Industry & Regulatory Monitoring Assessment Report

Province of Punjab, Pakistan for large scale food fortification program

Prepared by:
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September 2013
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Disclaimer

This report is prepared by the independent consultants engaged by Global Alliance for Improved Nutrition (GAIN) to perform the Industry and Regulatory Monitoring Assessment, of the Province of Punjab, Pakistan, the scope of which is defined in this Report. All facts, information, views, estimates and conclusions noted in this report are independent views of the consultants based on the information provided to them by various functionaries noted in this Report for the purpose of this assessment. GAIN intend to use the contents of this report for the purpose of design of a food fortification program in Pakistan. In case any reader of this report feels that any information, comments or facts noted in this report are not correct or require modification, these could be communicated to the authors of this report on his email address kalim.ghauri@synergyadvisory.com and/or quentin@quican.com.

Acknowledgement

We the consultants of GAIN would like to thank all functionaries with whom we interacted during the course of our assessment especially representatives of Punjab Food Authority, Punjab Food Department, Punjab Law Department, Pakistan Flour Mills Association, DFID Pakistan, UNICEF Pakistan, Planning Commission of Pakistan, MI Pakistan, Consumer Rights Commission of Pakistan, etc. for their valuable inputs and courtesies extended to us and representative of GAIN in Pakistan Mr. Faiz Rasool for his effective coordination during the course of the assessment.
Executive Summary

I. On overall basis in the laws and regulations of Government of Punjab the food monitoring process is properly defined and roles and responsibilities are given. But there are limitations of equipment, staff members and data management system due to which implementation of defined monitoring procedures is weak. Further, there is need to augment the sample collection, testing and related reporting process on scientific lines;

II. For effective food quality monitoring in 2011 the Government of Punjab promulgated a new law titled as The Punjab Food Authority Act (the Act). The Act was promulgated through an Act of Parliament of Punjab. Through this Act a new autonomous entity by the name Punjab Food Authority (PFA) was created with the responsibility to ensure quality of food produced and sold in the province of Punjab. This Act is applicable all over the Punjab. On its promulgation this new Act repealed the old laws of Punjab related to food quality titled as The Punjab Pure Food Ordinance of 1960, and any rules and standards defined under the said Ordinance.

III. As per requirements of the Act a new autonomous organization, namely PFA has been created. PFA, under the Act has the authority to set up their own business rules, food quality standards, licensing procedures, monitoring procedures etc. Till the time the rules, procedures and standards of PFA are defined and approved at appropriate level PFA is required to ensure compliance with the Rules of Business of Government of Punjab with respect to their financial management and human resource management and to ensure compliance with Pure Food Rules promulgated under the repealed the Punjab Pure Food Ordinance of 1960, for food quality control. As soon as the rules, procedures and standard of PFA under Act will be approved those will be applicable for enforcement in the whole Province of Punjab. After the promulgation of the Act any change in the rules, procedures or standard related to food quality is done under the Act.

IV. Strategically the enforcement of the Act has been planned in various stages which are as follows:

Stage One

i. PFA is created with enforcement powers initially in the revenue jurisdiction of Lahore city only;

ii. PFA is developing its business policies and procedures and food quality standards and monitoring rules;

iii. In all other parts of the Province of Punjab the Act is enforced by the representatives of the Food Department and Health Department under the authority delegated to them by PFA;

iv. The Government of Punjab will provide financial support to PFA for its day to day operations.
**Stage Two**

i. The enforcement jurisdictions of PFA will extent to other large urban territories of Punjab like Faisalabad, Rawalpindi, and Multan etc.

ii. After the approval of PFA’s business policies and procedures and food quality standards and monitoring rules all old rules and standards will become ineffective;

iii. In all other parts of the Province of Punjab the Act will be enforced by the representatives of the Food Department and Health Department under the authority delegated to them by PFA.

iv. PFA will start generating material revenues of its own through licensing fee leading to financially self-sustainable organization in long term.

v. The Government of Punjab will continue its financial support of PFA to the extent required.

**Stage Three**

i. The enforcement jurisdictions of PFA will extent to all over Punjab.

ii. PFA will become an autonomous entity both financially and operationally.

iii. The Government of Punjab will continue its financial support of PFA to the extent required.

V. As per our assessment the food quality monitoring process of Punjab, although, is well defined in old regulations and rules, which will be repealed after the approval of new rules and standards to be set under the Act, but there are number of enforcement weaknesses which are as follows:

i. There is no mechanism defined in the rules and standards for periodic reporting of monitoring procedures performed including sample testing, facility inspection, licensing etc. Further, there is no system in place through which all monitoring data if available at varies tiers of the enforcement structure could be compiled and analyzed for effective strategy development and food quality enforcement;

ii. The effectiveness of the monitoring process is low especially in the segment in which enforcement powers are with EDO Health since administratively they report to its departmental superiors, whereas, functionally for the purpose of food quality reports to PFA, accordingly, food quality does not come on the operational priorities of EDO Health. This matter will be resolved when on stage by stage basis PFA will take control of whole of Province;

iii. PFA, Food Department and related functionaries of the Health Department has market knowledge of large producers of Wheat Flour, Oil Refineries and Salt produces and producers of other products but there is limited information available about small manufacturers and producers, due which the target population for sample testing and enforcement by these regulators, is limited. For example it is considered that around 50% of the wheat Flour production in Punjab is done through Chakkis, the total number licensed Chakkis all over Punjab are in the range of 7,000 as per records of the Food Department, whereas, as per macro estimates of Food Department and PFA the number of Chakkis should be more than 50,000. There is need for focused studies by PFA for identification of small producers to bring them under their monitoring radar.
iv. Laboratory facilities have limited capacity due to shortage of staff, equipment and reporting process. The capacity especially very limited considering material increase expected in the testing requirement due to enforcement of the Act by PFA aggressively;

v. Sampling protocols are defined and also followed to an extent but these still require augmentation on scientific lines;

vi. Since historically monitoring of food quality remained an integral part of the government machinery it remained prone to political influence and manipulation through political and financial incentives. The promulgation of the Act to some extent has transferred the monitoring of food quality process to an autonomous independent organization which is expected to be less prone to external influences; and

vii. Overall all supervision of monitoring process require substantial improvement but that cannot be performed in the absence of the an integrated monitoring data base through which PFA could ensure compliance with its rules for sample testing, procedural enforcement in case of proven non-compliances of standards and maintenance of secured food quality history of products, brands and businesses.

