Refund of Import Duties and Taxes**	-	- 260.75
	900.25	915.00

*if direclty imported from Malaysia or Indonesia

** This refund from Government Takes are 1 to 2 years to recover

It is clear from this analysis that import duties on crude palm oil and high processing costs make it difficult for Pakistani oil refineries to compete in price with edible oil directly imported by Afghan traders from Malaysia / Indonesia. But there is consistent demand, as Pakistani ghee is preferred by Afghan consumers. The current level of annual exports is in the range of 80,000 MT to 97,500 MT. This includes around 60,000 MT to 86,250 MT exported by large oil refineries of Pakistan through formal channels.

7. CURRENT PREMIX MARKET OF PAKISTAN

The maximum potential demand and current estimate of size import of premix from the wheat flour milling and edible oil refining sectors in Pakistan is as follows:

		Potential Demand	Current Size
Wheat Flour Premix - If whole wheat flour produced by Mills is fortified at 150 gram per ton - As per Supply Chain Analysis	KG	1,560,780	
Value of Wheat Flour Premix - If whole wheat flour produced by Mills is fortified at 150 gram per ton - As per supply Chain Analysis	USD	13,188,591	
Estimate of Premix Imported in Pakistan during 2015 - As per Custom Data	KG		9,500
Estimate of Premix Imported in Pakistan during 2015 - As per Custom Data	USD		71,250
Number of Importing Parties - As per Customs Data			3

		Potential Demand	Current Size
Edible Oil Premix - If whole Edible Oil produced by Refineries is fortified at 33 per ton - As per Supply Chain Analysis	KG	61,999	
Value of Edible Oil Premix - If whole Edible Oil produced by Refineries is fortified at 33 per ton - As per Supply Chain Analysis	USD	3,772,640	
Estimate of Premix Imported in Pakistan during 2015 - As per Custom Data	KG		10,300
Estimate of Premix Imported in Pakistan during 2015 - As per Custom Data	USD		1,091,800
Number of Importing Parties - As per Customs Data			6

Import of premix for wheat flour fortification is limited to various fortification programs currently under implementation. We note that just one local trader in Karachi imported a small quantity of premix in 2015 on experimental basis for millers who wanted it for high-end brands, but his stock expired as there was not much demand. We held discussions with international suppliers of fortification premix, including DSM Nutritional Products Ltd of Switzerland, Eurogerm SA of France, Glanbia Nutritionals of China, Hexagon Nutrition Pvt Ltd of India, Ufuk Kimia Ilac San.Tic.Ltd.Stif of Turkey and Watson Inc. of USA. Results are as follows:

i. If a large-scale fortification program is implemented, potential demand is enough for international suppliers to enter this Pakistani Market through a local agent. Out of the above only two had local agents;
ii. Suppliers were concerned about whether local industry would be able to consume imported premix within its limited shelf life;
iii. If too many players are involved, demand levels will not be attractive for good international producers. This could compromise quality and wo we suggest working with two suppliers initially for this reason; and
iv. Local distribution channels could be developed in Pakistan if reasonable distribution margins are assigned.

Import and distribution of premix for edible oil is already happening in Pakistan, with both international players like BASF and local traders who mainly importing from China. Discussions with international suppliers of fortification premix including DSM Nutritional Products Ltd of Switzerland, Glanbia Nutritionals Suzhou, Hexagon Nutrition Pvt Ltd and Mühlenchemie GmbH & Co, yielded the following:

i. Potential demand for premix for large-scale fortification program is not attractive to international suppliers, who prefer that a local agent gets involved who could import from them directly and carry the credit risk for imports;
ii. BASF in Pakistan has been supplying vitamin A for number of years. Sale of vitamin A to oil refineries is a very small percentage of their total annual turnover and this is therefore not a

market for them to make substantial investment. They are willing to expand their business and have good infrastructure in place to supply premix in short period of time;

iii. Suppliers are concerned about the way premix is used by oil refineries, and feel the mix procedures and actual fortification levels does not international or local standards.

iv. Local distribution channels could be further developed in Pakistan if reasonable distribution margins are assigned.

8. OPTION ANALYSIS – WHEAT FLOUR (ATTA) – PAKISTAN - SUMMARY

Option	Title and Description	Risk Assessment Score
1	**Full Premix Subsidy Model** For 2 to 3 years production of wheat flour by large mills will be fortified with free premix using supply agreements whereby they agree to fortify their full production of wheat flour. Premix will be procured with support from DFID and supplied through selected distribution entities in the country.	**2.25** **Medium**
2	**Partial Premix Subsidy Model** For 2 to 3 years' production of wheat flour by large flour mills will be fortified through premix provided under partial subsidy framework. This will be a declining subsidy framework starting 75% in year one, 50% in year 2, 25% in year 3 and 0% in 4th year. Millers will be through program implementation agreements where they will agree to fortify their full production of wheat flour.	**1.75** **Low to Medium**
3	**Premix Revolving Fund Model** A revolving fund will be established under PFMA and monitored by Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan, with the following objectives: i. Procure required premix and implement an effective supply chain through private sector participation for a 3 to 4 year period; ii. Provide premix to flour millers on short term credit (max 6 months). Quality and consumption will be ensured; iii. Mandatory fortification standards are enacted by provincial governments; iv. Create social media marketing to generate demand; v. Technical support will be provided by multilateral and bilateral agencies to design and implement the revolving fund including its legal structure, organization, sustainability model, procurement procedures and cost recovery mechanisms and QA and monitoring mechanisms; vi. Monitoring the supply chain of premix and fortified wheat flour through an integrated MIS; vii. Quality Assurance will be managed by public sector regulatory authorities (Provincial Food Departments); and viii. Fortification cost of 0.41% of current retail price will be passed on to consumers. The private sector has identified the following reasons for non-fortification: i. Demand – on the assumption that fortified wheat flour will be marketed as a separate product; ii. Availability of premix; and iii. Absorption of fortification cost. This option covers all three impediments. Demand will be generated through social and media marketing. Premix will be made available on continuous basis and cost will be allowed to be absorbed in the retail price of wheat flour.	**2.55** **Medium**
4	**Premix & Quality Revolving Fund Model** A premix and quality revolving fund will be established under PFMA, jointly monitored by Federal Ministry of National Health Services, Regulations and Coordination, and Planning Commission of Pakistan. Funds will be allocated by multilateral and bilateral donor(s). The objective of the fund will be as follows: i. Procure required premix and implement an effective supply chain	

Option	Title and Description	Risk Assessment Score
	through private sector participation for a 3 to 4 year period; ii. Provide premix to flour millers on short term credit (max 6 months). Quality and consumption will be ensured; iii. Mandatory fortification standards are enacted by provincial governments; iv. Create social media marketing to generate demand; v. Technical support will be provided by multilateral and bilateral agencies to design and implement the revolving fund including its legal structure, organization, sustainability model, procurement procedures and cost recovery mechanisms and QA and monitoring mechanisms; vi. Monitoring the supply chain of premix and fortified wheat flour through an integrated MIS; vii. Quality Assurance will be managed by public sector regulatory authorities (Provincial Food Departments); and viii. Fortification cost of 0.41% of current retail price will be passed on to consumers. Flour millers will participate in this fund through a membership process where they are required to commit to complying with national or provincial standards and quality assurance procedures. This will allow them to use a Wheat Flour Fortification Label, which will augment their market share. The program will undertake a social marketing and media campaign to develop the fortification brand in Pakistan. This option addresses the impediments to fortification outlined by the private sector in the previous model.	**2.10** **Medium**
5	**Quality Assurance Incentive Model** As part of this option, the Program will facilitate the selection of international suppliers from whom millers will procure premix as per their own requirements. The Program will perform quality assurance testing of fortified wheat flour produced by the millers. Depending on the level of quality of fortified wheat flour incentives will be paid as reimbursement of premix cost fully or partially.	**3.20** **High**
6	**Food Department Budgetary Support Model** The wheat flour milling industry is regulated by provincial food departments, for example the Province of Punjab, accounts for 78% of all wheat produced in Pakistan. The department controls the mills under a regulatory monitoring mandate, and millers must be registered to secure supply, which is about 30% of the millers' total production. The department determines the retail price, so the following is proposed: i. Provincial level fortified wheat flour will be promulgated and implemented; ii. Quality assurance capacity building of food department will be improved; iii. Food department will agree that cost of fortification is a pass-through cost under retail price determination process; iv. Provincial governments through will allocate recurring budgetary support for premix equal to two-year premix required for production of fortified wheat flour by flour millers under funding from bilateral and multilateral donor agencies to the extent of 75% of the budgetary allocation required; v. Under funding arrangement with the Program the provincial food departments will ensure the following: a. Allocate the premix budgetary support for 2 years; b. Enhance quality assurance testing, reporting and monitoring regulations; c. Establish premix supply chain framework and process; and d. Program will engage with multiple international suppliers of premix through international tendering process for supply of premix to food departments.	**2.45** **Medium**
7	**Food Department Premix & Quality Revolving Fund Model** Wheat Flour Milling Industry is regulated by Provincial Food Departments. The Province of Punjab produces 78% of total wheat produced in Pakistan. Provincial	

Option	Title and Description	Risk Assessment Score
	Food Departments control wheat flour mills under regulatory monitoring mandate. To secure supply of wheat from Food Departments each miller need to be registered with the food department. Food department do supply around 30% of wheat for production of wheat flour by flour millers. The retail price of wheat flour is also determined by food departments. Accordingly, it is proposed that a public sector centric strategy for food fortification is considered. For this purpose, a Public Sector Premix and Quality Revolving Fund are created through funding from bilateral and multilateral international agencies. Under this revolving funds the provincial food departments will be engaged taking leading role for implementation of wheat flour fortification program under following terms: i. Fortified wheat flour standard will be promulgated and implemented by provincial food departments; ii. Quality assurance capacity building of food department will be done by the Program; iii. Food department will agree that cost of fortification will be allowed as pass through cost under retail price determination process; iv. The provincial governments through food department will allocate recurring budgetary support for premix equal to two-year premix required for production of fortified wheat flour by flour millers in each province. For this purpose, bilateral and multilateral donor agencies will provide financial support to the extent of 75%. Out of this 50% supply based funding whereas remaining 25% quality assessment based funding. Supply based funding mean program will reimbursement the cost of premix to the extent of 50% on the delivery of premix to the millers, and 25% on submission of overall quality assurance report on annual basis. For this purpose, parameter for quality validation and reporting will be mutually agreed in advance; Under funding arrangement with the Program the provincial food departments will ensure the following: a. Allocate the premix budgetary support for 2 years afterward through enforcement fortification will be ensured; b. Enhance quality assurance testing, reporting and monitoring regulations; c. Establish premix supply chain framework and process; and d. Program will engage with multiple international suppliers of premix through international tendering process for supply of premix to food departments	**2.25** **Medium**

9. Option Analysis – Wheat Flour (Atta) – Pakistan – Option Details

<table>
<tr><td>Option No.
1</td><td>Option Title:
I. FULL PREMIX SUBSIDY MODEL</td><td colspan="2">Wheat Flour (Atta) - Pakistan</td></tr>
<tr><td colspan="4">1. Description</td></tr>
<tr><td colspan="4">For 2 to 3 years flour produced by large mills will be fortified with free premix using supply agreements whereby they agree to fortify their full production of wheat flour. Premix will be procured with support from DFID and supplied through selected distribution entities in the country.</td></tr>
<tr><td colspan="2">1.1 Complexity of Design & Framework</td><td colspan="2">1.2 Premix Supply Chain</td></tr>
<tr><td colspan="2">Through PFMA all in production mills and millers could be identified and engaged as part of the program. Key expected challenges will be:
i. Early engagement with flour millers;
ii. Participation of public sector in standard setting and quality assurance role and their capacity building; and
iii. Capacity building of millers.</td><td colspan="2">As per our supply chain study total premix required for fortification of full annual production of wheat flour is:
On the basis of 20 ppm - 2,081,040 kgs
On the basis of 15 ppm – 1,560,780 kgs
On the basis of 10 ppm – 1,040,520 kgs
Approximate value of annual subsidy will be:
On the basis of 20 ppm - USD 17, 584,788
On the basis of 15 ppm – USD 13,188,591
On the basis of 10 ppm – USD 8,792,394
It is proposed that at least 2 international suppliers are engaged through a bidding process based on specifications developed by food quality experts and standards authorities of Pakistan.</td></tr>
<tr><td colspan="2">1.3 Role of Public Sector</td><td colspan="2">1.4 Role of Private Sector</td></tr>
<tr><td colspan="2">The public sector, including provincial food and health departments and food standard setting agencies will:
i. Enact mandatory fortification legislation related to flour produced by large mills;
ii. Enhance quality assurance mechanisms;
iii. Monitor market price; and
iv. Enforce agreements with flour millers.</td><td colspan="2">PFMA and related members will engage with program under agreement. Provide flour mill level monthly demand of premix as per their production plan. Secure supplies from distributors nominated by the Program. Use the premix fortification. Print nutritional facts on the bags. Provide production statistics to the Program so that consumption of supplied premix could be monitored.</td></tr>
<tr><td colspan="2">1.5 Branding of Fortified Product</td><td colspan="2">1.6 Marketing & Advocacy</td></tr>
<tr><td colspan="2">Since all wheat flour produced by large flour mills will be fortified, there is no need for separate branding. In case of edible oil (Ghee) no separate branding is done. Edible oil is just labeled with the fact that it is fortified with Vitamin A along with nutritional facts. Accordingly, wheat flour bags should also need to be labelled that it is fortified with Iron and folic acid along with nutritional facts.</td><td colspan="2">No marketing and advocacy is required as millers do not bear fortification cost. Risk that a consumer will not buy a bag of wheat flour because it is fortified and instead buy unfortified flour produced at a Chakki, is very limited. Soft social marketing through country health systems in a social responsibility framework will be helpful in quick acceptability of the fortified wheat flour, with a focus on dispelling any negative notions about food fortification.</td></tr>
<tr><td colspan="2">1.7 Cost to Consumers</td><td colspan="2">1.8 Quality Assurance</td></tr>
<tr><td colspan="2">Since the whole cost of fortification will be subsidized, consumer will not have to bear any cost related to fortification. There will not be any impact of fortification on the retail price of wheat flour. Accordingly, various wheat flour brands will not compete in price due to fortification cost.</td><td colspan="2">Quality assurance will at mill level by the private sector, who will keep records of tests performed; by the public sector through testing and reporting on samples from mills and the retail market; by the program, with sample testing at mill and retail level to ensure that the premix provided by the Program is properly; and through effective quality testing, reporting, communication and follow-up MIS to be implemented.</td></tr>
<tr><td colspan="2">2. Risk Assessment</td><td>Overall Risk Assessment Score
(1 to 4 where 1 lowest risk and 4 is highest risk)</td><td>2.25
Medium</td></tr>
</table>

<table>
<tr><td>Option No.
1</td><td colspan="2">Option Title:
I. FULL PREMIX SUBSIDY MODEL</td><td>Wheat Flour (Atta) - Pakistan</td></tr>
<tr><td>2.1 Operational Risk</td><td>1</td><td>2.2 Supplier Risk</td><td>1</td></tr>
<tr><td colspan="2">Low – Most the millers involved in large-scale wheat flour production will become part of this program since:
i. They will get premix for free;
ii. Provincial Food department will ensure that all millers participate in the program; and
iii. In competition, millers would like to participate because no one would like to leave behind in labeling their products as fortified.
Monitoring of supply requires only monitoring of flour fortificant. Distribution could be handled effectively by the private sector effectively, with some good experienced players in Pakistan.</td><td colspan="2">Low – We could engage with multiple international suppliers. As experienced already in previous program distribution is not a challenge if millers are mobilized effectively to generate demand through PFMA. For sustainability during the course of the program more suppliers will be allowed to participate after quality assurance process to make this process open market.</td></tr>
<tr><td>2.3 Fiduciary Risk</td><td>2</td><td>2.4 Reputational Risk</td><td>2</td></tr>
<tr><td colspan="2">Medium – Since no cash or fund handling is involved at program level, the only possibility of large fraud is in procurement of premix, which could be mitigated through a competitive bidding process under the supervision of a committee of procurement and technical experts. Premix subsidy will be provided in kind and can only be used for wheat flour fortification or wasted. There is potential for fraud around quality assurance, where the miller could misrepresent tests or influence independent testing. This risk is assessed as limited aas there is no quality assurance condition attached with the supply of premix to the miller.</td><td colspan="2">Medium – Under this proposal, the general impression about the Program will be that wheat flour can only be fortified if subsidy is provided otherwise it cannot sustain. In case the quality of premix supplied by the Program is of low quality, which may lead to some kind of health issues, in general public, then it may bring significant reputational risk to the Program. However, this risk could be mitigated through proper pre-shipment quality assurance over premix supplied.</td></tr>
<tr><td>2.5 Sustainability Risk</td><td>4</td><td>2.6 Quality Assurance Risk</td><td>3</td></tr>
<tr><td colspan="2">Very High – based on experiences until now in Pakistan and in other countries, subsidy based programs are not sustainable. Once the subsidy goes away millers will discontinue fortification on the ground that they cannot recover the cost of fortification. Although it is now proven that cost of fortification is very meager and should not be considered as an impediment for fortification, quite often millers use cost as a key justification for not doing fortification.</td><td colspan="2">High – Since premix will be supplied for free, the millers will not be motivated enough to ensure that premix is consumed in timely manner as per standards. They will not be efficient in their internal testing and reporting and also may not be vigilant in addressing quality concerns reported by the government or Program. Since wheat flour is a sensitive issue due to which government generally don’t stop production of mills except in case of health hazard issues.</td></tr>
</table>

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL	Wheat Flour (Atta) - Pakistan

1. Description

For 2 to 3 years wheat flour produced by large mills will be fortified with premix under a partial subsidy framework that will decline from 75% in year one, to 50% in year 2, 25% in year 3 and 0% in 4th year. Millers will be engaged through premix supply agreements and will agree to fortify their full production of wheat flour. Premix will be procured by the Program with support from DFID. The premix will be supplied through selected distribution entities in the country.

1.1 Complexity of Design & Framework

The design is complex for the following reasons:

i. Not all millers will be willing to participate under this agreement easily;
ii. Determination of cutoffs between applicably of % of subsidies;
iii. Collection of non-subsidy amounts from millers will be challenging;
iv. Since millers will have pay some cost from year 2 they may raise concerns on the cost / price of premix;
v. Cost pass through to consumers will be challenging.

1.2 Premix Supply Chain

Per our supply chain study total premix required to fortify full annual production of wheat flour is as follows:

On the basis of 20 ppm - 2,081,040 kgs
On the basis of 15 ppm – 1,560,780 kgs
On the basis of 10 ppm – 1,040,520 kgs

Approximate value of annual subsidy will be:

On the basis of 20 ppm - USD 17, 584,788
On the basis of 15 ppm – USD 13,188,591
On the basis of 10 ppm – USD 8,792,394

Given the annual quantities of premix required it is pro It is proposed that at least 2 international suppliers are engaged through a bidding process based on specifications developed by food quality experts and standards authorities of Pakistan. Distribution systems will need to include collection of non-subsidized portion from millers, which will be challenging.