VI. Currently under the authority from PFA the quality control of Wheat Flour produced through large flour mills is the responsibility of the Food Department of Punjab since it is responsible for the supply of Wheat Grain to the extent of 70% of total annual production of large flour mills of Punjab. For this purpose Food Department has three laboratories in Punjab. Each Laboratory cover samples collected from three divisions. Accordingly all nine divisions of Punjab are covered. It is important to note that Punjab has in total 800 plus flour mills. These mills not only cater for the wheat flour demand of Punjab but to a material extent also of other three provinces. The responsibility for quality monitoring of Wheat Flour produced from Chakkis rests with PFA in the revenue jurisdiction of Lahore city, whereas, for all other parts of Punjab it rests with EDO Health under authority from PFA.

VII. The monitoring responsibility with respect to Edible Oil and Iodised Salt in the revenue jurisdiction of Lahore City rests with PFA whereas, in all other parts of Punjab it rests with Executive District Officer (EDO) Health, a representative of the Health Department at District Level all over the Province of Punjab.
VIII. Fortification of Edible Oil in Pakistan is mandatory from number of years but its enforcement has been weak. As per discussions with PFA, consumer rights organization and as per test performed by them in number of cases the Edible Oil available in market do label their products as fortified but in actual these are either not fortified or if fortified the level of fortification is not at par with the standards. As per government is under discussion with the Edible Oil Refinery owners for effective enforcement of fortification standards for Edible Oil. Although there is clear concern among related government officials and consumer rights organizations for non-compliance of standard in Edible Oil but we did not found any study through which the extent of non-compliance could be ascertained. A general impression made during our assessment in this regard is that other than multinational and large domestic brand all brands are in material non-compliance with the fortification standards.

IX. The same quality monitoring framework is applicable on Iodised salt but since the market value of this product is not so high as it is for Edible Oil or Wheat Flour there is no organized deliberate effort nor there is possibility for non-compliance with the standard. Since from production perspective this could be clustered in large and small producers again quality enforcement has been an issue when it comes to small producers. But since Iodise Salt has been pursued by number of dedicated programs funded by international donors during last couple of decades its quality monitoring has been under limelight. But considering the weaknesses noted in the current monitoring system of the Government as soon as the efforts of external programs will diminish the quality of Iodise Salt will also be prone to weak regulatory monitoring. But through PFA it is expected that that the role of effective quality monitoring will be taken over by this independent Authority.

X. The price of Wheat flour is determined by the Food Department on the basis of Food Stuff Control Act of 1958. Whereas, the price of Edible Oil and Iodised Salt is set by producers considering costs and market conditions. Government do monitor prices of Edible Oil and Iodised Salt for any abnormal fluctuations;

XI. The Government of Punjab (including PFA and Food Department) is quite keen on initiating a supply driven Large Scale Wheat Flour Fortification Program in Punjab. This will target approximately 50% plus population of Punjab, which will mainly cover population located in urban, semi urban and some population segments of rural areas. As part of this Program the Government would like to make Wheat Flour Fortification Mandatory. For this purpose PFA will ensure required changes in Food Standards and Rules. This program will be subsidy free and would require Technical and Professional support in the form of expert consultancies, studies, management support and limited in-kind laboratory equipment support;
XII. As per discussions with the representatives of the Law Department, Government of Punjab for making Wheat Flour Fortification Mandatory, legislation from the Parliament of Punjab, will not be required. Under the Act PFA has the authority to defined and approve the rules and standards for food quality. Accordingly, the proposed process for making wheat flour fortification mandatory will be as follows:

i. Drafting of technical standards of Fortified Wheat Flour;
ii. Approval of new standard by the Scientific Panel of PFA;
iii. After the approval of Director General PFA the standard will be forwarded to the Provincial Cabinet of Punjab through Secretary Food Department;
iv. After the approval of the Provincial Cabinet the Chief Minister of Punjab will approve the change in the Standard and accordingly it will be promulgated in the official Gazette of Punjab and will become enforceable on producers.

It is important to note that PFA is currently under the process of drafting of their rules and food quality standards so in case the initiative for making Wheat Flour Fortification Mandatory is made and proper technical support is provided to PFA above noted process could be performed as part of the overall standard definition and approval process.

XIII. The current standard for Fortified Atta as defined in the Food Rules of Punjab allows for just one of the listed micronutrient to be added. However WHO has identified that wheat flour should contain at least iron and folic acid. Accordingly, this standard require revision in line with the recommendations of WHO.

XIV. Accordingly, if new large scale Wheat Flour Fortification Program is designed, as part of that we will have to provide technical assistance in following key segments to PFA and other related departments of Government of Punjab:

a. Mandatory Flour Fortification;
b. Supply Chain Analysis and Strategy for Micro Feeders and Premix;
c. Fortification Costing Model;
d. Quality control;
e. Development and Implementation of an effective data management system for supply chain, production and monitoring for the Program;
f. Public Awareness;
g. Research on Nutrition Mix of various Wheat varieties produced in Punjab and also on Nutrition Facts differential in Wheat Flour produced in Flour Mills and Chakkis; and
h. A research on how to bring consumers in the ambit of the Program who are currently being fed by Chakkis.

XV. The expected timeframe for this Program is two years since the government has agreed to provide one year grace period to Millers to get themselves ready for Wheat Flour fortification from the date the Wheat Flour Fortification will be made mandatory;
XVI. With respect to Edible Oil considering the current situation some key programmatic initiative could be as follows:

   i. A detail study is performed as Technical Assistance in all over Punjab on quality of Edible Oil with following objectives:
      a. To ascertain overall level of compliance with standards;
      b. Segmentation of non-compliance by type of manufacturers, brands, regions and extent of non-compliance;

   ii. A strategy is developed in close coordination with PFA and Association of Edible Oil Refineries to ensure enforcement of Standards in this regard. The results of the study noted above will help in focusing on particular areas of non-compliances in effective manner.