1.3 Role of Public Sector

The public sector, including provincial food and health departments and food standard setting agencies will:
i. Enact mandatory fortification legislation related to flour produced by large mills;
ii. Enhance quality assurance mechanisms;
iii. Monitor market price; and
v. Enforce agreements with flour millers.

1.4 Role of Private Sector

PFMA and related members will engage with Program under agreement. Provide flour mill level monthly demand of premix as per their production plan. Secure supplies from distributors nominated by the Program. Use the premix fortification. Print nutritional facts on the bags. Provide production statistics to the Program so that consumption of supplied premix could be monitored.

1.5 Branding of Fortified Product

All millers will participate but separate branding may be required. Accordingly, wheat flour bags will be branded separately under the Program along with labels for fortification with Iron and folic acid along with nutritional facts from let the buyer be aware perspective only.

1.6 Marketing & Advocacy

Millers will demand marketing and advocacy as their product will be separately branded and they will want to generate demand for the new fortified brand. Social marketing through country health systems and media under social responsibility will also be required for quick acceptability of the fortified wheat flour.

1.7 Cost to Consumers

Fortification cost will be transferred to the consumer through retail price to the extent it is not subsidized. For this matter, agreement with provincial food departments will be required. Further, determination of cost for recovery through retail price will be challenging. There will be risk that millers will start generating profit margin in the name of fortification cost recovery.

1.8 Quality Assurance

Quality assurance will be performed at mill level by the private sector who will keep records of tests performed and results: by the public sector by sampling from mills and the retail market; by the program at mill and retail level to ensure premix is properly used, and through an effective quality testing, reporting, communication and follow-up MIS.

2. Risk Assessment	Overall Risk Assessment Score (1 to 4 where 1 lowest risk and 4 is	1.75 Low to

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL		Wheat Flour (Atta) - Pakistan
		highest risk)	Medium
2.1 Operational Risk	1	**2.2 Supplier Risk**	1
Low – because not all the flour millers involved in large-scale production of wheat flour will become part of this program easily since: i. They will not get full subsidy. In first year large number of miller may participate due to 100% subsidy but in later years' millers may lose interest.; ii. Complexity of Subsidy calculation; iii. Collection of non-subsidy portion of premix cost from millers; and iv. Control over cost pass through to consumer as part of retail price. Monitoring of supply of premix is only of flour fortificant. Distribution could be handled effectively by the private sector effectively, with some good experienced players in Pakistan. However, this proposal will involve fund handling at distributor and Program level in the form of collection of *funds* from millers.		**Low** – We could engage with multiple international suppliers. As experienced already in previous program distribution is not a challenge if millers are mobilized effectively to generate demand through PFMA. For sustainability during the course of the program more suppliers will be allowed to participate after quality assurance process to make this process open market.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	1
Medium – Collecting funds from millers creates fiduciary risk, with possibility of fraud through embezzlement of funds by the distributor or program management. Risk in procurement of premix could be mitigated through a competitive bidding process under supervision of a committee of procurement and technical experts. Premix subsidy will be provided in kind and could only be used for fortification of wheat flour. Another potential area of fraud this model is around quality assurance where the miller may misrepresent quality tests performed or influence independent quality assurance testing. This risk is also limited since there is no quality assurance condition attached to the supply of premix.		**Low** – Under this proposal, the general impression about the Program will be that wheat flour can only be fortified if subsidy is provided otherwise it cannot sustain. In case the quality of premix supplied by the Program is of low quality, which may lead to some kind of health issues, in general public, then it may bring significant reputational risk to the Program. However, this risk could be mitigated through proper pre-shipment quality assurance over premix supplied.	
2.5 Sustainability Risk	3	**2.6 Quality Assurance Risk**	2
High – Experiences in Pakistan and other countries who subsidy based programs are not sustainable. Once the subsidy goes away millers will discontinue fortification because they cannot recover the cost. While it has now been proved that fortification cost is low and should not be an impediment, millers often use it as a justification for not doing fortification.		**Medium** – Since premix will be supplied under declining partial subsidy arrangement, the millers will be comparatively more motivated to ensure that premix is consumed in timely manner as per standards. They may be more efficient in their internal testing and reporting. However, since the subsidy will be partial millers will feel less obligated to the Program related to quality assurance.	

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL	Wheat Flour (Atta) – Pakistan

1. Description

A revolving fund will be established under PFM jointly monitored by the Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan. Funding will come from bilateral donors. The objective of the fund will be as follows:

i. Procurement of required premix and implement an effective supply chain in country through private sector participation for a period of 3 to 4-year period;
ii. Provincial governments will ensure that mandatory fortification standards are enacted;
iii. Providing premix to millers on short term credit (maximum 6-months) ensuring premix quality and consumption;
iv. Social and media marketing for fortified wheat flour to generate demand;
v. Technical support from multilateral and bilateral agencies to design and implement the revolving fund including legal structure, organization, sustainability, procurement procedures and cost recovery mechanisms;
vi. Monitoring the supply chain of premix and also fortified wheat flour through an integrated MIS;
vii. Quality Assurance will be managed by public sector regulatory authorities (in this case Provincial Food Departments);
viii. Cost of fortification which is very meager, only 0.15% of the current retail price, will be passed to the consumers as part of retail price.

This option addresses the impediments to fortification outlined by the private sector in previous models.

1.1 Complexity of Design & Framework	1.2 Premix Supply Chain
The design is complex due to following reasons: i. Legal and organizational aspects of Revolving Fund; ii. Detail supply chain of premix along with fund management related collection of payments from millers after lapse of defined period; and iii. Social marketing and media campaigns.	The size of the fund is expected to be as follows: On the basis of 20 ppm - USD 17,804,598 On the basis of 15 ppm – USD 13,353,448 On the basis of 10 ppm – USD 8,902,299 The above is calculated on the basis of 9-month demand of premix plus 35% as overhead and social marketing cost. The revolving fund will be managed through a reputable bank or fund manager in the country. It is proposed that at least 2 international suppliers will be engaged through a competitive bidding process based on well-defined specifications of the premix developed by food quality experts of the country in consultation with food standard setting authorities of Pakistan.
1.3 Role of Public Sector	**1.4 Role of Private Sector**
Public sector including provincial food and health departments and other food standard setting agencies are engaged for: i. Mandatory Fortification legislation related to the wheat flour produced by large flour mills; ii. Enhancement in quality assurance mechanisms; iii. Quality Testing, Reporting and Enforcement; iv. Market price monitoring; v. Monitoring of the Fund through defined responsibilities and periodic monitoring and vi. Enforcement of Program agreements with flour millers.	PFMA and related members will engage with Program under agreement. Provide flour mill level monthly demand of premix as per their production plan. Secure supplies from distributors nominated by the Program. Use the premix fortification. Print nutritional facts on the bags. Provide production statistics to the Program so that consumption of supplied premix could be monitored. PFMA will coordinate and take responsibility for payment of premix after completion of 6 months from the data of delivery of premix.
1.6 Branding of Fortified Product	**1.6 Marketing & Advocacy**
Although separate branding is not required but for advocacy and demand generation separate branding will be done which will used by only Program member mills. For this purpose, the Program will develop and implement a brand certification process in partnership with Provincial Food Departments.	Marketing and advocacy will be demanded by the millers since their product will be separately branded and they will ask to generate demand for the new fortified brand. Social marketing through country health systems and media under social responsibility will also be required for quick acceptability of the fortified wheat flour. The Program will develop a brand for fortified wheat flour and

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL		Wheat Flour (Atta) – Pakistan
		market.	
1.7 Cost to Consumers		**1.8 Quality Assurance**	
The cost of fortification will be transferred to the consumer through retail price.		Quality assurance will be performed at three levels: i. At mill level by private sector. They will be required to key records of tests performed and related results; ii. Sample testing by public sector and reporting therefrom. Samples to be picked from mills and from open market at retail level. The program will build public sector capacity in revision of testing standards, testing facilities and reporting MIS; iii. The program will also perform its own sample testing both at mill and retail level to ensure that the premix provided by the Program is properly used or not. iv.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.55 Medium to High**
2.1 Operational Risk	4	**2.2 Supplier Risk**	1
Very High – because not all the flour millers involved in large-scale production of wheat flour will become part of this program but most of the large big players will become part of this process due to availability of premix on credit and branding. Work streams involved in this process including fund creation, procurement and supply of premix, quality assurance, social marketing etc.		**Low** – We could engage with multiple international suppliers. As experienced already in previous program distribution is not a challenge if millers are mobilized effectively to generate demand through PFMA. For sustainability during the course of the program more suppliers will be allowed to participate after quality assurance process to make this process open market.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	2
Medium – Involvement of collection of funds from millers makes this proposal medium on fiduciary risk. Risk in procurement of premix could be mitigated through competitive bidding under supervision of a committee of procurement and technical experts. A potential area of fraud is around quality where the miller may misrepresent quality tests performed or influence independent quality assurance testing. This risk is assessed as limited since there is no quality assurance condition attached with the supply of premix.		**Medium** – Under this proposal, the general impression about the Program will be that the structure of program is integrated and it is address all key elements all together. The partnership of all key stakeholders will be in place. Accordingly, the reputational risk is low.	
2.5 Sustainability Risk	2	**2.6 Quality Assurance Risk**	2
Medium – This option does not have subsidy element, further all core known impediment are simultaneously addressed.		**Medium** – Program will work closely with Public sector for improvement in Quality Assurance activities and Program will itself perform quality assurance testing at mill and retail level. MIS will be developed and implemented for quick result delivery, monitoring and actions.	

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL	Wheat Flour (Atta) – Pakistan
1. Description		
A premix & quality revolving fund will be established under Pakistan Flour Millers Association (PFMA) which will be monitored by a joint committee of Federal Ministry of National Health Services, Regulations and Coordination and		

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL	Wheat Flour (Atta) – Pakistan

Planning Commission of Pakistan. The funds will be allocated by the bilateral donor(s). The objective of the fund will be as follows:

i. Procurement required premix and implement an effective supply chain in country through private sector participation for a period of 3 to 4 year period;
ii. Provide premix to flour millers on short term credit (max 6 months). Quality and consumption will be ensured;
iii. Provincial governments will ensure the mandatory fortification standards are enacted;
iv. Revolving fund will do social and media marketing to generate demand for fortified wheat flour;
v. Technical support will be provided by multilateral and bilateral agencies to design and implement the revolving fund including its legal structure, organization, sustainability model, procurement procedures and cost recovery mechanisms and QA and monitoring mechanisms;
vi. Monitoring the supply chain of premix and fortified wheat flour through an integrated MIS;
vii. Quality Assurance will be managed by public sector regulatory authorities (Provincial Food Departments);
viii. Cost of fortification, just 0.41% of current retail price, will be passed to the consumers as part of retail price.

Flour millers will participate in this fund through a membership process where they will agree to comply with national or provincial standards for fortified wheat flour and QA procedures and will be able to use a Wheat Flour Fortification Label, which will augment their market share. The Program will do social marketing and media campaign to develop the fortification brand in Pakistan.

This option addresses the impediments to fortification outlined by the private sector in previous models.

1.1 Complexity of Design & Framework	1.2 Premix Supply Chain
The design is complex due to following reasons: i. Legal and organizational aspects of Revolving Fund; ii. Detail supply chain of premix along with fund management related collection of payments from millers after lapse of defined period; and iii. Social marketing and media campaigns.	The size of the fund is expected to be as follows: On the basis of 20 ppm - USD 17,804,598 On the basis of 15 ppm – USD 13,353,448 On the basis of 10 ppm – USD 8,902,299 This is on the basis of 9-month demand of premix plus 35% overhead and social marketing cost. The fund will be managed through a reputable bank or fund manager. At least 2 international suppliers will be engaged through a competitive bidding process developed by food quality experts and food standard authorities.
1.3 Role of Public Sector	**1.4 Role of Private Sector**
Public sector including provincial food and health departments and food standard setting agencies will enact mandatory legislation related to the wheat flour produced by large flour mills, improve, quality assurance mechanisms; engage in Quality Testing, Reporting, Enforcement and Market price monitoring; co-sign the agreement with PFMA; and enforce agreements with flour millers.	PFMA will play a significant role in establishing and managing the fund, engaging members and engaging them in the agreement. They will assess monthly demand for premix and develop an annual premix procurement plan, as well as identifying suppliers, procuring premix and printing nutritional facts on the bags.. PFMA will coordinate and take responsibility for payment of premix after completion of 6 months from the data of delivery of premix.
1.6 Branding of Fortified Product	**1.6 Marketing & Advocacy**
The Program will develop its fortification brand, a symbol of fortification quality. Social Marketing and Media campaigns will create brand value. Member millers will use the label on their bags to enhance market share.	Marketing and advocacy will be done to enhance the brand value of fortification quality brand. Social marketing through country health systems and media under social responsibility will also be required for quick acceptability of the fortified wheat flour.
1.7 Cost to Consumers	**1.8 Quality Assurance**
The cost of fortification will be transferred to the consumer through retail price. In this regard the provincial government will allow the fortification cost as pass through cost as part of their wheat flour retail price determination.	Quality assurance will be performed at three levels: i. At mill level by private sector who will be required to keep records of tests performed and related results; ii. Sample testing and reporting by public sector, with

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL		Wheat Flour (Atta) – Pakistan
		samples picked from mills and from open market at retail level. The program will build public sector capacity in revision of testing standards, testing facilities and reporting MIS; iii. The revolving fund will perform its own sample testing at mill and retail level to ensure premix provided by the fund is properly used. Non-compliant millers will lose their membership of the revolving fund; iv. Effective quality testing, reporting, communication and follow-up MIS to be developed/implemented by the program and will provide it to the fund for implementation.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.10 Medium**
2.1 Operational Risk	4	**2.2 Supplier Risk**	1
Very High – not all flour millers involved in large-scale wheat flour production will become part of this program but most of the large players will, due to availability of premix on credit and branding. Work streams include fund creation, procurement and supply of premix, quality assurance, and social marketing.		**Low** – We could engage with multiple international suppliers. As experienced already in previous program distribution is not a challenge if millers are mobilized effectively to generate demand through PFMA. For sustainability during the course of the program more suppliers will be allowed to participate after quality assurance process to make this process open market.	
2.3 Fiduciary Risk	1	**2.4 Reputational Risk**	
Low –Risk in procuring premix could be mitigated through competitive bidding supervised by procurement and technical experts. A potential area of fraud is around quality assurance where the miller may misrepresent quality tests or influence independent QA testing. This risk is limited since there is no quality assurance condition attached with the supply of premix to the miller.		**Low** – Under this proposal, the general impression about the Program will be that the structure of program is integrated and it is address all key elements all together. The partnership of all key stakeholders will be in place. Accordingly, the reputational risk is low.	
2.5 Sustainability Risk	2	**2.6 Quality Assurance Risk**	1
Medium – This option does not have subsidy element, further all core known impediment are simultaneously addressed.		**Low** – Program will work closely with Public sector for improvement in Quality Assurance activities and Program will itself perform quality assurance testing at mill and retail level. MIS will be developed and implemented for quick result delivery, monitoring and actions. During the course of the program close interaction with provincial food departments will take place so that the data collection and testing process is moved to provincial food departments and their quality standards are improved.	

Option No. 5	Option Title: V. QUALITY ASSURANCE INCENTIVE PROGRAM	Wheat Flour (Atta) – Pakistan
1. Description		
As part of this option, the Program will facilitate the selection of international suppliers from whom millers will procure		

Option No. 5	Option Title: V. QUALITY ASSURANCE INCENTIVE PROGRAM	Wheat Flour (Atta) – Pakistan

premix as per their own requirements. The Program will perform quality assurance testing of fortified wheat flour produced by the millers. Depending on the level of quality of fortified wheat flour incentives will be paid as reimbursement of premix cost fully or partially.

1.1 Complexity of Design & Framework	1.2 Premix Supply Chain
The design is complex due to following reasons: i. How procurement and consumption of premix will be monitored; ii. How the quality of fortified wheat flour will be tested and reported; iii. What will be the % of incentive amount; iv. Cash / fund handling by the Program;	Program will facilitate selection of multiple international suppliers through international tendering process. After selection, millers will be informed about the selected suppliers from whom millers will procure the premix as per their own production requirements.
1.3 Role of Public Sector	**1.4 Role of Private Sector**
Public sector including provincial food and health departments and other food standard setting agencies are engaged for: i. Mandatory Fortification legislation related to the wheat flour produced by large flour mills; ii. Quality Testing, Reporting and Enforcement; iii. Market price monitoring; and iv. Enforcement of Program agreements with flour millers.	PFMA and related millers will procure the premix and use it fortification of wheat flour produced by them. The millers will provide the production data of fortified wheat flour and quality assurance testing performed by them. The millers will also allow the Program to take samples to perform quality assurance testing.
1.5 Branding of Fortified Product	**1.6 Marketing & Advocacy**
The Program will develop its fortification brand, which will become symbol of fortification quality. Social Marketing and Media campaigns will be initiated to create brand value. The millers will be able to use the brand label on their bags, which will enhance their market share.	Marketing and advocacy will be done to enhance the brand value of fortification quality brand. Social marketing through country health systems and media under social responsibility will also be required for quick acceptability of the fortified wheat flour.
1.7 Cost to Consumers	**1.8 Quality Assurance**
The cost of fortification will be transferred to the consumer through retail price.	Quality assurance will be performed at three levels: i. At mill level by private sector themselves. They will be required to keep records of tests performed and related results; ii. Sample testing by public sector and reporting therefrom. The samples to be picked from mills and also from open market at retail level. The program will build capacity of public sector in the form of revision of testing standards, testing facilities and reporting MIS; iii. The Program will also perform its own sample testing both at mill and retail level to ensure that the premix provided by the Program is properly used or not. iv. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented.