XVII. On overall basis after promulgation of the new Act and establishment of the Punjab Food Authority in Lahore the environment for food quality monitoring is Optimistic due to following factors:

   i. The legal umbrella required for enforcement of quality standards and monitoring procedures are now in place;
   ii. An independent autonomous body is not entrusted with the monitoring responsibility instead of various government departments;
   iii. A knowledgeable and aggressive Director General is leading FPA;
   iv. A new small but professional team has been in place in PFA;
   v. PFA is aggressively working on defining their own policies and procedures, enforcement rules and food quality standards after approval of which it will be able to achieve more independence and enforcement authority in due course; and
   vi. The vision to make PFA operationally and financially sustainable organization is in place.

XVIII. Accordingly, through technical assistance to PFA and its related functionaries at this stage of its organizational lifecycle material impact could be achieved toward large scale fortification of wheat flour and edible oil.

XIX. An important aspect, which needs to be considered, is exports of Wheat Flour from Pakistan to Afghanistan. Flour exports to Afghanistan are carried out by traders and not by the flour mills directly. Based on the information provided by the Director of the Food Department, Punjab, Afghanistan imports in the range of 1.0 – 1.2 million tons of wheat and flour (combined) per year. The estimated flour imports from Pakistan to Afghanistan range between 0.65 – 0.8 million tons per year. Since the flour trade is controlled by traders and not millers the fortification of wheat flour) destined for Afghanistan will be a challenge.

XX. As part of the new program we are proposing for GAIN to work directly with the Provincial Government of Punjab but GAIN being an international organization it is proposed that GAIN keep Planning Commission of Pakistan and Economic Affairs Division at Federal level in lope of their communications related to contractual arrangements, progress updates etc.
1. Background

1.1 The National Nutrition Survey 2011 of Pakistan (the Survey) reveals stunting, wasting and micronutrient malnutrition are endemic in Pakistan. These are caused by a combination of dietary deficiencies; poor maternal and child health and nutrition; a high burden of morbidity; and low micronutrient content in the soil, especially iodine and zinc. Most of these micronutrients have profound effects on immunity, growth, and mental development. They may underlie the high burden of morbidity and mortality among women and children in Pakistan. Increasing rates of chronic and acute malnutrition in Pakistan are primarily due to poverty, high illiteracy rates among mothers, food insecurity and improper eating habits.

1.2 The Survey indicated little change over the last decade in terms of core maternal and childhood nutrition indicators. With regard to micronutrient deficiencies, while iodine status had improved nationally, vitamin A status had deteriorated and there had been little or no improvement in other areas linked to micronutrient deficiencies. The ratio of males to females was approximately 50.4% to 49.6% across Pakistan. A total of 45.7% of household heads were illiterate and 38.7% were workers or laborers. 15.5% of the population was unemployed – with higher rates in the urban population (18.9% urban unemployment, 14.0% rural unemployment) further, 58.1% of households were food insecure nationally.

1.3 Widespread micronutrient deficiencies are high in women. For example, the survey discovered in the following micronutrient deficiency levels in pregnant women:

   i. Anaemia 51.0%;
   ii. Iron deficiency anaemia 37.0%;
   iii. Vitamin A deficiency 46.0%;
   iv. Zinc deficiency 47.6%; and
   v. Vitamin D deficiency 68.9%.

1.4 The prevalence of micronutrient deficiencies in non-pregnant women are as follows:

   i. Anaemia 50.4%;
   ii. Iron deficiency anaemia 26.8%;
   iii. Vitamin A deficiency 42.1%;
   iv. Zinc deficiency 41.3%; and
   v. Vitamin D deficiency 66.8%.

1.5 Adequate iodine status was documented at national level and in most of the provinces. Baluchistan, AJK and GB were the only provinces that documented inadequate levels (<100 μg/l median iodine excretion) of iodine status.

1.6 Above noted alarming facts are prevalent in Pakistan from decades now. Weak economic indicators, high population growth rate and long prevailing geo-political conflicts materially added to the prevalence of high level of malnutrition in the Population.
1.7. UN and other international development partners have been advocating the need for mobilizing interventions to address the critical issue of Malnutrition generally and specially in the Women and Children. For this purpose number programs were also initiated and implemented during last two decades in close coordination with the Government of Pakistan and related Provincial Governments. But till now almost all efforts are financially supported by international community and if some financial allocations have been made by the Government to such activities, these are meager. Currently, Federal and Provincial Governments in Pakistan in their annual budgets or long term financial plans, make no allocations for activities to address the epidemic of Malnutrition. Financial allocations are made by the Government in Project Plans but the direct contribution toward nutrition are mainly made by international community.

1.8 One of the critical areas which added to the slow pace of progress in this area both at policy and implementation level is the unclear ownership of this problem and its resolution by an appropriate ministry / department at federal and provincial levels. Nutrition is a cross functional aspect between health, industry and quality at federal level and when you go down to the provincial level cross functional aspect covers health, industry, quality and also food. Thematic cross cutting aspect also lead to complex legal, operational and procedural issues, legal slow activity formulation and implementation. Till mid of 2011 the Federal Government was responsible for formulation of national policies related to health and quality. But the said policies were supposed to be implemented by related food departments. After mid 2011 the Ministry of Health was devolved to provinces. Accordingly, now health policy has now also become a provincial subject.

1.9 The need for large scale fortification was accepted by the Government of Pakistan in 2005 after long advocacy campaign sponsored by the international community after which a large scale wheat fortification program was initiated. This program was fully funded by GAIN. The national implementing partner of this program was the Nutrition Wing of the Ministry of Health Government of Pakistan. But since after mid of 2011 the Ministry of Health was devolved and this program was discontinued. GAIN considers the current situation in Pakistan as critical and along with other international development partners would like to initiate another large scale fortification activity in Pakistan. For this purpose various assessments are in process including this assessment which is focused on assessing the regulatory monitoring capacity of the Government of Punjab.
2. **Assessment Mission Objectives and Methodology**

2.1 As part of this assessment the consultants were required to undertake an industry and regulatory monitoring assessment in the Province of Punjab, Pakistan under the supervision of the GAIN Food Fortification Manager.