2. Risk Assessment		Overall Risk Assessment Score (1 to 4 where 1 lowest risk and 4 is highest risk)	3.20 High
2.1 Operational Risk	3	**2.2 Supplier Risk**	2
High – because premix procurement and fortified wheat flour		**Medium** – Multiple international suppliers will be	

<table>
<tr><td>Option No.
5</td><td colspan="2">Option Title:
V. QUALITY ASSURANCE INCENTIVE PROGRAM</td><td colspan="2">Wheat Flour (Atta) – Pakistan</td></tr>
<tr><td colspan="3">production figures will not be easy to monitor. Further, provision of subsidy in the form of quality incentive will be complex to determine. The incentives will be determined and paid on the basis of quality assurance testing.</td><td colspan="2">selected by the Program for procurement. However, procurement will be done by the millers directly. Accordingly, quality assurance of premix at the delivery level to millers cannot be ensured effectively.</td></tr>
<tr><td colspan="2">2.3 Fiduciary Risk</td><td>4</td><td>2.4 Reputational Risk</td><td>4</td></tr>
<tr><td colspan="3">Very High – because:
1. The program will make incentive payments to millers and refinery owners on the basis of quality testing results. As mentioned above, quality testing in Pakistan is prone to falsified and manipulated results. Further, quality testing will be done on batch samples only. It is not possible to assure whether whole production is fortified or not. If producers are informed in advance, there is risk that batches may be fine on inspection day; and
2. Cash payments will be made to the millers and refineries will be prone to financial fraud and could potentially include kickbacks for approval of cash payments.</td><td colspan="2">Very High – The risk of fraud is very high due to which Program will be at high domestic and international reputational risk. There is risk of manipulated QA testing reports and production reporting to secure cash back.</td></tr>
<tr><td colspan="2">2.5 Sustainability Risk</td><td>3</td><td>2.6 Quality Assurance Risk</td><td>3</td></tr>
<tr><td colspan="3">High – In case millers will be paid to cash incentives for complying with the mandatory fortified food standards, then how it could be expected that subsequent to completion of the Program why millers will fortify.</td><td colspan="2">High – Since premix will be procured directly by millers, premix quality will be at high risk. Further, although quality incentive will be provided to the millers which is meager as compared to the overall profitability of the wheat flour millers accordingly, millers will not be under any obligation to provide quality assurance records.</td></tr>
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Option No. 6	Option Title: VI. FOOD DEPARTMENT BUDGETARY SUPPORT MODEL	Wheat Flour (Atta) Pakistan

1. Description

Wheat Flour Milling Industry is regulated by Provincial Food Department. The Province of Punjab produces 78% of total wheat produced in Pakistan. Provincial Food Department control wheat flour mills under regulatory monitoring mandate. To secure supply of wheat from Food Department each miller need to be registered with the food department. Food department do supply around 30% of wheat for production of wheat flour by flour millers. The retail price of wheat flour is determined by food department. Accordingly, it is proposed that through negotiations with provincial food departments following matters will be agreed:

i. National level fortified wheat flour will be promulgated and implemented;
ii. Quality assurance capacity building of food department will be made;
iii. Food department will agree that cost of fortification will be allowed as pass through cost under retail price determination process;
iv. The provincial governments through food department will allocate recurring budgetary support for premix equal to two-year premix required for production of fortified wheat flour by flour millers under funding from bilateral and multilateral donor agencies to the extent of 75% of the budgetary allocation required. After the completion of the program period the full cost of fortification will be borne by consumers as part of retail price;
v. Under funding arrangement with the Program the provincial food departments will ensure the following:
    a. Allocate the premix budgetary support for 2 years;
    b. Enhance quality assurance testing, reporting and monitoring regulations;
    c. Establish premix supply chain framework and process; and
    d. Program will engage with multiple international suppliers of premix through international tendering process for supply of premix to food departments.

1.1 Complexity of Design & Framework

The design is Complex since:

i. Public sector ownership of wheat flour fortification is challenging but if it is done than sustainability will be ensured;
ii. Capacity building of public sector quality assurance will require substantial investment;
iii. This proposal will be supply push instead of demand pull;

1.2 Premix Supply Chain

The fund required for annul budgetary allocation will be:

On the basis of 20 ppm - USD 17,804,598
On the basis of 15 ppm – USD 13,353,448
On the basis of 10 ppm – USD 8,902,299

25% will be allocated by provincial governments through internal budgetary allocations and 75% through funding from donor agencies. These %s need to be determined considering funding availability and negotiations with respective provincial governments.

1.3 Role of Public Sector

Public sector including provincial food and health departments and other food standard setting agencies are engaged for:

i. Mandatory Fortification legislation related to the wheat flour produced by large flour mills;
ii. Enhancement in quality assurance mechanisms;
iii. Premix procurement budgetary allocations;
iv. Quality Testing, Reporting and Enforcement;
v. Market price monitoring; and
vi. Premix supply chain,

1.4 Role of Private Sector

PFMA and related millers will engage with Provincial Food Departments to secure premix from food departments for fortification of wheat flour produced by them for two years for whole production and in subsequent years related to wheat flour produced using wheat provided by the food departments. For wheat flour produced by millers using their own wheat they will procure premix from open market.

1.5 Branding of Fortified Product

The Program will develop its brand, as a symbol of fortification quality. Through provincial food departments, millers will be required to use fortification logos on their bags so food departments and program could monitor the level of fortification at retail level.

1.6 Marketing & Advocacy

Extensive Marketing and advocacy will not be required. Only social marketing through country health systems and media under social responsibility will be initiated for quick acceptability of the fortified wheat flour but this will not be done with the objective to generate demand.

Option No. 6	Option Title: VI. FOOD DEPARTMENT BUDGETARY SUPPORT MODEL			Wheat Flour (Atta) Pakistan
1.7 Cost to Consumers		**1.8 Quality Assurance**		
The cost of fortification will be allowed as pass through cost element while determining the retail price of wheat flour. However, for first two years there will be no premix cost impact on retail price since premix will be funded by donor and government funding.		Quality assurance will have performed at three levels: i. At mill level private sector will be required to key records of tests performed and related results; ii. Sample testing by provincial food departments and reporting therefrom. The samples to be picked from mills and also from open market at retail level. The program will build capacity of public sector in the form of revision of testing standards, testing facilities and reporting MIS; iii. The program will also perform its own sample testing both at mill and retail level to ensure that the premix provided by the Program is properly used or not. iv. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented.		
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.45 Medium**	
2.1 Operational Risk	4	**2.2 Supplier Risk**	1	
Very High – Due to detail negotiations with food departments and capacity building of public sector quality assurance.		**Low** – Multiple international suppliers will be engaged for supply of premix to food departments with condition to set open market network for supply of premix over long term period.		
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	1	
Medium – Premix subsidy in the form of budget support to provincial food departments will be provided in kind. Cash / Funds handling is not expected.		**Low** – Quality will be ensured since program will operate under direct supervision of the mandated regulatory authority. Government could run this Program as one of their flagship health initiatives.		
2.5 Sustainability Risk	1	**2.6 Quality Assurance Risk**	3	
Low – Since food department will ensure fortification by providing initial premix, mandatory legislation, cost pass through provision and quality assurance.		**High** – Public sector quality assurance has been prone to errors in quality assurance testing or manipulated reporting. Accordingly, risk related to effective quality assurance testing, reporting and enforcement is high.		

Option No. 7	Option Title: VII. FOOD DEPARTMENT PREMIX & QUALITY REVOLVING FUND	Wheat Flour (Atta) Pakistan

1. Description

The wheat flour milling industry is regulated by Provincial Food Departments. The Province of Punjab produces 78% of total wheat produced in Pakistan. Provincial Food Departments control wheat flour mills under regulatory monitoring mandate and each miller needs to be registered to secure supply, which is about 30% of their production. The retail price of wheat flour is also determined by food departments. Accordingly, it is proposed that a public sector centric strategy for food fortification is considered. For this purpose, a Public Sector Premix and Quality Revolving Fund is created through funding from bilateral and multilateral international agencies. Under this revolving funds the provincial food departments will be engaged taking leading role for implementation of wheat flour fortification program under following terms:

i. Fortified wheat flour standard will be promulgated and implemented by provincial food departments;
ii. Quality assurance capacity building of food department will be done by the Program;
iii. Food department to agree fortification will be allowed as pass through under retail price determination process;
iv. The provincial governments through food department will allocate recurring budgetary support for premix equal to two-year premix required for production of fortified wheat flour by flour millers in each province. For this purpose, bilateral and multilateral donor agencies will provide financial support to the extent of 75%. Out of this 50% supply based funding whereas remaining 25% quality assessment based funding. Supply based funding mean program will reimbursement the cost of premix to the extent of 50% on the delivery of premix to the millers, and 25% on submission of overall quality assurance report on annual basis. For this purpose, parameter for quality validation and reporting will be mutually agreed in advance. At the end of the program the full cost of fortification will be passed to the consumers through retail price mechanism;
v. Under funding arrangement with the Program the provincial food departments will ensure the following:
    a. Allocate the premix budgetary support for 2 years;
    b. Enhance quality assurance testing, reporting and monitoring regulations;
    c. Establish premix supply chain framework and process; and
    d. Program will engage with multiple international suppliers of premix through international tendering process for supply of premix to food departments.

1.1 Complexity of Design & Framework

The design is Complex since:

i. Public sector ownership of wheat flour fortification is challenging but if it is done than sustainability will be ensured;
ii. Capacity building of public sector quality assurance will require substantial investment;
iii. This proposal will be supply push instead of demand pull; and
iv. Quality assurance reporting by public sector as condition for funding for donors.

1.2 Premix Supply Chain

The size of the fund required for annul budgetary allocation will be as follows:

On the basis of 20 ppm - USD 17,804,598
On the basis of 15 ppm – USD 13,353,448
On the basis of 10 ppm – USD 8,902,299

25% will be allocated by provincial governments through internal budgetary allocations and 75% through funding from donor agencies. These %s need to be determined considering funding availability and negotiations with respective provincial governments.

1.3 Role of Public Sector

Public sector including provincial food and health departments and food standard agencies engaged for:

i. Mandatory Fortification legislation related to the wheat flour produced by large flour mills;
ii. Enhancement in quality assurance mechanisms;
iii. Premix procurement budgetary allocations;
iv. Quality Testing, Reporting and Enforcement;
v. Market price monitoring; and
vi. Premix supply chain.

1.4 Role of Private Sector

PFMA and related millers will engage with Provincial Food Departments to secure premix from food departments for fortification of wheat flour produced by them for two years for whole production and in subsequent years related to wheat flour produced using wheat provided by the food departments. For wheat flour produced by millers using their own wheat they will procure premix from open market.

1.5 Branding of Fortified Product

1.6 Marketing & Advocacy

Option No. 7	Option Title: VII. FOOD DEPARTMENT PREMIX & QUALITY REVOLVING FUND	Wheat Flour (Atta) Pakistan

The Program will develop its fortification brand, a symbol of fortification quality. Through provincial food departments flour millers will be required to use fortification logos on their bags so that food departments and program can monitor fortification at retail level.		Extensive Marketing and advocacy will not be required. Only social marketing through country health systems and media under social responsibility will be initiated for quick acceptability of the fortified wheat flour but this will not be done with the objective to generate demand.	
1.7 Cost to Consumers		**1.8 Quality Assurance**	
The cost of fortification will be allowed as pass through cost element while determining the retail price of wheat flour. However, for first two years there will be no premix cost impact on retail price since premix will be funded by donor and government funding.		Quality assurance will have performed at three levels: i. At mill level by private sector who will be required to keep records of tests performed and related results; ii. Sample testing by provincial food departments and reporting therefrom. The samples to be picked from mills and also from open market at retail level. The program will build capacity of public sector in the form of revision of testing standards, testing facilities and reporting MIS; iii. The program will also perform its own sample testing both at mill and retail level to ensure that the premix provided by the Program is properly use. iv. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented. v. Provincial food departments will compile annual quality assurance reports as requirement for premix cost reimbursements from donor agencies.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.25 Medium**
2.1 Operational Risk	4	**2.2 Supplier Risk**	1
Very High – Due to detail negotiations with food departments and capacity building of public sector quality assurance.		**Low** – Multiple international suppliers will be engaged for supply of premix to the food departments with condition to set open market network for supply of premix over long term period.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	1
Medium – Premix subsidy in the form of budget support to provincial food departments will be provided in kind. Cash / Funds handling is not expected.		**Low** – Quality will be ensured since program will operate under direct supervision of the mandated regulatory authority. Government could run this Program as one of their flagship health initiatives.	
2.5 Sustainability Risk	1	**2.6 Quality Assurance Risk**	2
Low – Since food department will ensure fortification by providing initial premix, mandatory legislation, cost pass through provision and quality assurance.		**Medium** – Public sector quality assurance has been prone to errors in testing or manipulated reporting, and risk related to effective testing, reporting and enforcement is high. This option proposes 25% of program funding will be subject to satisfactory quality assurance reporting by the public sector in comparison to the pre-agreed quality assurance targets.	

10. OPTION ANALYSIS – WHEAT FLOUR (ATTA) – AFGHANISTAN - SUMMARY

Option No.	Option Title and Description	Overall Risk Assessment Score
1	**Full Premix Subsidy Model** For 2 years' export from large flour mills to Afghanistan will be fortified through free premix supplied by the Program. For this purpose, flour millers will be engaged in the Program through program implementation agreements covering supply of premix by Program to the millers, whereas, millers will agree to fortify their exports to Afghanistan as per agreed standards, the premix will be procured and supplied by the program, labelling of the export will be done as per label prescribed by the Program, Program will perform pre-shipment QA testing and provide certificate based on consignments will be allowed to cross border into Afghanistan. The Program will be implemented under join supervision of the Ministry of Public Health, Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan. The Program will develop contacts with wheat flour (Atta) importers in Afghanistan and exporters in Pakistan with objective to conveyance them to demand and supply only fortified wheat flour. As part of this advocacy, the potential cost of fortification will be communicated so that appropriate price could be negotiated between the exporters and importers and cost of fortification is not considered an impediment in price decisions.	**2.45** **Medium**
2	**Partial Premix Subsidy Model** For 2 years' export from large flour mills to Afghanistan will be fortified through partially free premix supplied by the Program. For this purpose, flour millers will be engaged in the Program through program implementation agreements covering supply of premix by Program to the millers, whereas, millers will agree to fortify their exports to Afghanistan as per agreed standards, the premix will be procured and supplied by the program, labelling of the export will be done as per label prescribed by the Program, Program will perform pre-shipment QA testing and provide certificate based on consignments will be allowed to cross border into Afghanistan. The Program will be implemented under join supervision of the Ministry of Public Health, Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan. The Punjab Food Department will be coordinated with, to perform advocacy among with them about make fortification mandatory for any wheat flour produced using subsidized wheat provided to flour mills for exports to Afghanistan. The Program will develop contacts with wheat flour (Atta) importers in Afghanistan and exporters in Pakistan with objective to conveyance them to demand and supply only fortified wheat flour. As part of this advocacy, the potential cost of fortification will be communicated so that appropriate price could be negotiated between the exporters and importers and cost of fortification is not considered an impediment in price decisions.	**1.95** **Low to Medium**
3	**Premix Revolving Fund Model** A revolving fund will be established under Pakistan Flour Mills Association (PFMA) with joint monitoring of Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan. The funds will be allocated by the multilateral or bilateral donor(s). The objective of the fund will be as follows: i. Identify key exporters of wheat flour from Pakistan to Afghanistan; ii. Develop a premix procurement plan on the basis of data collection from flour millers about exports to Afghanistan during the period July 2017 to December 31, 2018 iii. Procure the premix as per demand estimates identified in the	**2.00** **Medium**

Option No.	Option Title and Description	Overall Risk Assessment Score
	procurement plan. iv. Agree on the price of premix with flour millers; v. Provide premix to identified flour millers on short term credit period (maximum 6-month period); vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan; vii. Monitoring the supply chain of premix and also fortified wheat flour through an integrated MIS; viii. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and ix. Cost of fortification which is very meager, only 0.61% of the current retail price, will be passed to the consumers as part of retail price. The Program will coordinate with Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan to have consensus in both countries and the revolving fund could be made sustainable. In this regard the fund will also coordinate with Pakistan Country level wheat flour fortification program so that when large-scale wheat flour fortification program is initiated the exports from Pakistan are also get fortified under the program as per ANSA standards.	
4	**Premix & Quality Revolving Fund Model** A revolving fund will be established under Pakistan Flour Mills Association (PFMA) with joint monitoring of Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan. The funds will be allocated by the multilateral or bilateral donor(s). The objective of the fund will be as follows: i. Identify key exporters of wheat flour from Pakistan to Afghanistan; ii. Develop a premix procurement plan on the basis of data collection from flour millers about exports to Afghanistan during the period July 2017 to December 31, 2018 iii. Procure the premix as per demand estimates identified in the procurement plan. iv. Agree on the price of premix with flour millers; v. Provide premix to identified flour millers on short term credit period (maximum 6-month period); vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan; vii. Monitoring the supply chain of premix and also fortified wheat flour through an integrated MIS; viii. Develop a Quality Assurance process for the exports to be made to Afghanistan. This may include pre-shipment testing of the export consignments; ix. Perform QA testing as per defined process and take action in case of non-compliance with standards. Coordination will be done with ANSA in Afghanistan in this regard; x. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and xi. Cost of fortification which is very meager, only 0.61% of the current retail price, will be passed to the consumers as part of retail price.	**1.8** **Low to Medium**

Option No.	Option Title and Description	Overall Risk Assessment Score
	The Program will coordinate with Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan to have consensus in both countries and the revolving fund could be made sustainable. In this regard fund will also coordinate with Pakistan Country level wheat flour fortification program so that when large-scale wheat flour fortification program is initiated the exports from Pakistan are also get fortified under the program as per ANSA standards. As per estimates of the exports from Pakistan to Afghanistan the estimate of the annual premix required to fortify full exports to Afghanistan is as follows depending on the various standards: ▪ As per ANSA Standards (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 624,000 to USD 936,000. ▪ As per Central Asia – Afghanistan – Pakistan Harmonized Standard (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 471,250 to 706,875. ▪ As per Pakistan Standards (150 grams per Ton) 39,000 KG to 58,500 KG having estimated value of premix in the range of USD 253,500 to USD 380,250.	

11. OPTION ANALYSIS – WHEAT FLOUR (ATTA) – AFGHANISTAN – OPTION DETAILS

Option No. 1	Option Title: I. FULL PREMIX SUBSIDY MODEL	Wheat Flour (Atta) – Afghanistan

1. Description

For 2 years, exports from large flour mills to Afghanistan will be fortified through free premix supplied by the Program. In return, millers will agree to fortify their exports to Afghanistan as per agreed standards. Premix will be procured and supplied by the program, labelling of the export will be done as per label prescribed by the Program, Program will perform pre-shipment QA testing and provide certificates based upon which consignments will be allowed into Afghanistan. The Program will be implemented under join supervision of the Ministry of Public Health, Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan.

The Program will develop contacts with wheat flour importers in Afghanistan and exporters in Pakistan to convince them to demand and supply only fortified wheat flour. The potential cost of fortification will be communicated so that appropriate price is negotiated between exporters and importers without fortification cost as a perceived impediment.

1.1 Complexity of Design & Framework

There are number of stakeholders involved at both ends of the border. The program will need to coordinate with number of public sector entities on the following matters:

i. Discussions with Ministry of Public Health, Afghanistan about the design of the program including aspects of standards, premix subsidy, QA process, labeling, advocacy with importers and exporters etc. MoPH has to take a lead ministerial role for the implementation of this Program. MoPH would appoint fortification champion and project lead from their end;
ii. Under the leadership of MoPH champion discussion will need to take place with Ministry of Finance and ANSA including matters related to border control, QA testing and reporting etc. Both MoF and ANSA will appoint their fortification champion to participate work as Program Implementation Committee Members;
iii. The Implementation Committee will interact with counterparts in Pakistan including PSQCA, Export Promotion Bureau and Ministry of National Health Services, Regulation and Coordination, to secure formal support for the program;
iv. The committee will interact with PFMA representatives and with large flour mills involved in export of wheat flour to Afghanistan.
v. Program will develop the implementation plan, monitored by the Implementation Committee.