2.2 As per the requirements of the Terms of Reference of this assessment we performed following tasks:

i. Current capacity of the industry related to wheat flouring in Punjab with respect to fortification of wheat flour;

ii. Reviewed and documented the external regulatory monitoring system for fortified wheat flour, oil and salt in order to determine agencies roles and responsibilities, gaps and areas for improvement;

iii. Determined the agencies responsible for effecting legislative change related to fortified foods and the processes required;

iv. Determined which Government agency(s) are responsible for pricing of wheat flour;

v. Determined which agencies are responsible for regulatory monitoring of wheat flour, oil and salt in Punjab, including roles and responsibilities by agency and agency jurisdiction;

vi. Reviewed existing systems and capacity in Punjab for analysis of samples collected;

vii. Assessed the current capacity of the institution(s) responsible for regulatory monitoring, and make recommendations as to what is needed to make this/these institution(s) effective. Special consideration shall be made by the Consultant with regards to training and equipment needed for inspections visit, as appropriate;

viii. Assessed the status of current and relevant wheat, oil and salt fortification legislation and provide suggestions as to how these can be updated; and

ix. Assess the most effective way to address wheat flour price fixing, including which government agencies to advocate with and persons/organizations best positioned for this.
2.3 Considering the pro-active outlook of the Government of Punjab during the course of this assessment we also tried to assess various program design options. We discussed and assessed various programmatic needs for initiating a new large scale wheat fortification program in Punjab. For this purpose following additional tasks were performed:

i. Assessed legislative requirements to make Wheat Flour Fortification Mandatory;

ii. Level of Coordination between the Government and Private Sector;

iii. Supply Chain considerations;

iv. Role of Federal Government in any new large scale food fortification program designed and implemented at provincial levels;

v. Sustainability consideration for a large scale food fortification program;

vi. Overall food security considerations around wheat in the Province of Punjab; and

vii. How quality control could be made effective through private public partnership.

2.4 During the course of this assessment I reviewed the following documents:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Document Title</th>
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<tbody>
<tr>
<td>1.</td>
<td>The Punjab Food Authority Act 2011</td>
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<td>2.</td>
<td>The Punjab Pure Food Ordinance 1960</td>
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<td>3.</td>
<td>The Punjab Pure Food Rules, as updated in 2007</td>
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<td>4.</td>
<td>Punjab Foodstuff (Control) Act, 1958</td>
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<td>5.</td>
<td>The Punjab Essential Articles Control Act 1973</td>
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<td>8.</td>
<td>Per Capital Availability of Wheat for last ten years compiled by the Planning Commission of Pakistan</td>
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<td>9.</td>
<td>Food Consumption Analysis by products compiled by the Planning Commission of Pakistan</td>
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<tr>
<td>10.</td>
<td>Training Documents of Laboratory Testing in Punjab</td>
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<td>11.</td>
<td>Laboratory testing register of PFA Laboratory</td>
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<td>12.</td>
<td>Laboratory test report of PFA Laboratory and Food Department Laboratory</td>
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<tr>
<td>13.</td>
<td>Summary Reports of Laboratory test</td>
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<tr>
<td>14.</td>
<td>Minutes of the meeting held between PFA, Food Department and PFMA on June 27, 2013</td>
</tr>
</tbody>
</table>
During the course of this assessment discussions were held with the following:

**Table 2: List of persons met**

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<thead>
<tr>
<th>S. No.</th>
<th>Name</th>
<th>Designation &amp; Organization</th>
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<tbody>
<tr>
<td>1.</td>
<td>Mr. Asad Islam Mahni</td>
<td>Director General</td>
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<td>Punjab Food Authority (PFA)</td>
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<td>2.</td>
<td>Mr. Mohammad Shabaz Sarwar</td>
<td>Assistant Director</td>
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<td>Punjab Food Authority (PFA)</td>
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<td>3.</td>
<td>Mr. Saquib Munir</td>
<td>Deputy Director Licensing</td>
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<td>Punjab Food Authority (PFA)</td>
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<td>4.</td>
<td>Mr. Muhammad Khurshid</td>
<td>Assistant Director Legal</td>
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<td>Punjab Food Authority (PFA)</td>
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<td>5.</td>
<td>Mr. Mohsin Abbass Naqvi</td>
<td>Director Law</td>
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<td>Punjab Law Department</td>
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<td>6.</td>
<td>Dr. Altaf Hussain</td>
<td>Additional Director</td>
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<td>Punjab Food Department</td>
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<td>7.</td>
<td>Cap. Muhammad Usman’ Younis</td>
<td>Director</td>
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<td>Punjab Food Department</td>
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<td>8.</td>
<td>Mr. Shahid</td>
<td>Assistant Public Analyst</td>
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<td>PFA Lab Lahore</td>
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<td>9.</td>
<td>Mr. Ayaz</td>
<td>Public Analyst</td>
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<td>PFA Lab</td>
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<td>10.</td>
<td>Mr. Umar Draz</td>
<td>Research Officer</td>
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<td>Punjab Food Department Lab Lahore</td>
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<td>11.</td>
<td>Mr. Munir Hussain</td>
<td>Secretary</td>
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<td>Pakistan Flour Mills Association – PFMA</td>
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<td>12.</td>
<td>Mr. Asim Raza Ahmed</td>
<td>Member Executive Committee</td>
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<td>PFMA</td>
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<td>13.</td>
<td>Mr. M. Aslam Shaheen</td>
<td>Chief Nutrition Section</td>
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<td>Planning Commission Pakistan</td>
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<td>14.</td>
<td>Mr. Muhammad Ayub</td>
<td>Nutrition Advisor</td>
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<td>Planning Commission Pakistan</td>
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<td>15.</td>
<td>Ms. Meredith Bradbury</td>
<td>Nutrition Advisor</td>
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<td>DFID Pakistan</td>
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<td>16.</td>
<td>Mr. Ross Ferguson</td>
<td>Private Sector Development Advisor</td>
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<td>DFID Pakistan</td>
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<td>17.</td>
<td>Mr. Tausif Akhtar Janjua</td>
<td>Country Director</td>
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<td>Micronutrient Initiative (MI)</td>
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<td>18.</td>
<td>Mr. Khawaja Masoud</td>
<td>National Program Manager</td>
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<td>Micronutrient Initiative (MI)</td>
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<td>19.</td>
<td>Dr. Mohammad Arshad</td>
<td>Chairman</td>
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<td>All Pakistan Solvent Extractors Association</td>
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<td>Owner of Hi-Tech Edible Oil (Private) Limited</td>
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<td>20.</td>
<td>Mr. Mazher Siraj</td>
<td>Consumer Rights Commission of Pakistan</td>
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<td>21.</td>
<td>Ms. Silvia Kaufmann</td>
<td>Chief Nutrition</td>
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<td>UNICEF Pakistan</td>
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<td>22.</td>
<td>Mr. Shahzad Rashid Mehmood</td>
<td>Chief Provincial Officer</td>
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<td>World Food Programme - Punjab</td>
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3 Situation Analysis & Assessment Findings