1.2 Premix Supply Chain

As per estimates of the exports from Pakistan to Afghanistan the estimate of the annual premix required to fortify full exports to Afghanistan is as follows depending on the various standards:

- As per ANSA Standards (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 624,000 to USD 936,000.
- As per Central Asia – Afghanistan – Pakistan Harmonized Standard (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 471,250 to 706,875.
- As per Pakistan Standards (150 grams per Ton) 39,000 KG to 58,500 KG having estimated value of premix in the range of USD 253,500 to USD 380,250

Accordingly, if full premix is subsidized for 2 years as per current ANSA Standards in total 195,000 KG maximum premix will be required to be supplied to the flour millers by the Program. The cost of said premix will be in the range of USD 1,872,000.

1.3 Role of Public Sector

The role of public sector will be:

i. Coordination between public sector ministries and departments at both sides of the border.
ii. Supervise the implementation of the program through an implementation Committee;
iii. Approve QA plan, Labeling Strategy and border crossing procedures for Wheat Flour.

1.4 Role of Private Sector

PFMA and related members to become members of the Program and ensure that they fortify their exports to Afghanistan as per specified standards, facilitate QA testing, label their products appropriately and participate in consultative sessions.

1.5 Branding of Fortified Product

The program will develop a product label and branding

1.6 Marketing & Advocacy

Marketing and advocacy will be limited to Afghan Importers

Option No. 1	Option Title: I. FULL PREMIX SUBSIDY MODEL		Wheat Flour (Atta) – Afghanistan
strategy in consultation with key public and private sector partners. Educational sessions will be conducted at both sides of the border. Post production Labeling checks will be performed to ensure compliance with requirements by the staff of the Program. This will be done through MoPH staff also in Afghanistan.		and Pakistani Exporters. This will be related to importance of fortification, facilitation to be provided by the program, cost of fortification and cost prices should be negotiated without considering cost of fortification as impediment and labeling of the products and clearance at border posts.	
1.7 Cost to Consumers		**1.8 Quality Assurance**	
For first two year when the cost of fortification will be borne by the program not cost will be passed to the consumer. Afterward, the actual cost will be transferred.		Quality assurance will be performed at three levels: i. At mill level, where the private sector will keep records of tests performed and related results; ii. Sample testing by PSQCA and reporting to the Program and the miller for export facilitation at the Border. Samples to be picked from mills and also from open market at retail level; iii. Sample testing by the program both at mill and retail level to ensure that the premix provided by the Program is properly used or not; and iv. Effective quality testing, reporting, communication and follow-up MIS to be implemented.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.45 Medium**
2.1 Operational Risk	2	**2.2 Supplier Risk**	1
Medium – Several public sector partners are involved, and in the current complex geopolitical scenario, events could affect program coordination and trade.		**Low** – Premix will be procured by the Program and will be supplied in Kind for two years.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	3
Medium – Since there is no cash or fund handling at program level. The only possibility for large fraud is in premix procurement and can be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts. Premix subsidy provided in kind which can only be used for fortification or wasted. Another potential area of is around quality assurance where the miller may misrepresent quality tests or influence independent testing testing. This risk is limited a no quality assurance conditions attach to supply of premix to the miller.		**High** – Under this proposal, the general impression about the Program will be that wheat flour can only be fortified if subsidy is provided otherwise it cannot sustain. In case the quality of premix supplied by the Program is of low quality, which may lead to some kind of health issues, in general public, then it may bring significant reputational risk to the Program. However, this risk could be mitigated through proper pre-shipment quality assurance over premix supplied.	
2.5 Sustainability Risk	4	**2.6 Quality Assurance Risk**	2
Very High – based on experiences in Pakistan and other countries, subsidy based programs are not sustainable. Once the subsidy goes away millers discontinue fortification because they cannot recover the cost. It has now been proved that fortification cost should not be considered as an impediment , but millers often use cost of fortification a justification for not doing fortification.		**Medium** – Since shipments will only be exported on receipt of the satisfactory QA test results the millers will be motivated to ensure quality. Still this process will be prone to manipulated test results. However, program will implement testing structure in a way to minimize the risk of manipulation.	

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL	Wheat Flour (Atta) – Afghanistan

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL	Wheat Flour (Atta) – Afghanistan

1. Description

For 2 years, export from large flour mills to Afghanistan will be fortified through partially free premix supplied by the Program. In return, millers will agree to fortify their exports to Afghanistan to agreed standards. The Program will procure and supply premix, prescribe labelling, and perform pre-shipment QA testing and provide certificate based upon which consignments will be allowed into Afghanistan. The Punjab Food Department will be engaged to make wheat flour fortification mandatory as per ANSA standards for wheat flour produced from wheat provided by the Food Department under export subsidy framework. The Program will be implemented under joint supervision of the Ministry of Public Health, Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan. The Program will develop contacts with wheat flour importers in Afghanistan and exporters in Pakistan to convince them to demand and supply only fortified wheat flour. The potential cost of fortification will be communicated so that fortification is not considered an impediment in price decisions.

1.1 Complexity of Design & Framework

The program will need to coordinate with number of public sector entities on both sides of the border on:

i. Discussions with MoPH, Afghanistan about the design of the program including standards, premix subsidy, QA process, labeling, advocacy with importers and exporters etc. MoPH to take lead ministerial role for implementation and appoint fortification champion and project lead;
ii. Under MoPH champion discussion will take place with Ministry of Finance and ANSA on border control, QA testing and reporting etc. MoF and ANSA will appoint fortification champion to work as Program Implementation Committee Members;
iii. Implementation Committee to coordinate with Punjab Food Department to make wheat flour fortification mandatory on wheat flour produced using wheat provided by Punjab Food Department under export subsidy framework.
iv. Implementation Committee will n interact with counterparts in Pakistan including PSQCA, Export Promotion Bureau and Ministry of National Health Services, Regulation and Coordination with to secure formal support for the program;
v. The committee will than interact with PFMA representatives and with large flour mills currently involved in export of wheat flour to Afghanistan.
vi. Program will develop the implementation plan, monitored by the Implementation Committee

1.2 Premix Supply Chain

As per estimates of the exports from Pakistan to Afghanistan the estimate of the annual premix required to fortify full exports to Afghanistan is as follows depending on the various standards:

- As per ANSA Standards (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 624,000 to USD 936,000.
- As per Central Asia – Afghanistan – Pakistan Harmonized Standard (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 471,250 to 706,875.
- As per Pakistan Standards (150 grams per Ton) 39,000 KG to 58,500 KG having estimated value of premix in the range of USD 253,500 to USD 380,250

Accordingly, if 50% of premix is subsidized for 2 years as per current ANSA Standards in total 97,500 KG maximum premix will be required to be supplied to the flour millers by the Program. The cost of said premix will be in the range of US.D 936,000.

1.3 Role of Public Sector

The role of public sector will be:

i. Lead coordination between public ministries and departments at both sides of the bordere.
ii. Supervise implementation of the program through Implementation Committee;
iii. Approve QA plan, Labeling Strategy and border crossing procedures for Wheat Flour.

1.4 Role of Private Sector

PFMA and related members to become members of the Program and ensure that they fortify their exports to Afghanistan as per specified standards, facilitate QA testing, label their products appropriately and participate in consultative sessions.

1.5 Branding of Fortified Product

The program will develop a product label and branding strategy in consultation with key public sector and private sector partners. Educational sessions will be conducted at both sides of the border. Post production labeling checks

1.6 Marketing & Advocacy

Marketing and advocacy will be limited to Afghan Importers and Pakistani Exporters only. This will be related to importance of fortification, facilitation to be provided by the program, cost of fortification and cost

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL		Wheat Flour (Atta) – Afghanistan
will ensure compliance with labeling requirements by the staff of the Program. This will be done through MoPH staff also in Afghanistan.		prices should be negotiated without considering cost of fortification as impediment and labeling of the products and clearance at border posts.	
1.7 Cost to Consumers		**1.8 Quality Assurance**	
For first two years when the cost of fortification will be partially borne by the program cost of fortification will only be partially incorporated in the retail price and accordingly, partially transferred to the consumer.		Quality assurance will be performed at three levels: i. At mill level by the private sector themselves, who will be keep records of tests performed; ii. By PSQCA by sample testing at mills and in the market, and reporting to the Program to facilitate export; iii. By the program, to ensure premix provided by the is properly used; and iv. Effective quality testing, reporting, communication and follow-up MIS to be implemented.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**1.95 Low to Medium**
2.1 Operational Risk	2	**2.2 Supplier Risk**	1
Medium – A number of public sector partners are involved and a complex geopolitical scenario means any event could affect coordination of the program and trade between two countries. Part premix subsidy will be complex to manage including to whom how much premix need to be paid and will also require recovery of partial payments from millers.		**Low** – Premix will be procured by the Program and will be supplied in Kind for two years.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	2
Medium – There will be cash or fund handling involved at program level. Premix will be procured and supplied at partial subsidy accordingly; it will be required collection of partial payments from millers. Another, potential areas of fraud this model is around quality assurance in which case either the miller may misrepresent quality tests performed and / or influence independent quality assurance testing. Again, this risk is also assessed as limited since there is no quality assurance condition attached with the supply of premix to the miller.		**Medium** – Under this proposal, the general impression about the Program will be that wheat flour can only be fortified if subsidy is provided otherwise it cannot sustain. In case the quality of premix supplied by the Program is of low quality, which may lead to some kind of health issues, in general public, then it may bring significant reputational risk to the Program. However, this risk could be mitigated through proper pre-shipment quality assurance over premix supplied.	
2.5 Sustainability Risk	3	**2.6 Quality Assurance Risk**	1
High – based on experiences until now in Pakistan and in other countries generally subsidy based programs are not sustainable. But partial subsidy may help initial kick start of the fortification process afterward it will sustain on its own through cost recovery in retail price and quality assurance.		**Low** – Since shipments will only be exported on receipt of the satisfactory QA test results the millers will be motivated to ensure quality. But still this process will be prone to manipulated test results. However, program will implement testing structure in a way to minimize the risk of manipulation.	

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL	Wheat Flour (Atta) – Afghanistan
1. Description		
A revolving fund will be established under Pakistan Flour Mills Association (PFMA) with joint monitoring of Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan. The funds will be allocated by the multilateral or bilateral donor(s). The objective of the fund will be as follows: i. Identify key exporters of wheat flour from Pakistan to Afghanistan;		

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL	Wheat Flour (Atta) – Afghanistan

ii. Develop a premix procurement plan on the basis of data collection from flour millers about exports to Afghanistan during the period July 2017 to December 31, 2018
iii. Procure the premix as per demand estimates identified in the procurement plan.
iv. Agree on the price of premix with flour millers;
v. Provide premix to identified flour millers on short term credit period (maximum 6-month period);
vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan; ;
vii. Monitoring the supply chain of premix and also fortified wheat flour through an integrated MIS;
viii. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and
ix. Fortification cost of 0.61% of current retail price, will be passed to the consumers as part of retail price.

The Program will coordinate with Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan to have consensus in both countries and the revolving fund could be made sustainable. Then fund will also coordinate with Pakistan Country level wheat flour fortification program so that when large-scale wheat flour fortification program is initiated, exports from Pakistan are fortified to ANSA standards.

1.1 Complexity of Design & Framework

The design is complex due to following reasons:

i. Legal and organizational aspects of Revolving Fund;
ii. Detail supply chain of premix along with fund management related collection of payments from millers after lapse of defined period; and
iii. Coordination with number of stakeholders.

1.2 Premix Supply Chain

Annual premix to fortify exports to Afghanistan is as follows depending on the various standards:

- As per ANSA Standards (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 624,000 to USD 936,000.
- As per Central Asia – Afghanistan – Pakistan Harmonized Standard (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 471,250 to 706,875.
- As per Pakistan Standards (150 grams per Ton) 39,000 KG to 58,500 KG having estimated value of premix in the range of USD 253,500 to USD 380,250

With a 6-month premix requirement for wheat flour and edible oil at average exports per year using ANSA Standards, total premix required is 41,832 KG having current import value of USD 454,973 (See Annex B).

1.3 Role of Public Sector

A number of stakeholders are involved at both ends of the border. However, at administrative level the structure will be simple a small team of the fund will be established under Pakistan Flour Millers Association (PFMA) . A committee represented by Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan will govern the fund. The fund will also coordinate with the counterpart in Afghanistan which will be mainly ANSA and MoPH and wheat flour importer association(s).

1.4 Role of Private Sector

PFMA and related members will engage with Program under agreement. Provide flour mill level monthly demand of premix as per their production plan. Secure supplies from distributors nominated by the Program. Use the premix fortification. Print nutritional facts on the bags. Provide production statistics to the Program so that consumption of supplied premix could be monitored. PFMA will coordinate and take responsibility for payment of premix after completion of 6 months from the data of delivery of premix.

1.5 Branding of Fortified Product

Labelling will be provided by Program which will be marked on all bags.

1.6 Marketing & Advocacy

Marketing and advocacy will be limited to Afghan Importers and Pakistani Exporters only. This will be related to importance of fortification, facilitation to be provided by the program, cost of fortification and cost prices should be negotiated without considering cost of fortification as impediment and labeling of the products and clearance at border posts.

1.7 Cost to Consumers

1.8 Quality Assurance

Option No. 3	Option Title: **III. PREMIX REVOLVING FUND MODEL**		**Wheat Flour (Atta) – Afghanistan**
The cost of fortification will be transferred to the consumer through retail price.		Quality assurance will be performed at three levels: i. At mill level by the private sector themselves, who will be keep records of tests performed; ii. By PSQCA by sample testing at mills and in the market, and reporting to the Program to facilitate export; iii. By the program, to ensure premix provided by the is properly used; and iv. Effective quality testing, reporting, communication and follow-up MIS to be implemented.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.00 Medium**
2.1 Operational Risk	3	**2.2 Supplier Risk**	1
High - The fund will be established in Pakistan with leading role from PFMA and monitoring by public sector institutions of Pakistan. Accordingly, it could be established quickly. The requirement will be to document the design and process for its working and how it will be ensured that funds are not misused and how the conflict of interest of PFMA will be controlled. Since it will be led by MoPH and Program will provide a small team of program team. Interaction will be required with number of stakeholders on both sides of the border but it seems that good initial groundwork is already in place. Formalization and execution of productive activities is required. The risk of geo political conditions will be managed to some extent with this option since fund will provide premix only when demand is generated by millers.		**Low** – considering the size of the quantities required procurement could be made through one supplier.	
2.3 Fiduciary Risk	1	**2.4 Reputational Risk**	1
Low – Since there is no involvement of collection of funds from millers all premix will be provided in kind. There is risk procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts.		**Low** – Under this proposal, the general impression about the Program will be that the structure of program is integrated and it is address all key elements all together. The partnership of all key stakeholders will be in place. Accordingly, the reputational risk is low.	
2.5 Sustainability Risk	2	**2.6 Quality Assurance Risk**	2
Medium – This option does not have subsidy element, further all core known impediment are simultaneously addressed. Could be effected by geo political conditions.		**Medium** – Premix will be supplied on credit and there is no pre- shipment quality assurance testing required. Accordingly, there is high risk that millers may not do fortification as per standards on consistent basis.	

Option No. 4	Option Title: **IV. PREMIX & QUALITY REVOLVING FUND MODEL**	**Wheat Flour (Atta) – Afghanistan**
1. Description		
A premix and quality revolving fund will be established under Pakistan Flour Mills Association (PFMA) with joint monitoring of Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan. The funds will be allocated by the multilateral or bilateral donor(s). The objective of the fund will be as follows: i. Identify key exporters of wheat flour from Pakistan to Afghanistan; ii. Develop a premix procurement plan on the basis of data collection from flour millers about exports to Afghanistan during the period July 2017 to December 31, 2018 iii. Procure the premix as per demand estimates identified in the procurement plan. iv. Agree on the price of premix with flour millers;		

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL	Wheat Flour (Atta) – Afghanistan

v. Provide premix to identified flour millers on short term credit period (maximum 6-month period);
vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan;
vii. Monitoring the supply chain of premix and also fortified wheat flour through an integrated MIS;
viii. Develop a Quality Assurance process for the exports to be made to Afghanistan. This may include pre-shipment testing of the export consignments;
ix. Perform QA testing as per defined process and take action in case of non-compliance with standards. Coordination will be done with ANSA in Afghanistan in this regard;
x. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and
xi. Cost of fortification which is very meager, only 0.61% of the current retail price, will be passed to the consumers as part of retail price.

The Program will coordinate with Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan to have consensus in both countries and the revolving fund could be made sustainable. In this regard fund will also coordinate with Pakistan Country level wheat flour fortification program so that when large-scale wheat flour fortification program is initiated the exports from Pakistan are also get fortified under the program as per ANSA standards.

1.1 Complexity of Design & Framework	1.2 Premix Supply Chain
The design is complex due to following reasons: i. Legal and organizational aspects of Revolving Fund; ii. The trade of wheat flour is substantially informal and number parties are involved. Getting them all on board will be challenging but not impossible; iii. Supply chain of premix along with fund management related collection of payments from millers after lapse of defined period; and iv. Coordination with number of stakeholders.	Annual premix required to fortify full exports to Afghanistan is as follows: ▪ As per ANSA Standards (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 624,000 to USD 936,000. ▪ As per Central Asia – Afghanistan – Pakistan Harmonized Standard (250 grams per Ton) 65,000 KG to 97,500 KG having estimated value of premix in the range of USD 471,250 to 706,875. ▪ As per Pakistan Standards (150 grams per Ton) 39,000 KG to 58,500 KG having estimated value of premix in the range of USD 253,500 to USD 380,250 Considering 6-month premix requirement forwheat flour and edible oil at average exports per year using ANSA Standards the total premix required is 41,832 KG having current import value of USD 454,973. (Appendix B)
1.3 Role of Public Sector	**1.4 Role of Private Sector**
A number of stakeholders are involved at both ends of the border. However, at administrative level the structure will be simple a small team of the fund will be established under Pakistan Flour Millers Association (PFMA) . A committee represented by Federal Ministry of National Health Services, Regulations and Coordination and Planning Commission of Pakistan will govern the fund. The fund will also coordinate with the counterpart in Afghanistan which will be mainly ANSA and MoPH and wheat flour importer association(s). i.	PFMA will establish the fund and related members will engage with the fund under agreement. Provide flour mill level monthly demand of premix as per their production and export plan. Secure supplies from distributors nominated by the Program. Use the premix fortification. Print nutritional facts on the bags. Provide production statistics to the Program so that consumption of supplied premix could be monitored. PFMA will coordinate and take responsibility for payment of premix after completion of 6 months from the data of delivery of premix.
1.5 Branding of Fortified Product	**1.6 Marketing & Advocacy**
Labelling will be provided by Program which will be marked on all bags.	Marketing and advocacy will be limited to Afghan Importers and Pakistani Exporters only. This will be related to importance of fortification, facilitation to be provided by the program, cost of fortification and cost prices should be negotiated without considering cost of

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL	Wheat Flour (Atta) – Afghanistan

		fortification as impediment and labeling of the products and clearance at border posts.	
1.7 Cost to Consumers		**1.8 Quality Assurance**	
The cost of fortification will be transferred to the consumer through retail price.		Quality assurance will be performed at: I. At mill level by the private sector themselves, who will be keep records of tests performed; II. By PSQCA by sample testing at mills and in the market, and reporting to the Program to facilitate export; III. By the program, to ensure premix provided by the is properly used; and IV. Effective quality testing, reporting, communication and follow-up MIS to be implemented.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**1.8 Low to Medium**
2.1 Operational Risk	3	**2.2 Supplier Risk**	1
High – The fund will be established in Pakistan with leading role from PFMA and monitoring by public sector institutions of Pakistan. Accordingly, it could be established quickly. The requirement will be to document the design and process for its working and how it will be ensured that funds are not misused and how the conflict of interest of PFMA will be controlled.		**Low** – considering the size of the quantities required procurement could be made through one supplier.	
2.3 Fiduciary Risk	1	**2.4 Reputational Risk**	1
Low – Since there is no involvement of collection of funds from millers all premix will be provided in Kind. There is risk procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts.		**Low** – Under this proposal, the general impression about the Program will be that the structure of program is integrated and it is address all key elements all together. The partnership of all key stakeholders will be in place. Accordingly, the reputational risk is low.	
2.5 Sustainability Risk	2	**2.6 Quality Assurance Risk**	1
Medium – This option does not have subsidy element, further all core known impediment are simultaneously addressed. Sustainability could be affected by geo political conditions.		**Low** – Due to pre-shipment Quality Assurance Testing and report will be required for crossing of boarding in to Afghanistan.	

12. *OPTION ANALYSIS – EDIBLE OÏL / GHEE - PAKISTAN - SUMMARY*

Option	Option Title and Description	Risk Assessment Score
1	**Full Premix Subsidy Model** For 2 to 3 years' full production of edible oil / ghee by large refineries will be fortified through free premix supplied by the Program. In return, refineries will agree to fortify their full production of edible oil / ghee as per PSQCA Standards. The premix will be procured by the Program through Grant provided by the bilateral international agency(s). The premix will be supplied through selected distribution entities in the country. For Vitamin A and D required for fortification of edible oil / ghee in Pakistan appropriate suppliers are available. Accordingly, procurement and supply of premix will be easier as compared to supply of premix for wheat flour.	**2.25 Medium**

Option	Option Title and Description	Risk Assessment Score
2	**Partial Premix Subsidy Model** For 2 to 3 years' full production of edible oil / ghee by large edible oil refineries will be fortified through free premix supplied by the Program on annual declining basis over three years: 75% in the first year, 50% in the second and 25% in the third. Refineries will agree to fortify their full production of edible oil / ghee as per PSQCA Standards. The premix will be procured by the Program through Grant provided by the bilateral international agencies and supplied through selected distribution entities. For Vitamin A and D required for fortification of edible oil / ghee in Pakistan appropriate suppliers are available, so procurement and supply of premix is easier than for wheat flour.	**1.65** **Low to Medium**
3	**Premix Revolving Fund Model** A revolving fund will be established under joint supervision of Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan, PSQCA and Program Management. The funds will be allocated by the bilateral donor(s). The objective of the fund will be as follows: i. Procurement of premix and implement an effective supply chain in the country through private sector participation for a period of 3 to 4-year period; ii. Provide premix to edible oil refineries on short term credit period (maximum 6-month period); iii. Revolving fund will do social and media marketing for fortified edible oil and ghee which will generate demand for fortified edible oil / ghee; iv. Monitoring of the supply chain of premix and also fortified edible oil / ghee through an integrated MIS; v. Quality Assurance will be managed by PSQCA through extended and more detailed testing, recording and reporting; vi. Cost of fortification which is very meager, only 0.21% of the current retail price, will be passed to the consumers as part of retail price; vii. Revolving fund will monitor the edible oil / ghee retail price to ensure that refineries should not make abnormal profits in the name of the fortification. This option addresses the three impediments highlighted by the private sector in previous models.	**2.05** **Medium**
4	**Premix & Quality Revolving Fund Model** Under this option, a revolving fund will be established under joint supervision of Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan, PSQCA and Program Management. The funds will be allocated by the bilateral donor(s). The objective of the fund will be as follows: i. Procurement of premix and implement an effective supply chain in the country through private sector participation for a period of 3 to 4-year period; ii. Provide premix to edible oil refineries on short term credit period (maximum 6-month period); iii. Revolving fund will do social and media marketing for fortified edible oil and ghee which will generate demand for fortified edible oil / ghee; iv. Monitoring of the supply chain of premix and also fortified edible oil / ghee through an integrated MIS; v. Quality Assurance will be managed by PSQCA through extended and more detailed testing, recording and reporting; vi. Cost of fortification which is very meager, only 0.21% of the current retail price, will be passed to the consumers as part of retail price;	**1.75** **Low to Medium**

Option	Option Title and Description	Risk Assessment Score
	vii. Revolving fund will monitor the edible oil / ghee retail price to ensure that refineries should not make abnormal profits in the name of the fortification. The oil refineries will only be able to participate in this fund through membership process. The members will be required to commit that they will comply with the national or provincial standards of fortified edible oil / ghee and quality assurance procedures developed and prescribed by the Program. In return, the Program will allow them to use PSQCA standard. In case a registered member will not comply with the standards, there will be repercussions, which may end related membership. As per discussions with the private sector following key reasons are identified for non- fortification of edible oil / ghee: i. Demand for Fortified Edible Oil / Ghee – on the assumption that fortified edible oil / ghee will be marketed as a separate product; ii. Availability of premix; and iii. Absorption of fortification cost. Under this Option, all the three impediments will be addressed. Demand will be generated through social and media marketing. Premix will be made available on continuous basis and cost will be allowed to be absorbed in the retail price.	

13. OPTION ANALYSIS – EDIBLE OÏL / GHEE - PAKISTAN – OPTION DETAILS

Option No. 1	Option Title: I. FULL PREMIX SUBSIDY MODEL	Edible Oil / Ghee – Pakistan

1. Description

For 2 to 3 years, full production of edible oil / ghee by refineries will be fortified through free premix supplied by the Program. In return, refineries will agree to fortify their full production of edible oil / ghee as per PSQCA Standards. Premix will be procured by the Program through Grants from bilateral international agency(s) and supplied through selected distribution entities. For Vitamin A and D required for fortification of edible oil / ghee in Pakistan appropriate suppliers are available, so procurement and supply are easier than for wheat flour.

1.1 Complexity of Design & Framework	1.2 Premix Supply Chain
The design is simple. Through PVMA, all in production edible oil / ghee refineries will be engaged under the Program. Expected challenges will be: i. Quick engagement with refineries; ii. Clarity on packaging requirements so that effects of fortification on the final product could be maintained for reasonable period of time; and iii. Quality assurance improvements at both refinery and PSQCA level.	Total production of edible oil / ghee in Pakistan by large edible refineries is in the range of 1.87 million ton per year. Annual market size of edible oil / ghee produced by large oil refineries of Pakistan is USD 2.5 billion (as per recent supply chain assessment). If total production of large oil refineries is fortified, it will cost around USD 5.26 million (recent fortification cost assessment of Pakistan). Accordingly, in case full fortification will subsidized the Program will be required to provide around 62,000 kg of premix each year, which will approximately cost USD 11.3 million for 3-year period, including premix and other fortification implementation costs. Vitamin A and D premix is readily available in Pakistani Market accordingly; Program could make local or international procurements and distribute the premix through existing distribution channels.
1.3 Role of Public Sector	**1.4 Role of Private Sector**
PSQCA and provincial food authorities and health departments will have to play following key roles: i. PSQCA need to review their licensing regulations especially related to edible oil / ghee; ii. Perform their quality assurance testing, compilation of reports and actions as per results; iii. Market price monitoring.	PVMA and their members will participate as part of the fortification program and make commitment that oil refineries will be producing properly fortified edible oil and ghee under the program, which will require appropriate consumption of premix provided by the Program, label the products appropriately and appropriate quality assurance testing is performed.
1.5 Branding of Fortified Product	**1.6 Marketing & Advocacy**
Since all edible oil / ghee produced by large oil refineries' will be fortified, there is no need for separate branding. Fortification of edible to PSQCA standards is mandatory and currently no separate branding is performed.	No marketing and advocacy required since oil refinery is not going to bear any cost for fortification. The fortification will be done of existing production, which is already sold in Market.
1.7 Cost to Consumers	**1.8 Quality Assurance**
Since whole cost of fortification will be subsidized, consumer will not have to bear any cost related to fortification for the period of the Program. There will not be any impact of fortification on the retail price of edible oil / ghee. Accordingly, various edible oil / ghee brands will not compete in price due to fortification cost.	Quality assurance will be performed at three levels: ii. At mill level by the private sector themselves, who will be keep records of tests performed; v. By PSQCA by sample testing at mills and in the market, and reporting to the Program to facilitate export; vi. By the program, to ensure premix provided by the is properly used; and Effective quality testing, reporting, communication and follow-up MIS to be implemented.

Option No. 1	Option Title: I. FULL PREMIX SUBSIDY MODEL		Edible Oil / Ghee – Pakistan
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.25 Medium**
2.1 Operational Risk	1	**2.2 Supplier Risk**	1
Low – because most the oil refineries involved in large-scale production of edible oil / ghee will become part of this program easily since: i. They will get premix for free; ii. PSQCA will ensure that all refineries participate in the program; and iii. In competition, refineries would like to participate because no one would like to leave behind in labeling their products as fortified. The monitoring of supply of premix is also not very complex. It will require only monitoring of one product. The distribution could be handled by private sector effectively, for which some good experienced players are available in Pakistan.		**Low** – We could engage with multiple international and local suppliers. In Pakistani market there are existing suppliers of Vitamin A and D.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	2
Medium – Since there is no cash or fund handling involved at program level. Only possibility of material fraud is in procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts. The premix subsidy will be provided in kind which could only be used for fortification of edible oil refineries. Premix could either be consumed for fortification or wasted, there is no other option. Another, potential areas of fraud under this option is around quality assurance in which case either refinery owners may misrepresent in quality tests results.		**Medium** – Under this proposal, the general impression about the Program will be that edible oil / ghee can only be fortified if subsidy is provided otherwise it cannot sustain. In case the quality of premix supplied by the Program is of low quality, which may lead to some kind of health issues, in general public, then it may bring significant reputational risk to the Program. However, this risk could be mitigated through proper pre-shipment quality assurance over premix supplied.	
2.5 Sustainability Risk	4	**2.6 Quality Assurance Risk**	3
Very High – based on experience until now in Pakistan and in other countries, generally subsidy based programs are not sustainable. As soon as subsidy goes away refineries will discontinue fortification because they cannot recover the cost of fortification. Although it is now proven that cost of fortification is very meager and cost should not be considered as an impediment for fortification, but quite often refineries use cost of fortification as one of the key justification for not doing fortification.		**High** – Since premix will be supplied for free, the refineries will not be motivated enough to ensure that premix is consumed in timely manner as per standards. Refineries may not vigilantly perform QA testing, recording and reporting.	

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL	Edible Oil / Ghee – Pakistan
1. Description		
For 2 to 3 years' full production of edible oil / ghee by large edible oil refineries will be fortified through free premix supplied by the Program on a declining basis three years:75% in the first year, 50% in the second and 25% in the third. Refineries will agree to fortify full production of edible oil / ghee to PSQCA Standards. The premix will be procured by the Program through Grant provided by the bilateral international agencies and supplied through selected distribution entities. For Vitamin A and D required for fortification of edible oil / ghee in Pakistan appropriate suppliers are available.		

<table>
<tr><td>Option No.
2</td><td colspan="2">Option Title:
II. PARTIAL PREMIX SUBSIDY MODEL</td><td colspan="2">Edible Oil / Ghee – Pakistan</td></tr>
<tr><td colspan="2">1.1 Complexity of Design & Framework</td><td colspan="3">1.2 Premix Supply Chain</td></tr>
<tr><td colspan="2">The design is simple. Through PVMA, all in production edible oil / ghee refineries will be engaged under the Program. Expected challenges will be:
i. Quick engagement with refineries;
ii. Clarity on packaging requirements so that effects of fortification on the final product could be maintained for reasonable period of time; and
iii. Quality assurance improvements at both refinery and PSQCA level.</td><td colspan="3">Estimated annual total production of edible oil / ghee in Pakistan by large edible refineries is in the range of 1.87 million tons, with an annual market size USD 2.5 billion (as per recent supply chain assessment). Fortifying all production by large oil refineries will cost around USD 5.26 million (as per recent fortification cost assessment).

Full fortification subsidized by the Program would require around 62,000 kg of premix each year, at a cost of approximately USD 11.3 million for 3-year period, including premix and other fortification implementation costs.

Vitamin A and D premix is readily available in Pakistani Market accordingly; Program could make local or international procurements and distribute the premix through existing distribution channels.</td></tr>
<tr><td colspan="2">1.3 Role of Public Sector</td><td colspan="3">1.4 Role of Private Sector</td></tr>
<tr><td colspan="2">PSQCA and provincial food authorities and health departments will have to play following key roles:
iv. PSQCA need to review their licensing regulations especially related to edible oil / ghee;
v. Perform their quality assurance testing, compilation of reports and actions as per results;
vi. Market price monitoring.</td><td colspan="3">PVMA and their members will participate as part of the fortification program and make commitment that oil refineries will be producing properly fortified edible oil and ghee under the program, which will require appropriate consumption of premix provided by the Program, label the products appropriately and appropriate quality assurance testing is performed.</td></tr>
<tr><td colspan="2">1.5 Branding of Fortified Product</td><td colspan="3">1.6 Marketing & Advocacy</td></tr>
<tr><td colspan="2">Since all edible oil / ghee produced by large oil refineries' will be fortified, there is no need for separate branding. The fortification of edible as per PSQCA standards is mandatory and currently no separate branding is performed.</td><td colspan="3">No marketing and advocacy required since oil refinery is not going to bear any cost for fortification. The fortification will be done of existing production, which is already sold in Market.</td></tr>
<tr><td colspan="2">1.7 Cost to Consumers</td><td colspan="3">1.8 Quality Assurance</td></tr>
<tr><td colspan="2">Since partial cost of fortification will be subsidized, consumer will not have to bear the whole cost related to fortification for the period of the Program. There will be limited impact of fortification on the retail price of edible oil / ghee. Accordingly, various edible oil / ghee brands will not compete in price due to fortification cost.</td><td colspan="3">Quality assurance will be performed at three levels:
i. At refinery level by private sector themselves. They will be required to keep records of tests performed and related results;
ii. Sample testing by PSQCA and reporting thereon. The samples to be picked from refineries and also from open market at retail level;
iii. The program will also perform its own sample testing both at refinery and retail level to ensure that the premix provided by the Program is properly used:
iv. Effective quality testing, reporting, communication and follow-up MIS to be developed and implemented.</td></tr>
<tr><td colspan="2">2. Risk Assessment</td><td colspan="2">Overall Risk Assessment Score
(1 to 4 where 1 lowest risk and 4 is highest risk)</td><td>1.65
Low to Medium</td></tr>
<tr><td>2.1 Operational Risk</td><td>1</td><td colspan="2">2.2 Supplier Risk</td><td>1</td></tr>
<tr><td colspan="2">Low – because most the oil refineries involved in large-scale production of edible oil / ghee will become part of this</td><td colspan="3">Low – We could engage with multiple international and local suppliers. In Pakistani market there are existing</td></tr>
</table>

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL		Edible Oil / Ghee – Pakistan
program since: i. They will get premix for free; ii. PSQCA will ensure that all refineries participate in the program; and iii. In competition, refineries would like to participate because no one would like to leave behind in labeling their products as fortified. The monitoring of supply of premix is also not very complex. It will require only monitoring of one product. The distribution could be handled by private sector effectively, for which some good experienced players are available in Pakistan.		suppliers of Vitamin A and D.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	2
Medium – Since there is no cash or fund handling involved at program level. Only possibility of material fraud is in procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts. The premix subsidy will be provided in kind which could only be used for fortification of edible oil refineries. Premix could either be consumed for fortification or wasted, there is no other option. Another, potential areas of fraud under this option is around quality assurance in which case either refinery owners may misrepresent in quality tests results.		**Medium** – Under this proposal, the general impression about the Program will be that edible oil / ghee can only be fortified if subsidy is provided otherwise it cannot sustain. In case the quality of premix supplied by the Program is of low quality, which may lead to some kind of health issues, in general public, then it may bring significant reputational risk to the Program. However, this risk could be mitigated through proper pre-shipment quality assurance over premix supplied.	
2.5 Sustainability Risk	2	**2.6 Quality Assurance Risk**	2
Medium – based on experience until now in Pakistan and in other countries, generally subsidy based programs are not sustainable. As soon as subsidy goes away refineries will discontinue fortification on the ground that they cannot recover the cost of fortification. However, as part of this option subsidy will be partial and oil refinery owners will also have to incur fortification cost initially which will be recovered from the customers.		**Medium** – Since premix will be supplied for free, the refineries will not be motivated enough to ensure that premix is consumed in timely manner as per standards. Refineries may not vigilantly perform QA testing, recording and reporting.	

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL	Edible Oil / Ghee – Pakistan

1. Description

Under this option, a revolving fund will be established under joint supervision of Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan, PSQCA and Program Management. The funds will be allocated by the bilateral donor(s). The objective of the fund will be as follows:

i. Procurement of premix and implement an effective supply chain in the country through private sector participation for a period of 3 to 4-year period;
ii. Provide premix to edible oil refineries on short term credit period (maximum 6-month period);
iii. Revolving fund will do social and media marketing for fortified edible oil and ghee which will generate demand for fortified edible oil / ghee;
iv. Monitoring of the supply chain of premix and also fortified edible oil / ghee through an integrated MIS;
v. Quality Assurance will be managed by PSQCA through extended and more detailed testing, recording and reporting;
vi. Cost of fortification which is very meager, only 0.21% of the current retail price, will be passed to the consumers as part of retail price; and
vii. Revolving fund will monitor the edible oil / ghee retail price to ensure that refineries should not make abnormal profits in the name of the fortification.

This option addresses impediments to fortification highlighted by the private sector and set out in previous models.