3.1 Legal and Regulatory Environment

3.1.1 Food quality in Pakistan is a Provincial Subject. Prior to promulgation of The Punjab Food Authority Act 2011 (PFA Act) the enforcement of food quality in Punjab was enforced through The Punjab Pure Food Ordinance of 1960 (PPF Ord.). Under PPF Ord. the authority to enforce food quality standard rests with the provincial Food Department and EDO Health a representative of Health Department in each District of the Province. For the purpose of clarity it is important to understand the difference between an Act, Ordinance and Rules. An Act is Law which is promulgated through an act of Parliament, whereas, an Ordinance is Law which is promulgated through an order of the Governor of the Province. Generally an ordinance is passed by the Governor at a time when Parliaments were not in existence or in case some regulations are of such necessity and time was of essence accordingly an ordinance is passed and later the same is approved by the Parliament after due debate. Rules are defined under the Act or an Ordinance as procedures based on which the Act or the Ordinance is implemented.

3.1.2 For enforceability, process related to Rules and Food Quality Standards are defined in The Punjab Pure Food Rules which were last updated in 2007. These rules mainly cover the following:

i. Defines food additives, colouring matters, preservatives in food, antioxidants in food, non-nutritive constituents, unsound food and standards of nature, substance or quality of food;
ii. Defines mode of labeling of pre-packed food items, special requirements where presence of vitamins or minerals, essential Amino acids, essential fatty acids are claimed;
iii. Defined manner in which good items could be manufactured including special provisions for milk and dairy products;
iv. Procedure for Licensing of food trade businesses and premises;
v. Standards for prevention of food poisoning;
vi. Role and duties of Public Analyst;
vii. Procedure for seizure of unsound food items and related manufacturing units;
viii. Appendix in which standards of nature, substance or quality of good are defined for number of food product categories including:
   a. Milk & Milk Products;
   b. Edible Oil, Fats (Halal) and Allied Products;
   c. Beverages;
   d. Sweetening Agents;
   e. Food Grains, Cereals and Cereal Products – This includes standards for Wheat, Atta (Wheat Flour) and Fortified Atta in section 12.5.130 and 12.5.131 respectively;
   f. Starchy Foods;
   g. Spice;
   h. Fruit & Vegetable Products;
   i. Meat & Meat Products;
   j. Water;
   k. Miscellaneous Articles
3.1.3 As per article 12.5.118 of the Appendix of the Punjab Pure Food Rules the standard for Wheat is defined as follows:

**Wheat** means the dried mature grains of *Triticum* aestivum Linn. It shall be sweet, clean and wholesome. It shall conform to the standards of Food grains including the following standards:

(a) Insect damaged grains - shall not exceed the limit of 1.5 per cent.
(b) Sound grains - the percentage of normal and sound grains shall in no case be lower than 95 per cent of the total food grains inclusive of the percentage under “Foreign food grains”.

3.1.4 As per article 12.5.130 of the Appendix of the Punjab Pure Food Rules the standard for Atta (Wheat Flour) is defined as follows:

**“Atta”** means the coarse product obtained by milling or grinding sound and clean wheat and sieving it. It shall be free from grit. It shall contain not more than 1.5 percent of ash and not less than 8 percent of gluten (dry) and not more than 0.115 percent of acidity expressed as sulphuric acid and determined by the alcoholic extraction process. It shall contain moisture not more than 13 percent, acid insoluble ash in hydrochloric acid not more than 0.1 percent. Crude fibre from 2.1 to 2.5 percent, Dietary fibre not less than 7.5 percent.

3.1.5 As per article 12.5.131 of the Appendix of the Punjab Pure Food Rules the standard for Fortified Atta is defined as follows:

**“Fortified Atta”** means the product obtained by adding one or more of the following materials to Atta, namely:

(a) Calcium carbonate
(b) Iron.
(c) Thiamine.
(d) Riboflavin and
(e) Niacin.

The calcium carbonate powder, if added for fortification shall be in such amount that 100 parts by weight of fortified Atta shall contain not less than 0.30 and not more than 0.35 parts by weight of calcium carbonate.

The above noted standard for Fortified Atta allows for just one of the listed micronutrient to be added. However WHO has identified that wheat flour should contain at least iron and folic acid. Accordingly, this standard, require revision in line with the recommendations of WHO.
3.1.6 As per article 12.2.47 of the Appendix of the Punjab Pure Food Rules the standard for Vegetable Oils / Refined Cooking Oils / Frying Oils is defined as follows:

**“Refined Blended Vegetable Oils/ refined cooking oils/frying oils”** whatever name it is called, means blending of permissible refined vegetable oils for which standards have been laid down in these Rules. It shall be refined, bleached and deodorized, and shall be free from rancidity, adulterants, sediments, suspended and other foreign matter, separated water, added colouring and flavouring matter and mineral oils. It shall have acceptable taste and odour. It shall contain not more than 20 percent Palmolein. It shall conform to the following standards:

(a) Moisture Not more than 0.1 percent;
(b) Free fatty acids (as oleic acid). Not more than 0.20 mg KOH/g;
(c) Unasponifiable matter Not more than 1.5 percent;
(d) Peroxide Value. Not more than 10 milliequivalents Peroxide oxygen / Kg oil;
(e) Rancidity (Kries test) in one inch cell on Lovibond scale. Below 1.5R;
(f) Cloud Point. Below 100°C;
(g) Vitamin A. Not less than 33,000 I.U./Kg;
(h) Iodine Value(Wijs). Not less than 80;
(i) Saponification Value. 185-196 mg KOH/gm;
(j) Flash point 0°C (pensky Marten closed method). Not less than 250 0C; and
(k) Colour Index in one inch cell. R=5.0 Y=50.