1.1 Complexity of Design & Framework	1.2 Premix Supply Chain
The design is complex due to following reasons: i. Legal and organizational aspects of Revolving Fund; ii. Detail supply chain of premix along with fund management related collection of payments from refineries after lapse of defined period; and iii. Social marketing and media campaigns.	Total production of edible oil / ghee in Pakistan by large refineries is in the range of 1.87 million ton per year. Annual market size of edible oil / ghee produced by large oil refineries of Pakistan is USD 2.5 billion (as per recent supply chain assessment). If fullproduction of large oil refineries is fortified it will cost around USD 5.26 million (as per recent fortification cost assessment of Pakistan). The Program will be required to provide around 62,000 kg of premix each year with annual cost of USD 3.77 million. Accordingly, this will a revolving fund of around USD 3.8 million including 9 month requirement of premix plus 35% operational cost. Vitamin A and D premix is readily available in Pakistani Market accordingly; Program could make local or international procurements and distribute the premix through existing distribution channels.
1.3 Role of Public Sector	**1.4 Role of Private Sector**
PSQCA and provincial food authorities and health departments will have to play following key roles: i. PSQCA need to review their licensing regulations especially related to edible oil / ghee; ii. Perform their quality assurance testing, compilation of reports and actions as per results; and iii. Market price monitoring.	PVMA and their members will participate as part of the fortification program and make commitment that oil refineries will be producing properly fortified edible oil and ghee under the program, which will require appropriate consumption of premix provided by the Program, label the products appropriately and appropriate quality assurance testing is performed.
1.5 Branding of Fortified Product	**1.6 Marketing & Advocacy**
Since all edible oil / ghee produced by large oil refineries' will be fortified, there is no need for separate branding. The fortification of edible as per PSQCA standards is mandatory and currently no separate branding is performed.	No marketing and advocacy required since oil refinery is not going to bear any cost for fortification. The fortification will be done of existing production, which is already sold in Market.
1.7 Cost to Consumers	**1.8 Quality Assurance**
The cost of fortification will be transferred to the consumers	Quality assurance will be performed at three levels:

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL		Edible Oil / Ghee – Pakistan
as part of retail price.		i. At refinery level by private sector themselves. They will be required to keep records of tests performed and related results; ii. Sample testing by PSQCA and reporting thereon. The samples to be picked from refineries and also from open market at retail level; iii. The program will also perform its own sample testing both at refinery and retail level to ensure that the premix provided by the Program is properly used or not; and iv. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.05 Medium**
2.1 Operational Risk	3	**2.2 Supplier Risk**	1
High – because not all oil refinery owners may participate in the program but most of the large big players will become part of this process due to availability of premix on credit and branding. There are number of work streams involved in this process including fund creation, procurement and supply of premix, quality assurance, social marketing etc.		**Low** – We could engage with multiple international suppliers. Local distribution mechanisms are available.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	2
Medium – Since there is involvement of collection of funds from oil refineries this makes this option medium in fiduciary risk. There is also risk in procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts. Another, potential area of fraud for this option is around quality assurance in which case either the refineries may misrepresent quality tests performed and / or influence independent quality assurance testing. Again, this risk is also assessed as limited since there is no quality assurance condition attached with the supply of premix to the miller.		**Medium** – Under this option, the general impression about the Program will be that the structure of program is integrated and it is addressing all key elements all together. The partnership of all key stakeholders will be in place. Accordingly, the reputational risk is low.	
2.5 Sustainability Risk	1	**2.6 Quality Assurance Risk**	2
Low – This option does not have subsidy element, further all core known impediment are simultaneously addressed.		**Medium** – Program will work closely with PSQCA for improvement in Quality Assurance activities and Program will itself perform quality assurance testing at refinery and retail level. MIS will be developed and implemented for quick result delivery, monitoring and actions.	

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL	Edible Oil / Ghee – Pakistan
1. Description		
Under this option, a premix and quality revolving fund will be established under Pakistan Vanaspati Manufacturer's Association (PVMA) to be jointly monitored by Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan and PSQCA. The funds will be allocated by the multilateral or bilateral donor(s). The objective of the fund will be as follows: i. Identify key exporters of edible oil from Pakistan to Afghanistan;		

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL	Edible Oil / Ghee – Pakistan

ii. Develop a premix procurement plan on the basis of data collection from refineries about exports to Afghanistan during the period July 2017 to December 31, 2018
iii. Procure the premix as per demand estimates identified in the procurement plan.
iv. Agree on the price of premix with oil refineries;
v. Provide premix to identified refineries on short term credit period (maximum 6-month period);
vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan;
vii. Monitoring the supply chain of premix and also fortified edible oil through an integrated MIS;
viii. Develop a Quality Assurance process for the exports to be made to Afghanistan. This may include pre-shipment testing of the export consignments;
ix. Perform QA testing as per defined process and take action in case of non-compliance with standards. Coordination will be done with ANSA in Afghanistan in this regard;
x. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and
xi. Cost of fortification which is very meager, only 0.16% of the current retail price, will be passed to the consumers as part of retail price.

The fund will coordinate with Afghanistan, Ministry of Finance, Afghanistan and ANSA along with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, and with Pakistan Country level wheat flour fortification program so that when large-scale edible oil / ghee fortification program is initiated for exports from Pakistan to Afghanistan in accordance with standards defined by ANSA.

1.1 Complexity of Design & Framework	**1.2 Premix Supply Chain**
The design is complex due to following reasons: i. Legal and organizational aspects of Revolving Fund; ii. Detail supply chain of premix along with fund management related collection of payments from refineries after lapse of defined period; and iii. Social marketing and media campaigns.	Total production of edible oil / ghee in Pakistan by large refineries is in the range of 1.87 million ton per year. Annual market size of edible oil / ghee produced by large oil refineries is USD 2.5 billion (as per recent supply chain assessment). If all production of large oil refineries is fortified, it will cost around USD 5.26 million (recent fortification cost assessment of Pakistan) and the Program will be required to provide around 62,000 kg of premix each year with annual cost of USD 3.77 million. Accordingly, this will a revolving fund of around USD 3.8 million including 9 month requirement of premix plus 35% operational cost. Vitamin A and D premix is readily available in Pakistani Market accordingly; Program could make local or international procurements and distribute the premix through existing distribution channels.
1.3 Role of Public Sector	**1.4 Role of Private Sector**
PSQCA and provincial food authorities and health departments will have to play following key roles: i. PSQCA need to review their licensing regulations especially related to edible oil / ghee; ii. Perform quality assurance testing, compilation of reports and actions as per results; and iii. Market price monitoring.	PVMA will establish the fund and members will engage with the Program under agreement. Provide refineries premix as per quarterly demand per their production and export plan. Secure supplies from distributors nominated by the Program. Print nutritional facts on the bags. Provide production statistics so premix consumption cam be monitored. PVMA will coordinate and take responsibility for payment of premix after completion of 6 months from the data of delivery of premix.
1.5 Branding of Fortified Product	**1.6 Marketing & Advocacy**
As all edible oil/ghee produced by large refineries will be fortified, there is no need for separate branding.	No marketing and advocacy is required as oil refineries will not bear fortification cost.
1.7 Cost to Consumers	**1.8 Quality Assurance**
The cost of fortification will be transferred to the consumers as part of retail price.	Quality assurance will be performed at: i. Refinery level by the private sector who will keep records of tests performed and results; ii. By PSQCA at refinery and market level, with testing extended substantially to periodically

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL		Edible Oil / Ghee – Pakistan
		assess fortification levels. PSQCA will provide QA certificates to exporters based upon which consignments can cross the border; iii. By the program at at refinery and retail level to ensure that the premix is properly used; and iv. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**1.75 Low to Medium**
2.1 Operational Risk	2	**2.2 Supplier Risk**	1
Medium – because not all oil refinery owners may participate in the program but most of the large big players will become part of this process due to availability of premix on credit and branding. The fund will be cerated in private sector under PVMA accordingly, it is expected to easier to establish and manage. The critical matter will be monitoring of the fund by parties independent of PVMA and oil refineries.		**Low** – We could engage with multiple international suppliers. Local distribution mechanisms are available.	
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	2
Medium – Since there is involvement of collection of funds from oil refineries this makes this option medium in fiduciary risk. There is also risk in procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts. Another, potential area of fraud for this option is around quality assurance in which case either the refineries may misrepresent quality tests performed and / or influence independent quality assurance testing. Again, this risk is also assessed as limited since there is no quality assurance condition attached with the supply of premix to the miller.		**Medium** – Under this option, the general impression about the Program will be that the structure of program is integrated and it is addressing all key elements all together. The partnership of all key stakeholders will be in place. Accordingly, the reputational risk is low.	
2.5 Sustainability Risk	1	**2.6 Quality Assurance Risk**	1
Low – This option does not have subsidy element, further all core known impediment are simultaneously addressed.		**Low** – Program will work closely with PSQCA for improvement in Quality Assurance activities and perform quality assurance testing at refinery and retail level. MIS will be developed and implemented for quick result delivery, monitoring and actions. PSQCA under the program will enhance the level of testing, recording and reporting substantially.	

14. OPTION ANALYSIS – EDIBLE OÏL / GHEE – AFGHANISTAN – SUMMARY

Option	Option Title and Description	Risk Assessment Score
1	**Full Premix Subsidy Model** The dynamics of edible oil / ghee exports to Afghanistan are substantially different to wheat flour, carried out by 6 to 8 refineries in Baluchistan and KPK. These exports are all officially done since exports are required to claim refund of import custom duties subsequent to export of finished products. The quality assurance of edible oil / ghee is controlled by PSQCA in Pakistan under whose quality assurance license oil refining and packaging is done. A comparatively simpler structure is proposed on exports of edible oil / ghee to Afghanistan. The	**2.80 Medium to High**

Option	Option Title and Description	Risk Assessment Score
	range of annual export quantity of edible oil / ghee to Afghanistan is in the range of 80,000 MT to 115,000 MT out of which around 60,000 MT to 86,250 MT is exported by the large refineries. These exporters are already fortifying their products to Pakistan standards, but it is not done on consistent basis. All products are labelled as fortified with Vitamin A. As part of this option, it is proposed that exports from large edible oil refineries of Pakistan to Afghanistan will be fortified through free premix supplied by the Program. Refineries will agree to fortify their exports to Afghanistan to agreed standards. The program will procure and supply premix, prescribe labelling, perform pre-shipment QA testing and provide certificate to allow consignments into Afghanistan. This program will be implemented in coordination with PSQCA under supervision of the Afghanistan MoPH. The Program will develop contacts with Edible Oil / Ghee importers in Afghanistan and exporters in Pakistan to convince them to demand and supply only fortified Edible Oil / Ghee. The potential cost of fortification will be communicated so that fortification is not an impediment in price decisions.	
2	**Partial Premix Subsidy Model** This option is similar to Option 1 above, but the premix is partially subsidised. As part of this option, it is proposed that exports from large edible oil refineries of Pakistan to Afghanistan will be fortified through partial free premix supplied by the program. Refineries will agree to fortify exports to Afghanistan to agreed standards. Premix will be procured and supplied by the program, with 50% of the cost of premix required.	**1.65** **Low to Medium**
3	**Premix Revolving Fund Model** Under this option, a premix revolving fund will be established under Pakistan Vanaspati Manufacturer's Association (PVMA) to be jointly monitored by Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan and PSQCA. The funds will be allocated by the multilateral or bilateral donor(s). The objective of the fund will be as follows: i. Identify key exporters of edible oil from Pakistan to Afghanistan; ii. Develop a premix procurement plan on the basis of data collection from refineries about exports to Afghanistan during the period July 2017 to December 31, 2018 iii. Procure the premix as per demand estimates identified in the procurement plan. iv. Agree on the price of premix with oil refineries; v. Provide premix to identified refineries on short term credit period (maximum 6-month period); vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan; vii. Monitoring the supply chain of premix and also fortified edible oil through an integrated MIS; viii. Develop a Quality Assurance process for the exports to be made to Afghanistan. This may include pre-shipment testing of the export consignments; ix. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and x. Cost of fortification which is very meager, only 0.16% of the current retail price, will be passed to the consumers as part of retail price. The fund will also coordinate with Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan and with Pakistan Country level wheat flour fortification program so that when large-scale edible oil / ghee fortification program is initiated for exports from	**1.70** **Low to Medium**

Option	Option Title and Description	Risk Assessment Score
	Pakistan to Afghanistan in accordance with standards defined by ANSA.	
4	**Premix & Quality Revolving Fund Model** Under this option, a premix and quality revolving fund will be established under Pakistan Vanaspati Manufacturer's Association (PVMA) to be jointly monitored by Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan and PSQCA. The funds will be allocated by the multilateral or bilateral donor(s). The objective of the fund will be as follows: i. Identify key exporters of edible oil from Pakistan to Afghanistan; ii. Develop a premix procurement plan on the basis of data collection from refineries about exports to Afghanistan during the period July 2017 to December 31, 2018 iii. Procure the premix as per demand estimates identified in the procurement plan. iv. Agree on the price of premix with oil refineries; v. Provide premix to identified refineries on short term credit period (maximum 6-month period); vi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan; vii. Monitoring the supply chain of premix and also fortified edible oil through an integrated MIS; viii. Develop a Quality Assurance process for the exports to be made to Afghanistan. This may include pre-shipment testing of the export consignments; ix. Perform QA testing as per defined process and take action in case of non-compliance with standards. Coordination will be done with ANSA in Afghanistan in this regard; x. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and xi. Cost of fortification which is very meager, only 0.16% of the current retail price, will be passed to the consumers as part of retail price.	**1.30** **Low**

15. OPTION ANALYSIS – EDIBLE OIL / GHEE – AFGHANISTAN – OPTION DÉTAILS

<table>
<tr><td>Option No.
1</td><td>Option Title:
I. FULL PREMIX SUBSIDY MODEL</td><td>Edible Oil / Ghee – Afghanistan</td></tr>
<tr><td colspan="3">1. Description</td></tr>
<tr><td colspan="3">This option proposes that exports from large edible oil refineries of Pakistan to Afghanistan will be fortified through free premix supplied by the Program and refiners will agree to fortify their exports to Afghanistan as per agreed standards, the premix will be procured and supplied by the program, labelling of the export will be done as per label prescribed by the Program, Program will perform pre-shipment QA testing and provide certificate based on consignments will be allowed to cross border into Afghanistan. Since, in Pakistan Edible Oil / Ghee is regulated by PSQCA this program will be implemented in coordination with PSQCA. The Program will be implemented under supervision of the Ministry of Public Health, Afghanistan.The Program will develop contacts with Edible Oil / Ghee importers in Afghanistan and exporters in Pakistan to convince them to demand and supply only fortified Edible Oil / Ghee. The potential cost of fortification will be communicated so cost of fortification is not considered an impediment in price decisions.</td></tr>
<tr><td colspan="2">1.1 Complexity of Design & Framework</td><td>1.2 Premix Supply Chain</td></tr>
<tr><td colspan="2">The design is comparatively simple since the program will work directly with refineries directly exporting their products to Afghanistan through formal channels. The program will coordinate with number of public sector</td><td>As per estimates of the exports from Pakistan to Afghanistan the estimate of the annual premix required to fortify full exports to Afghanistan is as follows depending on the various standards:</td></tr>
</table>

Option No. 1	Option Title: I. FULL PREMIX SUBSIDY MODEL	Edible Oil / Ghee – Afghanistan

entities simultaneously on the following matters: i. Discussions with Ministry of Public Health, Afghanistan about the design of the program including aspects of standards, premix subsidy, QA process, labeling, advocacy with importers and exporters etc. MoPH to take a lead ministerial role for the implementation of this Program and appoint fortification champion and project lead; ii. Under the leadership of MoPH champion discussion will need to take place with Ministry of Finance and ANSA including matters related to bordere control, QA testing and reporting etc. iii. The program will coordinate with PSQCA with respect to more stringent and effective QA testing for export consignment to Afghanistan; iv. The Program will interact with PVMA representatives and with refineries involved in export of edible oil / Ghee to Afghanistan. v. Program will develop the implementation plan, which will be monitored by MoPH.	▪ As per ANSA Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 106,623 to USD 153,271. ▪ As per Pakistan Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 120,483 to USD 173,194. Accordingly, if full premix is subsidized for 2 years as per current ANSA Standards in total 2,846 KG maximum premix will be required to be supplied to the Edible Oil / Ghee by the Program. The cost of said premix will be in the range of USD 346,388.
1.3 Role of Public Sector	**1.4 Role of Private Sector**
The public sector will lead coordination between ministries and departments at theborder; Supervise implementation by MoPH Afghanistan, and approve QA plan, Labeling and border crossing procedures.	PVM and related members to become members of the Program and ensure that they fortify their exports to Afghanistan as per specified standards, facilitate QA testing, label their products appropriately and participate in consultative sessions.
1.5 Branding of Fortified Product	**1.6 Marketing & Advocacy**
The program will develop a label and branding strategy in consultation with key public and private sector partners, conducting educational sessions at both sides of the border Post production checks will be ensure compliance with labeling requirements by the staff of the Program. This will be done through MoPH staff also in Afghanistan.	Marketing and advocacy will be limited to Afghan Importers and Pakistani Exporters and will relate to the importance of fortification. Fortification cost and prices should be negotiated without considering cost of fortification as impediment and labeling of the products and clearance at border posts.
1.7 Cost to Consumers	**1.8 Quality Assurance**
For first two years when the cost of fortification will be borne by the program not cost will be passed to the consumer. Afterward, the actual cost will be transferred.	Quality assurance will be performed at three levels: i. At refinery level by private sector themselves. They will be required to keep records of tests performed and related results; ii. Sample testing by PSQCA and reporting there from to the Program and to the refineries export facilitation at the Border. The samples to be picked from mills and also from open market at retail level; iii. The program will also perform its own sample testing both at refinery and retail level to ensure that the premix provided by the Program is properly used or not; and iv. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented.

2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**2.80 Medium to High**
2.1 Operational Risk	2	**2.2 Supplier Risk**	1

Option No. 1	Option Title: I. FULL PREMIX SUBSIDY MODEL	Edible Oil / Ghee – Afghanistan

Medium – Number of public sector partners are involved especially in current geo political scenario it is very complex and any event could affect the coordination of the program and trade between two countries.	**Low** – Premix will be procured by the Program and will be supplied in Kind for two years.
2.3 Fiduciary Risk 3	**2.4 Reputational Risk** 3
High – Since there is no cash or fund handling involved at program level. Only possibility of large fraud is in procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts. The premix subsidy will be provided in kind which could only be used for fortification of wheat flour. Premix could either be consumed for fortification or wasted there is no other option. Another, potential areas of fraud this model is around quality assurance in which case either the miller may misrepresent quality tests performed and / or influence independent quality assurance testing. Again, this risk is also assessed as limited since there is no quality assurance condition attached with the supply of premix to the miller.	**High**– Under this proposal the general impression about the Program will be that edible oil / ghee can only be fortified if subsidy is provided otherwise it cannot sustain. In case the quality of premix supplied by the Program is of low quality, which may lead to some kind of health issues, in general public, then it may bring significant reputational risk to the Program. However, this risk could be mitigated through proper pre-shipment quality assurance over premix supplied.
2.5 Sustainability Risk 4	**2.6 Quality Assurance Risk** 3
Very High – based on experiences until now in Pakistan and in other countries generally subsidy based programs are not sustainable. As soon as subsidy goes away refineries will discontinue fortification because they cannot recover the cost. It has been proved that cost should not be considered as an impediment for fortification, but refineries often use it as a justification for not doing fortification.	**High** – Since shipments will only be exported on receipt of the satisfactory QA test results the millers will be motivated to ensure quality. Still this process will be prone to manipulated test results. However, program will implement testing structure in a way to minimize the risk of manipulation.