3.1.7 As per article 12.10.290 of the Appendix of the Punjab Pure Food Rules the standard for Iodised Salt is defined as follows:

**“Iodised Salt”** means a crystallized solid, white in colour free from visible contamination with clay, grit and other extraneous impurities. The following requirements shall be fulfilled: -

(a) 95 percent shall pass a 36-mesh sieve and 90 percent shall be retained on a 60-mesh sieve.
(b) The salt shall be white and 10 grams of salt in 100ml of water shall give a colourless solution, having a neutral reaction.
(c) For iodization of salt potassium iodide, potassium iodate and Calcium iodate shall be added and shall contain a stabilizer consisting of 0.1 percent sodium thiosulphate (Na2S2O3) or other stabilizing agents, which are equally affective on preventing the loss of iodine.
(d) The table salt iodized or otherwise shall comply with the following chemical analysis
   (i) Moisture Not more than 0.2 percent
   (ii) Chloride as (NaCl) Not less than 98.0 percent
   (iii) Matter insoluble in water Not more than 0.25 percent
   (iv) Iodine content at:
      (a) Manufactures' level Not more than 30 p.p.m (on dry weight basis)
      (b) Distribution channel including retail level. Not less than 15 p.p.m
   (v) Calcium (as Ca) Not more than 0.15 percent
   (vi) Magnesium (as Mg) Not more than 1.0 percent
   (vii) Sulphate (as SO₄) Not more than 1.0 percent
   (viii) Carbonate (as CO₃) Not more than 0.20 percent
   (ix) Nitrate Absent
   (x) Other water soluble salts. Not more than 1.0 percent
   (xi) Copper Not more than 1.5 p.p.m
   (xii) Lead. Not more than 1.5 p.p.m
   (xiii) Arsenic (as As₂O₃) Not more than 0.5 p.p.m

The label on the package shall specify the license number of the manufacturer, date of manufacture and the caution to store the salt in covered container in a cool dry place after opening the package.

3.1.8 In 2011 the Government of Punjab through a provincial parliamentary legislation promulgated the Punjab Food Authority Act 2011 (PFA Act) on June 23, 2011 and it was made part of the Official Gazette on July 6, 2011. This act repealed the old The Punjab Pure Food Ordinance 1960. The objective defined PFA Act is as follows:

   “To protect public health, to provide for the safety and standards of food.”

3.1.9 PFA Act is applicable to whole of Punjab but its enforceability by PFA will be sanctioned in stages. Currently, PFA has authority to enforce PFA Act only in the revenue jurisdiction of Lahore. In all other parts of Punjab Province the Punjab Food Department and EDO health of the Health Department of Punjab is enforcing the provisions of PFA Act under authority from PFA. It is expected that during next couple of years the jurisdiction of PFA will extent to three or four large Urban territories which may include cities of Faisalabad, Rawalpindi, Multan etc. and after that to all over Punjab.
3.1.10 Through this new Act the Government of Punjab has initiated new drive of:

i. New licensing system for all businesses involved in food manufacturing, processing, packaging, storage, transportation, distribution of food, import, export including food services, catering services, sale of food or good ingredients. This covers producers of wheat flour, edible oil and salt;

ii. Developing hygiene standards for variety of facilities and enforcing them through their enforcement officers;

iii. Public awareness about food quality and its availability; and

iv. Enhancement of laboratory testing of food samples picked up by food enforcement officers etc.

3.1.11 Some of the key new features of PFA Act are as follows:

i. Under PFA Act the Food regulatory framework is transferred from a Government Department to an Autonomous Authority governed by the Board of Directors and Scientific Experts in the form of a Scientific Panel;

ii. More effective enforcement mechanism;

iii. Creation of Food Authority Fund with the objective to make PFA financial independent in mid to long term period; and

iv. PFA under Article 57 has the authority to frame their own regulations and standards.

3.1.12 The rule, regulations and standards to be set under PFA Act are currently under development and till the time said regulations are approved and enforced the rules and standards defined in the Punjab Pure Food Rules of 2007 are applicable in all over Punjab.

3.1.13 Strategically the enforcement of the Act has been planned in various stages which are as follows:

**Stage One**

i. PFA is created with enforcement powers initially in the revenue jurisdiction of Lahore city only;

ii. PFA is developing its business policies and procedures and food quality standards and monitoring rules;

iii. In all other part of the Province of Punjab the Act is enforced by the representatives of the Food Department and Health Department under the authority delegated to them by PFA;

iv. The Government of Punjab will provide financial support to PFA for its day to day operations.
Stage Two
i. The enforcement jurisdictions of PFA will extent to other large urban territories Punjab like Faisalabad, Rawalpindi, and Multan etc.
ii. After the approval of PFA’s business policies and procedures and food quality standards and monitoring rules all old rules and standards will become ineffective;
iii. In all other part of the Province of Punjab the Act will be enforced by the representatives of the Food Department and Health Department under the authority delegated to them by PFA.
iv. PFA will start generating material revenues of its own through licensing fee leading to financially self-sustainable organization in long term.
v. The Government of Punjab will continue its financial support of PFA to the extent required.

Stage Three
i. The enforcement jurisdictions of PFA will extent to all over Punjab.
ii. PFA will become a autonomous entity both financially and operationally.
iii. The Government of Punjab will continue its financial support of PFA to the extent required.

3.1.14 As per our assessment the food quality monitoring process of Punjab although is well defined in old regulations and rules which will be repealed after the approval of new rules and standards to be set under the Act, but its enforcement have number of weaknesses which are as follows:

i. There is no mechanism defined in the rules and standards for periodic reporting of monitoring procedures performed including sample testing, facility inspection, licensing etc. Further, there is no system in place through which all monitoring data if available at varies tiers of the enforcement structure could be compiled and analyzed for effective strategy development and food quality enforcement;

ii. The effectiveness of the monitoring process is low especially in segment in which enforcement powers are with EDO Health. Administratively they report its departmental superiors whereas functionally for the purpose of food quality its reports to PFA, accordingly, food quality does not come on the operational priorities of EDO Health. This matter will be resolved when on stage by stage basis PFA will take control of whole of Punjab;

iii. PFA, Food Department and related functionaries of the Health Department has market knowledge of large producers of Wheat Flour, Oil Refineries and Salt produces and producers of other products but there is very limited information available about small manufacturers and producers due to which the target population for sample testing and enforcement by these regulators, is very limited. For example it is considered that around 50% of the wheat Flour production in Punjab is done through Chakkis, the total number licensed Chakkis all over Punjab are in the range of 7,000 as per records of the Food Department, whereas, as per very macro estimates of Food Department and PFA the number of Chakkis should be more than 50,000. There is need for focused studies by PFA for identification small producers to bring them under their monitoring radar.
iv. Laboratory facilities have limited capacity in facilities, equipment, staffing and reporting;

v. Sampling protocols are defined and also followed to an extent but these still require more augmentation on more scientific lines; and

vi. Since historically monitoring of food quality remained an integral part of the government machinery it remained prone to political influence and manipulation through financial incentives. The promulgation of the Act to some extent has transferred the monitoring of food quality process to an autonomous independent organization which is expected to be less prone to external influences;

vii. Overall supervision of monitoring process require substantial improvement but that cannot be performed in the absence of the an integrated monitoring data base through which PFA could ensure compliance with its rules for sample testing, procedural enforcement in case of proven non-compliances of standards and maintenance of secured food quality history of products, brand and businesses.

3.1.15 Since its creation under the leadership of its Board and Director General PFA has been able to set up an effective organization to enforce its rules and regulations in the revenue jurisdiction of Lahore to a substantial extent. Following are some of the areas in which PFA has made recognizable progress:

i. Creation of a Focal Team including key functional heads, team of Public Analysts and Food Safety Officers;

ii. Public Awareness of food quality;

iii. Creation of Food Licensing framework and system for implementation;

iv. Issuance of Licenses to around 20,000 food manufacturers, wholesalers and retailers in the revenue Jurisdiction of Lahore;

v. Drafting of new rules and standards;

vi. For enforcement of rules and standards rigorous on sight inspections and punishments for non-compliance; and

vii. Systematic sampling of food products and laboratory testing.
3.1.16 Although in a short span of time number of initiatives have been taken by the Management of PFA but there are number of key efforts need to be in place to ensure effective implementation and enforcement of PFA Act even in the revenue jurisdiction of Lahore some which are as follows:

i. Definition, approval and implementation of its Rules of Business, as of now PFA is using Rules of Business of Government of Punjab;

ii. Terms and Conditions of Service of the Employees, as of now PFA is using Service Rules of Government of Punjab;

iii. Standards and guidelines in relation to any food, food places, food workers and food handlers currently Pure Food Rules of 2007 are applicable;

iv. Marking, packaging, labelling, advertising and warranty of any food items;

v. Food recall procedures, currently Pure Food Rules of 2007 are applicable;

vi. Procedures for Prosecutions and appeals under the Act;

vii. Finance, accounts, budgeting and reporting procedures, currently PFA is performing these functions under compliance with Chapter VI Finance and Reports of the Act;

viii. Clarity between various provincial departments including industries, food and PFA with respect to licensing requirements and objectivity;

ix. Enforcement of Quality Standard Labeling, for this PFA is under discussion with Pakistan Standards Quality Control Authority (PSQCA);

x. Capacity enhancement of Laboratories in both qualitatively and quantitatively testing;

xi. Creation of effective database of inspections, sample testing and complains; and

xii. More interaction with Consumer Rights Protection Groups.

3.1.17 Due to non-existence of above noted matters, partially or in full currently PFA run on the basis of centralized chain of command, Director General (DG) being the focal person for the activities. DG is involved in all operational and policy decisions. Being a new entity this has added to the performance of PFA but going forward this framework could become a constrain to the enforceability of this Act at a wider scale. Further, in central control mechanism the organizations becomes substantially dependent on the personality of the person at the top and performance of the organization varies accordingly. As per our assessment the current DG is very pro-active, focused on his organizational objectives and quite knowledgeable about food business and related quality issues, due to which PFA has a very positive outlook at the moment.

3.1.18 As per current regulations and enforcement mechanisms the flour mills, oil refineries and salt producers from food quality perspective these are controlled under the Punjab Pure Food Rules of 2007. The said industries are required to comply with the standards defined in the Rules as noted in paragraphs above.
3.1.19 As per our discussions with Industries including Flour Millers and Oil Refineries they are not clear whether they need multiple licences from Department of Industries and PFA. Currently all mills and refineries are required to take licences from Industry Department of the Government of Punjab that is to ensure compliance with standards set by the Government for an industrial unit. As per PFA Act any facility which is involved in manufacturing, packaging and distribution of food (as defined in PFA Act) are required to secure a license from PFA. The objectivity of this license is to enforce food quality standards in public interest. The industries will also be required to maintain their licences with the Department of Industries to ensure compliance with industrial standards enforced by that Department. As of now PFA has not been able to issue licences to Flour Mills and Oil Refineries in Lahore. Discussions in this regard are underway and both PFA and related industry Associations are deliberating on the required process.

3.1.20 The Edible Oil refineries supply fortified edible oil in market with labeling of fortified edible oil and in number of test results such products are not actually fortified and even if some are fortified the level of fortification is not as per standard. As per representatives of PFA except for multinational manufacturers almost all oil millers are not complying with the standards. The enforcement of said standards is weak But PFA is now confident that through enforcement of new licensing framework, rules and standards and use of judicial activism they will be able to enforce the standard in years to come.

3.1.21 The non-compliance from standard by Flour Millers is mainly in the level of moisture in Wheat Flour which has direct impact on the weight and sale of value of the end product. As per flour millers the standard defined in the rules is not realistic and it is not possible for them to comply. As per records of laboratory tests performed by the regulator (PFA, Food Department or EDO Health) in most of the cases, the level of moisture level identified in wheat flour is within range defined in the standards. But both regulator and related industrial association are upfront is recognizing the fact that moisture levels differ considerably from standards which has positive effect on the revenues of flour millers. Further, both regulator and millers also indicate that the quality of laboratory testing is compromised deliberate or due to capacity limitations. This is an area in which PFA has to work and ensure that standards are effectively enforced since after mandatory fortification of wheat flour quality control will be very important for effective implementation of large scale wheat flour fortification program.