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL	Edible Oil / Ghee – Afghanistan

1. Description

This option is similar to Option 1 above, but the premix is partially subsidised. As part of this option, it is proposed that exports from large edible oil refineries of Pakistan to Afghanistan will be fortified through partial free premix supplied by the program. Refineries will agree to fortify exports to Afghanistan to agreed standards. Premix will be procured and supplied by the program, with 50% of the cost of premix required.

1.1 Complexity of Design & Framework	**1.2 Premix Supply Chain**
The program will work directly with the refineries who directly exporting their products to Afghanistan through formal channels, coordinating with public sector entities simultaneously on: i. Discussions with Ministry of Public Health, Afghanistan about the design of the program including aspects of standards, premix subsidy, QA process, labeling, advocacy with importers and exporters etc. MoPH to take a lead ministerial role for the implementation of this Program and appoint fortification champion and project lead from their end; ii. Under the leadership of MoPH champion discussion	As per estimates of the exports from Pakistan to Afghanistan the estimate of the annual premix required to fortify full exports to Afghanistan is as follows depending on the various standards: ▪ As per ANSA Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 106,623 to USD 153,271. ▪ As per Pakistan Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 120,483 to USD 173,194.

<table>
<tr><td>Option No.
2</td><td>Option Title:
II. PARTIAL PREMIX SUBSIDY MODEL</td><td colspan="2">Edible Oil / Ghee – Afghanistan</td></tr>
<tr><td colspan="2">will need to take place with Ministry of Finance and ANSA including matters related to bordere control, QA testing and reporting etc.
iii. The program will coordinate with PSQCA with respect to more stringent and effective QA testing for export consignment to Afghanistan;
iv. The Program will interact with PVMA representatives and also with identified refineries involved in export of edible oil / Ghee to Afghanistan.
v. Program will develop the implementation plan, which will be monitored by MoPH.
Complexity is increased by the design and implementation of the partial premix subsidy.</td><td colspan="2">Accordingly, if full premix is subsidized for 2 years as per current ANSA Standards in total 2,846 KG maximum premix will be required to be supplied to the Edible Oil / Ghee by the Program. The cost of said premix will be in the range of USD 173,194 to the extent of 50% of subsidy.</td></tr>
<tr><td colspan="2">1.3 Role of Public Sector</td><td colspan="2">1.4 Role of Private Sector</td></tr>
<tr><td colspan="2">The public sector will lead coordination between public sector ministries and departments at both sides of the border, supervise implementation of the program and MoPH and approve QA plan, Labeling Strategy and border crossing procedures for edible oil / ghee.</td><td colspan="2">PVMA and related members to become members of the Program and ensure that they fortify their exports to Afghanistan as per specified standards, facilitate QA testing, label their products appropriately and participate in consultative sessions.</td></tr>
<tr><td colspan="2">1.5 Branding of Fortified Product</td><td colspan="2">1.6 Marketing & Advocacy</td></tr>
<tr><td colspan="2">The program will develop a product label and branding strategy in consultation with key public sector and private sector partners. Educational sessions will be conducted at both sides of the borderes. Post production Labeling checks will be performed to ensure compliance with labeling requirements by the staff of the Program. This will be done through MoPH staff also in Afghanistan.</td><td colspan="2">Marketing and advocacy will be limited to Afghan Importers and Pakistani Exporters only. This will be related to importance of fortification, facilitation to be provided by the program, cost of fortification and prices should be negotiated without considering cost of fortification as impediment and labeling of the products and clearance at border posts.</td></tr>
<tr><td colspan="2">1.7 Cost to Consumers</td><td colspan="2">1.8 Quality Assurance</td></tr>
<tr><td colspan="2">For first two years when the cost of fortification will be partially borne by the program, only partial cost of fortification will be passed to the consumers. Afterward, the total cost will be transferred.</td><td colspan="2">Quality assurance will be performed at three levels:
i. At refinery level by private sector themselves. They will be required to keep records of tests performed and related results;
ii. Sample testing by PSQCA and reporting there from to the Program and to the refineries export facilitation at the Bordere. The samples to be picked from mills and also from open market at retail level;
iii. The program will also perform its own sample testing both at refinery and retail level to ensure that the premix provided by the Program is properly used or not; and
iv. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented.</td></tr>
<tr><td colspan="2">2. Risk Assessment</td><td>Overall Risk Assessment Score
(1 to 4 where 1 lowest risk and 4 is highest risk)</td><td>1.65
Low to Medium</td></tr>
<tr><td>2.1 Operational Risk</td><td>2</td><td>2.2 Supplier Risk</td><td>1</td></tr>
<tr><td colspan="2">Medium – The number of public sector partners involved, especially in the current geopolitical scenario , could affect the coordination of the program and trade between two countries.</td><td colspan="2">Low – Premix will be procured by the Program and will be supplied in Kind for two years.</td></tr>
</table>

Option No. 2	Option Title: II. PARTIAL PREMIX SUBSIDY MODEL		Edible Oil / Ghee – Afghanistan
2.3 Fiduciary Risk	2	**2.4 Reputational Risk**	1
Medium – Since there is to be cash / fund handing for recovery of 50% of the premix cost from the refineries. There is potential of fraud in procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts. The premix subsidy will be provided in kind and could only be used for fortification or wasted. Another, potential area of fraud is around quality assurance in which case either the refinery may misrepresent quality tests performed and / or influence independent quality assurance testing.		**Low** – Under this proposal, the general impression about the Program will be that edible oil / ghee can only be fortified if subsidy is provided otherwise it cannot sustain. In case the quality of premix supplied by the Program is of low quality, which may lead to some kind of health issues, in general public, then it may bring significant reputational risk to the Program. However, this risk could be mitigated through proper pre-shipment quality assurance over premix supplied.	
2.5 Sustainability Risk	2	**2.6 Quality Assurance Risk**	1
Medium – based on experiences until now in Pakistan and in other countries generally subsidy based programs are not sustainable. Once the subsidy goes away refineries will discontinue fortification on the ground that they cannot recover the cost. While it has been proved that cost of fortification not an impediment for fortification, quite often refineries use cost of fortification as one of the key justification for not doing fortification. Since as part of this option the subsidy level will be 50% the refineries will be looking recovery of at least 50% of cost from the consumers this may lead of some level of sustainability.		**Low** – Since shipments will only be exported on receipt of the satisfactory QA test results the millers will be motivated to ensure quality. Still this process will be prone to manipulated test results. However, program will implement testing structure in a way to minimize the risk of manipulation.	

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL	Edible Oil / Ghee – Afghanistan

1. Description

In this option, a premix revolving fund will be established under Pakistan Vanaspati Manufacturer's Association (PVMA) to be jointly monitored by Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan and PSQCA. The funds will be allocated by the multilateral or bilateral donor(s). The fund will:

xi. Identify key exporters of edible oil from Pakistan to Afghanistan;
xii. Develop a premix procurement plan on the basis of data collection from refineries about exports to Afghanistan during the period July 2017 to December 31, 2018
xiii. Procure the premix as per demand estimates identified in the procurement plan.
xiv. Agree on the price of premix with oil refineries;
xv. Provide premix to identified refineries on short term credit period (maximum 6-month period);
xvi. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan;
xvii. Monitoring the supply chain of premix and also fortified edible oil through an integrated MIS;
xviii. Develop a Quality Assurance process for the exports to be made to Afghanistan. This may include pre-shipment testing of the export consignments;
xix. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and
xx. Cost of fortification which is very meager, only 0.16% of the current retail price, will be passed to the consumers as part of retail price.

The fund will coordinate with Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan and with Pakistan Country level wheat flour fortification program so that when large-scale edible oil / ghee fortification program is initiated for exports from Pakistan to Afghanistan, it is in accordance with ANSA standards

1.1 Complexity of Design & Framework	1.2 Premix Supply Chain
The design is complex due to following reasons: i. Legal and organizational aspects of Revolving Fund;	As per estimates of the exports from Pakistan to Afghanistan the estimate of the annual premix required to

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL		Edible Oil / Ghee – Afghanistan
ii. Detail supply chain of premix along with fund management related collection of payments from refineries after lapse of defined period; and iii. Coordination with number of stakeholders.	fortify full exports to Afghanistan is as follows depending on the various standards: ▪ As per ANSA Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 106,623 to USD 153,271. ▪ As per Pakistan Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 120,483 to USD 173,194. Accordingly, the value of revolving fund is proposed to be equal to USD 76.635. This will be enough to provide premix to the extent of 6 monthly requirements of the refineries as per ANSA Standards.		
1.3 Role of Public Sector	**1.4 Role of Private Sector**		
i. Monitoring of the funds managed by PMVA by Pakistan authorities ii. Coordination with Ministry of Public Health, Afghanistan and ANSA. i.	PVMA will establish the fund and members will engage with the Program. Provide refineries premix as per their quarterly demand and export plan. Secure supplies from distributors nominated by the Program. Print nutritional facts on the bags. Provide production statistics to the Program. PVMA will coordinate and take responsibility for payment of premix after completion of 6 months from the data of delivery of premix.		
1.5 Branding of Fortified Product	**1.6 Marketing & Advocacy**		
Labelling will be provided by Program, which will be marked on all bags.	Marketing and advocacy will be limited to Afghan Importers and Pakistani Exporters and relate to importance of fortification.		
1.7 Cost to Consumers	**1.8 Quality Assurance**		
The cost of fortification will be transferred to the consumer through retail price.	Quality assurance will be performed at three levels: i. At refinery level by private sector themselves. They will be required to keep records of tests performed and related results; ii. The program will also perform its own sample testing both at refinery and retail level to ensure that the premix provided by the Program is properly used or not; and iii. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented.		
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**1.70 Low to Medium**
2.1 Operational Risk	2	**2.2 Supplier Risk**	1
Medium — because not all oil refinery owners may participate in the program but most of the large big players will become part of this process due to availability of premix on credit and branding. The fund will be created in private sector under PVMA accordingly, it is expected to easier to establish and manage. The critical matter will be monitoring of the fund by parties independent of PVMA and oil refineries.		**Low** – considering the size of the quantities required procurement could be made through one supplier.	
2.3 Fiduciary Risk	1	**2.4 Reputational Risk**	1
Low – Since there is involvement of collection of funds		**Low** – Under this proposal, the general impression about	

Option No. 3	Option Title: III. PREMIX REVOLVING FUND MODEL		Edible Oil / Ghee – Afghanistan
from refineries all premix will be provided in Kind. There is risk of procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts.		the Program will be that the structure of program is integrated and it is addressing all key elements all together. The partnership of all key stakeholders will be in place. Accordingly, the reputational risk is low.	
2.5 Sustainability Risk	1	**2.6 Quality Assurance Risk**	3
Low – This option does not have subsidy element, further all core known impediment are simultaneously addressed.		**High** – Premix will be supplied on credit and there is no pre- shipment quality assurance testing required. Accordingly, there is high risk that millers may not do fortification as per standards on consistent basis.	

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL	Edible Oil / Ghee – Afghanistan

1. Description

Under this option, a premix and quality revolving fund will be established under Pakistan Vanaspati Manufacturer's Association (PVMA) to be jointly monitored by Federal Ministry of National Health Services, Regulations and Coordination, Planning Commission of Pakistan and PSQCA. The funds will be allocated by the multilateral or bilateral donor(s). The objective of the fund will be as follows:

xiii. Identify key exporters of edible oil from Pakistan to Afghanistan;
xiv. Develop a premix procurement plan on the basis of data collection from refineries about exports to Afghanistan during the period July 2017 to December 31, 2018
xv. Procure the premix as per demand estimates identified in the procurement plan.
xvi. Agree on the price of premix with oil refineries;
xvii. Provide premix to identified refineries on short term credit period (maximum 6-month period);
xviii. Revolving fund will coordinate between the Afghanistan authorities including ANSA, Ministry of Public Health, Afghanistan and Pakistani exporters about export of wheat flour from Pakistan to Afghanistan;
xix. Monitoring the supply chain of premix and also fortified edible oil through an integrated MIS;
xx. Develop a Quality Assurance process for the exports to be made to Afghanistan. This may include pre-shipment testing of the export consignments;
xxi. Perform QA testing as per defined process and take action in case of non-compliance with standards. Coordination will be done with ANSA in Afghanistan in this regard;
xxii. Product label will be prescribed by the Program to the millers for compliance. In this regard the fund will also coordinate with authorities in Afghanistan for acceptance of fortification logo; and
xxiii. Cost of fortification which is very meager, only 0.16% of the current retail price, will be passed to the consumers as part of retail price.

The fund will also coordinate with Afghanistan, Ministry of Finance, Afghanistan and ANSA in coordination with PSQCA, Export Promotion Bureau of Pakistan and Ministry of National Health Services, Regulation and Coordination, Pakistan and with Pakistan Country level wheat flour fortification program so that when large-scale edible oil / ghee fortification program is initiated for exports from Pakistan to Afghanistan are in accordance with ANSA standards.

1.1 Complexity of Design & Framework

The design is complex due to following reasons:

i. Legal and organizational aspects of Revolving Fund;
ii. Detail supply chain of premix along with fund management related collection of payments from refineries after lapse of defined period; and
iii. Coordination with number of stakeholders.

1.2 Premix Supply Chain

As per estimates of the exports from Pakistan to Afghanistan the estimate of the annual premix required to fortify full exports to Afghanistan is as follows depending on the various standards:

- As per ANSA Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 106,623 to USD 153,271.
- As per Pakistan Standards (33 grams per Ton) 1,980 KG to 2,846 KG having estimated value of premix in the range of USD 120,483 to USD 173,194.

Accordingly, the value of revolving fund is proposed to be equal to USD 76.635. This will be enough to provide premix to the extent of 6 monthly requirements of the refineries as per ANSA Standards.

1.3 Role of Public Sector

iii. Monitoring of the funds managed by PMVA by Pakistan authorities
iv. Coordination with Ministry of Public Health, Afghanistan and ANSA.
v.

1.4 Role of Private Sector

PVMA will establish the fund and members will engage with the Program. Provide refineries premix as per quarterly demand and their production and export plan. Secure supplies from distributors nominated by the Program. Print nutritional facts on the bags. Provide production statistics to the Program. PVMA will coordinate and take responsibility for payment of premix after completion of 6 months from the data of delivery of premix.

1.5 Branding of Fortified Product

Labelling will be provided by fund, which will be marked on

1.6 Marketing & Advocacy

Marketing and advocacy will be limited to Afghan Importers and Pakistani Exporters only. This will be

Option No. 4	Option Title: IV. PREMIX & QUALITY REVOLVING FUND MODEL		Edible Oil / Ghee – Afghanistan
all bags.		related to importance of fortification, facilitation to be provided by the program, cost of fortification and cost prices should be negotiated without considering cost of fortification as impediment and labeling of the products and clearance at border posts.	
1.7 Cost to Consumer		**1.8 Quality Assurance**	
The cost of fortification will be transferred to the consumer through retail price.		Quality assurance will be performed at three levels: i. At refinery level by private sector themselves. They will be required to keep records of tests performed and related results; ii. PSQCA will be performing QA Testing on pre-shipment basis and will provide QA certificate based on which consignment will be allowed to cross the border; iii. The program will also perform its own sample testing both at refinery and retail level to ensure that the premix provided by the Program is properly used or not; and iv. An effective quality testing, reporting, communication and follow-up MIS will be developed and implemented.	
2. Risk Assessment		**Overall Risk Assessment Score** (1 to 4 where 1 lowest risk and 4 is highest risk)	**1.30 Low**
2.1 Operational Risk	2	**2.2 Supplier Risk**	1
Medium — because not all oil refinery owners may participate in the program but most of the large big players will become part of this process due to availability of premix on credit and branding. The fund will be created in private sector under PVMA accordingly, it is expected to easier to establish and manage. The critical matter will be monitoring of the fund by parties independent of PVMA and oil refineries.		**Low** – considering the size of the quantities required procurement could be made through one supplier.	
2.3 Fiduciary Risk	1	**2.4 Reputational Risk**	1
Low – Since there is involvement of collection of funds from refineries all premix will be provided in Kind. There is risk of procurement of premix, which could be mitigated through competitive bidding process under supervision of a committee of procurement and technical experts.		**Low** – Under this proposal, the general impression about the Program will be that the structure of program is integrated and it is addressing all key elements all together. The partnership of all key stakeholders will be in place. Accordingly, the reputational risk is low.	
2.5 Sustainability Risk	1	**2.6 Quality Assurance Risk**	1
Low – This option does not have subsidy element, further all core known impediment are simultaneously addressed.		**Low** – Premix will be supplied on credit and there is no pre- shipment quality assurance testing required. Accordingly, there is high risk that millers may not do fortification as per standards on consistent basis.	

APPENDIX:

A – WHEAT FLOUR SUPPLY CHAIN

1 of 4

		Note	2015 Pakistan	Punjab*	Sindh	KPK**	Balochistan
A	Production - Tons	1	25,100,000	19,455,819	3,229,594	1,264,876	1,149,711
B	Deduction for seed, feed and wastages @ 10% - Tons	2	-2,510,000	-1,945,582	-322,959	-126,488	-114,971
C	Import - Tons	3	1,800,000		1,800,000		
D	Export - Tons	4	-10,000	-10,000			
E	Wheat Available for Processing	5	24,380,000	17,500,237	4,706,635	1,138,388	1,034,740
F	Population (2)	6	191,710,000	107,805,008	44,091,909	30,302,324	9,510,758
G	Per Capita availability (Kgs / annum) - Wheat	7	***127.17***	***162.33***	***106.75***	***37.57***	***108.80***
	Wheat Stock Utilization		-				
H	Wheat Available for Processing	4	24,380,000	17,500,237	4,706,635	1,138,388	1,034,740
I	Less: Wheat Procured by Food Department	8	6,100,000	4,500,000	1,000,000	450,000	150,000
J	Less: Wheat Procured by PASSCO	9	-	2,300,000		-2,000,000	-300,000
K	Total Wheat Stock Procured by Government	10	6,100,000	6,800,000	1,000,000	-1,550,000	-150,000
L	Net Available in open market	11	18,280,000	10,700,237	3,706,635	2,688,388	1,184,740
M	Wheat Processed by Chakkis	12	9,338,000	6,125,083	1,647,322	1,098,436	467,159
N	Net Open Market Wheat Processed by Large Flour Mills	13	8,942,000	4,575,154	2,059,313	1,589,952	717,581
O	Total Wheat Processed by Large Flour Mills	14	17,342,000	9,075,154	3,059,313	4,039,952	1,167,581
	Wheat Flour Availability						
P	Wheat Flour Produced by Chakkis	15	9,057,860	5,941,330	1,597,903	1,065,483	453,144
Q	Wheat Flour Produced by Large Flour Mills	16	10,405,200	5,445,092	1,835,588	2,423,971	700,548
R	Total Wheat Flour Produced	17	19,463,060	11,386,423	3,433,490	3,489,454	1,153,692
S	Exports to Afghanistan - Annual	18	606,124	331,672	-	199,846	74,606
T	Net Available for Consumption in Pakistan	19	18,856,936	11,054,751	3,433,490	3,289,608	1,079,086
U	Per Capita availability (Kgs / annum)	20	98	103	78	109	113
V	Per Capita per Month Consumption of Wheat Flour	21	7.98	8.23	6.47	8.87	9.66
W	Per Capita per Annum Consumption of Wheat Flour	22	95.76	98.76	77.64	106.44	115.92
X	**Total Expected Annual Consumption of Wheat Flour**	23	18,397,985	10,646,823	3,423,296	3,225,379	1,102,487
Y	Difference	24	458,951	407,928	10,194	64,229	-23,401
Z	**Fortification Premix Required (kgs) @ 200 grams per ton**	**25**	**2,081,040**	**1,089,018**	**367,118**	**484,794**	**140,110**
Z	**Fortification Premix Required (kgs) @ 150 grams per ton**	**25**	**1,560,780**	**816,764**	**275,338**	**363,596**	**105,082**
Z	**Fortification Premix Required (kgs) @ 100 grams per ton**	**25**	**1,040,520**	**544,509**	**183,559**	**242,397**	**70,055**

AA	Cost of Fortification Premix Required @ 200 grams per ton - USD	26	17,584,788	9,202,206	3,102,143	4,096,512	1,183,927
AA	Cost of Fortification Premix Required @ 150 grams per ton - USD	26	13,188,591	6,901,655	2,326,607	3,072,384	887,945
AA	Cost of Fortification Premix Required @ 100 grams per ton - USD	26	8,792,394	4,601,103	1,551,072	2,048,256	591,963

Wheat Flour Contribution						
Wheat Flour Produced by Chakkis in proportion of total Wheat Flour (Atta) Produced.	27	47%	52%	47%	31%	39%
Wheat Flour Produced by Large Flour Mills in Proportion to total Wheat Flour (Atta) Produced.	28	53%	48%	53%	69%	61%
Wheat Flour Produced by Large Flour Mills using Wheat from FD in proportion to Wheat Flour Produced by Large Flour Mills	29	35%	50%	33%	50%	26%
Wheat Flour Produced produced from Food Department in proportion to total Wheat Flour Produced	30	19%	24%	17%	43%	20%

Total Wheat Flour produced by Wheat Flour Mills	10,405,200		Profit Margin @5%
Retail value of wheat flour @ Rs. 42.5 per kg	442,221,000,000	PKR	22,111,050,000
	4,211,628,571	USD	210,581,429
Retail value of wheat flour @ Rs. 45 per kg - Maximum	468,234,000,000	PKR	23,411,700,000
	4,459,371,429	USD	222,968,571
Retail value of wheat flour @ Rs. 35 per kg - Minumum	364,182,000,000	PKR	18,209,100,000
	3,468,400,000	USD	173,420,000

3 to 4

Notes

1 Total annual wheat production of Pakistan has been taken from the per capita availability of wheat report of Planning Commission of Pakistan. But since said report does not provide seggregation of said production figures by provinces accordingly, Production figures has been seggregated in four provinces using the seggregation table provided in research report of Pakistan Institute of Development Economics (PIDE). Althrough there was minor difference in the total annual production wheat but since the difference was minor the seggreation provided in the said report has been used as the basis for seggregation in provinces.

2 As per discussions with experts in Planning Commission, other agriculture related expert almost 10% of the wheat produced is kept by farmers as seed for the next years crop. Accordingly, 10% of the total Production has been deduction for this purpose.

3 As per per capital availability calculations of Planning Commission of Pakistan.

4 As per per capital availability calculations of Planning Commission of Pakistan.

5 This represents the wheat available for processing of Atta in Pakistan.

6 Population Figures

Population Figures	Pakistan	Punjab*	Sindh	KPK**	Balochistan
As per 1998 Census - Provided by Population Census Organization	132,352,000	74,426,000	30,440,000	20,920,000	6,566,000
Projected 2014-15***	191,710,000	107,805,008	44,091,909	30,302,324	9,510,758

*including Islamabad

**including FATA

*** as per published economic survey of Pakistan

7 (E*1000)/F. This on an average wheat availability per person in Pakistan and in Provinces. On overall basis the figure of Pakistan's per capita wheat availability matches with the related figure reported by the Planning Commission of Pakistan.

8 A per data provided by Food Department. This figures is a round off figures of three year average stock balance of Punjab Food Department, Sindh Food Department, KPK Food Department and Balochistan Food Department. Further, this figure is also confirmed through USDA Foreign Agricultural Services Report on Pakistan Grain adn Feed Annual Report of 2014.

9 PASSCO. Pakistan Agriculture Support & Services Corporation (PASSCO) figures are taken as per information provided by the representatives of PASSCO in Islamabad which was also validated by Punjab Food Department. Formal reports were not provided by PASSCO in this regard. Further, this figure is also confirmed through USDA Foreign Agricultural Services Report on Pakistan Grain and Feed Annual Report of 2014.

10 (I+J). This is the total expected quantity of procurement being done by the provincial and federal government for food security pruposes.

11 (H-K). This is the net wheat remained available in market for processing and consumption.

12 Out of the total wheat available for processing as noted in H above is multiplied by a % which is 35% for all provinces. The rate of 35% has been taken as per discussions with the Food Departments of provinces and other sector experts.

13 (L-M). The wheat remained available in open market for flouring in large scale floor mills.

14 (I+N). This represents the total wheat processed by Large flour mills of Punjab and Sindh covering both provided by Food Departments and procured from open market. For KPK and Balochistan this present ((J+N) total wheat processed by Large flour mills KPK and Balochistan provided by PESSCO and procured from open market.

15 (M*.97). This is the estimate of total wheat flour produced by Chakkis in Pakistan. The rate of 97% is the extraction rate. Althrough there is no official extract rate defined in any government regulations for Chakkis but as per dicussions with international expert the range of extraction for chakkis is in the range of 95% to 99%. Accordingly, 97% has been used.

16 (O*0.60). This is the estimate of total wheat flour produced by Large flour mills in Pakistan. The rate of 60% is the extraction rate which is currently notified by the Food Department of Punjab. The same has been used for all provinces since it is expected that extraction rate will become consistent.

17 (P+Q). This is the total of wheat flour produced by both Chakkis and Large Flour Mills.

18 Export to Afghanistan has been taken from a recent food supply chain study funded by GAIN focused on export of Wheat Flour and Edible Oil from Pakistan to Afghanistan.

19 (R-S). Net Wheat Flour expected to be available for consumption in Pakistan and its provinces.

20	(T*1000)/F. This is the per Capital Annual Wheat Flour (Atta) available in Pakistan.
21	As per Annual Planning Commission of Pakistan Report.
22	(V*12). This is the annual per capita consumption of Wheat Flour (Atta)
23	(V*F*12). This the total expected demand or consumption of Wheat Flour as per Planning Commission Data.
24	(T-X). The difference between the total availability of Wheat Flour (Atta) as per production figures and as per consumption figures calculated using figures provided by the Planning Comission of Pakistan. The difference is very immaterial.
25	(Q*200/1000). Based on the assumption that all Wheat Flour (Atta) produced by large flour mills will be fortified accordingly that will required this much premix in kg, assuming 200 grams of premix required per ton as stipulated in the Fortified Atta Standard of Punjab.
26	(Z*USD 8.45 which is the average importing and distribution cost of fortification premix as per latest costing study performed. This is inaccordance with the Pakistan Standards
27	(P/R)
28	(Q/R)
29	(I or J*0.60)/Q
30	(I or J*0.60)/R

B – AFGHANISTAN REVOLVING FUND VALUE CALCULATIONS

Wheat Flour (Atta)

	Annual - MT		
	Minimum	Maximum	Average
Overall Annual Exports	400,000	600,000	500,000
Overall Exports from Major Millers*	**260,000**	**390,000**	**325,000**
*which are in the range of 15 to 20 mills			

Premix Required in case fortification of wheat flour exported by major millers

		Minimum	Maximum	Average
As per ANSA Standard (250 gram per Ton)	Premix KG	65,000	97,500	81,250
	Premix Per KG Land Price (USD)	9.60	9.60	9.60
	Value of Premix (USD)	624,000	936,000.0	780,000
As per Central Asia - Afghanistan - Pakistan Harmonized Standard (250 gram per Ton)	Premix KG	65,000	97,500	81,250
	Premix Per KG Land Price (USD)	7.25	7.25	7.25
	Value of Premix (USD)	471,250	706,875.0	589,063
As per Pakistan Standards (150 gram per Ton)	Premix KG	39,000	58,500	48,750
	Premix Per KG Land Price (USD)	6.50	6.50	6.50
	Value of Premix (USD)	253,500	380,250.0	316,875

Revolving Fund - Value **	Premix KG	40,625
	Value of Premix	390,000

** as per value of premix required to cover 6 month wheat flour exports as per current ANSA Standard.

Edible Oil / Ghee

	Annual - MT		
	Minimum	Maximum	Average
Overall Annual Exports	80,000	115,000	97,500
Overall Exports from Major Millers*	**60,000**	**86,250**	**73,125**
*which are in the range of 6 to 8 refineries			

Premix Required in case fortification of wheat flour exported by major millers

		Minimum	Maximum	Average
As per ANSA Standard (33 gram per Ton)	Premix KG	1,980	2,846	2,413
	Premix Per KG Land Price (USD)	53.85	53.85	53.85
	Value of Premix (USD)	106,623	153,257.1	129,940
As per Pakistan Standards (33 gram per Ton)	Premix KG	1,980	2,846	2,413
	Premix Per KG Land Price (USD)	60.85	60.85	60.85
	Value of Premix (USD)	120,483	173,179	146,831

Revolving Fund - Value **	Premix KG	1,207
	Value of Premix	64,970

** as per value of premix required to cover 6 month edible oil exports as per current ANSA Standard.

Revolving Fund - Value - Wheat Flour & Edible Oil	Value of Premix	USD	454,970
Add: Administrative Charges @ 20%		USD	90,994
Total Value of Revolving Fund		USD	545,964

C – OPTION ANALYSIS – SCORING SHEET

Risk Assessment Scoring

Wheat Flour - Pakistan

	Weightage	1		2		3		4		5		6		7	
Operational Risk	30	1.00	30	1.00	30	4.00	120	4.00	120	3.00	90	4.00	120	4.00	120
Supplier Risk	5	1.00	5	1.00	5	1.00	5	1.00	5	2.00	10	1.00	5	1.00	5
Fiduciary Risk	15	2.00	30	2.00	30	2.00	30	1.00	15	4.00	60	2.00	30	2.00	30
Reputational Risk	10	2.00	20	1.00	10	2.00	20	1.00	10	4.00	40	1.00	10	1.00	10
Sustainability Risk	20	4.00	80	3.00	60	2.00	40	2.00	40	3.00	60	1.00	20	1.00	20
Quality Assurance Risk	20	3.00	60	2.00	40	2.00	40	1.00	20	3.00	60	3.00	60	2.00	40
	100	2.25	225	1.75	175	2.55	255	2.10	210	3.20	320	2.45	245	2.25	225

Risk Assessment Scoring

Edible Oil - Pakistan

	Weightage	1		2		3		4	
Operational Risk	30	1.00	30	1.00	30	3.00	90	3.00	90
Supplier Risk	5	1.00	5	1.00	5	1.00	5	1.00	5
Fiduciary Risk	15	2.00	30	2.00	30	2.00	30	2.00	30
Reputational Risk	10	2.00	20	2.00	20	2.00	20	2.00	20
Sustainability Risk	20	4.00	80	2.00	40	1.00	20	1.00	20
Quality Assurance Risk	20	3.00	60	2.00	40	2.00	40	1.00	20
	100	2.25	225	1.65	165	2.05	205	1.85	185

Risk Assessment Scoring

Wheat Flour - Afghanistan

	Weightage	1		2		3		4	
Operational Risk	30	2.00	60	2.00	60	3.00	90	4.00	120
Supplier Risk	5	1.00	5	1.00	5	1.00	5	1.00	5
Fiduciary Risk	15	2.00	30	2.00	30	1.00	15	1.00	15
Reputational Risk	10	3.00	30	2.00	20	1.00	10	1.00	10
Sustainability Risk	20	4.00	80	3.00	60	2.00	40	2.00	40
Quality Assurance Risk	20	2.00	40	1.00	20	2.00	40	1.00	20
	100	2.45	245	1.95	195	2.00	200	2.10	210

Risk Assessment Scoring

Edible Oil - Afghanistan

	Weightage	1		2		3		4	
Operational Risk	30	2.00	60	2.00	60	3.00	90	4.00	120
Supplier Risk	5	1.00	5	1.00	5	1.00	5	1.00	5
Fiduciary Risk	15	3.00	45	2.00	30	1.00	15	1.00	15
Reputational Risk	10	3.00	30	1.00	10	1.00	10	1.00	10
Sustainability Risk	20	4.00	80	2.00	40	1.00	20	1.00	20
Quality Assurance Risk	20	3.00	60	1.00	20	3.00	60	1.00	20
	100	2.80	280	1.65	165	2.00	200	1.90	190

D – INDUSTRY MANAGED FORTIFICATION PREMIX REVOLVING FUND – TERMS OF REFERENCE

1. BACKGROUND

The 2011 National Nutrition Survey of Pakistan revealed that stunting, wasting and the micronutrient malnutrition were endemic in Pakistan. Cross-cutting strategies and a multi-sectoral approach were needed to address the situation. At the request of the federal government, provinces developed nutrition policy guidance notes, and will soon complete strategies and operational plans. Pakistan joined the global Scaling Up Nutrition (SUN) movement in 2013, uniting the country in a collective effort to improve nutrition.

GAIN began supporting the Pakistan National Wheat Flour Fortification Project in 2005 with the Federal Ministry of Health (MoH) as implementing Partner, working with the Pakistan Flour Millers Association (PFMA) to support fortification of 1.7 million MT of Atta flour with iron and folic acid. Numbers of initiatives have been taken to increase the level of fortified wheat flour. As one of the similar initiatives GAIN with the funding from USAID is starting a wheat flour fortification revolving fund focused on exports of wheat flour to Afghanistan. The terms and conditions of this revolving are set in this document.

2. OBJECTIVE OF FORTIFICATION PREMIX REVOLVING FUND

To sustainably fortify wheat flour exported by Pakistani Industry (wheat flour millers) to Afghanistan through formal export process, using quality fortification premix in accordance with Wheat Flour Fortification Standards applicable in Afghanistan.

3. ORGANIZATIONAL AND OPERATIONAL ASPECTS

Government of Pakistan through Punjab Food Department provide export subsidy to the Wheat Flour Millers involved in export of wheat flour to Afghanistan to make prices of Pakistani wheat flour competitive as compared to wheat flour imported in Afghanistan from Central Asian Countries. In this regard Punjab Food Department allocate quota with concurrence from Ministry of National Food Security & Research (MoNFS&R) to identified wheat flour mills. This quota is required to be utilized within stipulated timeframe through timely processing in the assigned flour mills and its export to Afghanistan through formal export process.

The government of Afghanistan through Ministry of Public Health (MOPH) has been advocating for fortification of wheat flour as per standards recommended for Afghanistan. MoPH has recommended that the wheat flour processed in Pakistan and exported to Afghanistan is adequately fortified. With this objective a "Fortification Premix Revolving Fund" managed by Pakistan Flour Millers Association (PFMA) is to be established under these ToRs. Global Alliance for Improved Nutrition (GAIN) will provide an in kind seed fortification premix of 2.645 metric ton (2,645Kg) to the PFMA. PFMA will setup a process through which the premix to be provided by GAIN will be distributed to wheat flour millers exporting wheat flour to Afghanistan in proportion of their utilization of export subsidy quota provided by Punjab Food Department.

The revolving fund will only provide fortification premix to those flour mills that are securing and using wheat provided by Punjab Food Department under export subsidy framework. The revolving fund will provide premix at 100% cost basis so that premix stock could be replenished in due course for perpetual succession of premix distribution process to exporting wheat flour mills. The responsibilities for implementation of the revolving fund are presented in the following section of this document.

4. RESPONSIBILITIES OF PARTIES

Global Alliance for Improved Nutrition (GAIN):

i. Provide initial in kind premix quantity of 2.645 tones have cost of USD 21,034 immediately after signing of Memorandum of Understanding in this regard between GAIN and PFMA;
ii. Provide wheat flour fortification standards which are recommended for compliance by wheat flour exporters to Afghanistan to PFMA;
iii. Provide technical support on appropriate storage of premix if needed by PFMA
iv. Support setting up of initial reporting and governance process for Revolving Funds under National Fortification Alliance.
v. Provide technical support for forecasting of premix requirements if needed by PFMA

Pakistan Flour Mills Association (PFMA):

i. Establish oversight mechanism for the revolving fund through the existing Fortification Committee of the PFMA
ii. Nominate one PFMA secretariat staff to be responsible for management, communication and reporting related to revolving fund;
iii. Arrange for appropriate storage of fortification premix to be provided by GAIN;
iv. Coordinate with Punjab Food Department to:
   a. Secure list of Flour Mills to whom export subsidy quota has been allocated for the period September 2017 and onward; and
   b. Set a communication process through which supply of wheat under export subsidy quota could be intimated to revolving fund staff so that premix could be issued to related wheat flour mill;
v. Set price of premix at which it will be sold to the flour mills;
vi. Set premix price collection process;
vii. In coordination with Punjab Food Department develop expected demand for premix related to export of wheat flour to Afghanistan and set import orders to GAIN premix facility for replenishment of revolving fund.
viii. Communicate with export wheat flour millers about the recommended fortification standards for Afghanistan with the objective to build capacity of wheat flour millers for appropriate level of fortification;
ix. Set inventory and cash (fund) record keeping process covering receipt of initial seed premix provided by GAIN, supply of premix to flour mills and receipt payments again premix sold to flour mills and receipt of additional premix to be procured by the fund utilizing premix sale proceeds;
x. All sale proceeds of the revolving funds will be deposited in a separate bank account maintained for this purpose only; and
xi. On monthly basis for first three months and afterward on quarterly basis develop and submit premix revolving fund summary report to National Fortification Alliance Secretariat.

5. **REPORTING.**

On monthly basis for first three months and afterward on quarterly basis develop and submit premix revolving fund summary report to Fortification Committee of the PFMA and Export Cell of the Punjab Food Department covering:

a. Overall movement of premix inventory;
b. Summary of cash flows of the fund including amounts received as sale proceeds from flour millers and payments for import premix; and
c. List of flour millers to whom premix is supplied along with quality supplied.

The reports will be submitted to:

- Director Food, the Punjab Food Department