3.1.22 Conclusively as of right now for quality control the regulation applicable on wheat flour and edible oil is The Punjab Food Authority Act and the standards applicable for compliance are The Punjab Pure Food Rules of 2007 until PFA finalize and execute their own standards and rules under their own Act. But it is important to note that PFA has not started doing direct quality control of Wheat Flour, Edible Oil and Salt since their licensing from PFA is currently under discussion between PFA, Millers and Food Department.
3.2 Industry Assessment

3.2.1 As per macro level industry assessment of the Flour Mills in the Punjab Province of Pakistan following key facts are noted:

i. In total there are around 800 plus flour mills registered with the flour mills association. The actual number of mills registered and number of mill producing flour could be different since not all millers are required to be registered with the Association;

ii. As part of the last Program of GAIN, around 100 millers secured micro feeders. All these millers got trainings and technical material also for use of such micro feeders;

iii. Since, as part of the last program premix was provided by the program although millers have some contacts with the suppliers of premix but an effective supply chain mechanism for premix availability does not exist;

iv. Internal laboratory testing at mills is weak and will require augmentation in systematic manner;

v. As per consumption data generated by the Planning Commission of Pakistan and using assumption of market share of large mills in the total production wheat flour in Punjab and suppliers to other provinces it is estimated that total production of Wheat Flour by large flour mills in Punjab is in the range of 5.7 million Tons;

vi. Fortification of the above noted quantity will require approximately 588,650 kgs of premix for 100% fortification on annual basis. This is a large quantity which will be attractive enough to drive a premix supply chain through potential suppliers; and

vii. The association of millers is eager to move ahead along with the regulators on the fortification of wheat flour if related costs will be allowed as pass through cost in the pricing structure of wheat flour.
3.3 Monitoring Framework

3.3.1 The Monitoring Framework defined in the Punjab Pure Food Rules of 2007 which were developed and updated under Pure Food Ordinance of 1960 is as follows:

   a. Food Authority, which is defined as Executive District Officer (EDO) Health (Representatives of the Health Department) are responsible for securing food samples both at factory and retail level and perform testing on them for assessment of quality. EDO Health is an executive staff member of the Health Department;

   b. The Food Authority through Food Inspectors, who are the Health Officers at District and Town level will be responsible to secure food samples for laboratory testing;

   c. The Food Inspector for every population of 500,000 or a part thereof need to secure a minimum of 100 food sample every month and get them tested from the laboratory for quality testing in comparison to the quality standard defined in the Rules; and

   d. The Food Inspector has power to seize any facility where food is manufactured or sold at whole sale or retail level on the basis of poor quality of food tested by the Food Inspector.

3.3.2 After promulgation of the Punjab Food Act of 2011 the Pure Food Ordinance and its Rules were repealed but till the time PFA is going to develop, approve and enforce their own rules the Punjab Pure Food Rules 2007 will be applicable. Accordingly, EDO Health and Health officer still operate under authority from PFA.

3.3.3 This above process is still applicable in the whole province of Punjab expect for the Revenue Jurisdiction of Lahore where authority of PFA is applicable. In Lahore the above noted functions are performed by the Food Safety Officers of PFA. They have the same authority and powers for food sampling testing and enforcement in case of substandard quality detection.

3.3.4 A role of Public Analyst is defined in both PFA Act and The Punjab Pure Food Rules of 2007. The role of Public Analyst is to certify the result of laboratory tests performed on the samples collected by Food Safety Officers / Food Inspectors. His certificate is used in the court of law for prosecution of food manufacturers and retailers.

3.3.5 Specific to Wheat Flour, Food Department of Punjab also perform testing on wheat and wheat flour produced by millers through their own laboratories which are specialized in grain and grain Flour testing. Food Department has three Laboratories in Punjab. Each Laboratory covers three Divisions. The focus of the tests performed in these laboratories is on testing of wheat grain at the time of procurement of wheat crop by the Food Department and testing of Wheat Flour in accordance with the Standard defined in the Rules which mainly covers checking of moisture. Out of three laboratories only one in Lahore has Spector Photo Meter which was provided by the last Wheat Flour Fortification Program funded by GAIN. Accordingly, only this laboratory has the capacity to perform both qualitative and quantitative testing on fortified wheat flour.
3.3.6 PFA currently has one laboratory which is capable of performing tests on all type of food items including Wheat Flour both normal and fortified and also on Edible Oil and Salt. As per our discussions with the staff members involved in testing of food samples, we found them knowledgeable and of good experience in testing aspects of food items including wheat flour, edible oil and salt. As per their capacity they are only capable enough to cater for the samples they test collected by Food Safety Officers of Lahore. As per their records in 2011 in total 12,030 sample were tested by this Laboratory including 612 related to Cereals which mainly include Wheat Flour and 938 samples of Oil and Fat which mainly includes Edible Oil and Ghee. During 2012 total samples tested were 8,910 including 346 samples related to Cereals and 885 related to Oil and Fats. A summary of the samples tested and results is as follows:

Punjab Food Authority, Lahore
District Food Laboratory
Commodity Wise Analysis Summary

<table>
<thead>
<tr>
<th>Commodity</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Samples</td>
<td>Samples Found Adulterated</td>
</tr>
<tr>
<td>Oil &amp; Fats (Mainly Edible Oil &amp; Ghee)</td>
<td>938</td>
<td>269</td>
</tr>
<tr>
<td>Cereals (Mainly Wheat Flour)</td>
<td>612</td>
<td>60</td>
</tr>
<tr>
<td>Milk</td>
<td>3,333</td>
<td>1,155</td>
</tr>
<tr>
<td>Milk Products</td>
<td>666</td>
<td>251</td>
</tr>
<tr>
<td>Spices</td>
<td>1,514</td>
<td>190</td>
</tr>
<tr>
<td>Beverages</td>
<td>1,610</td>
<td>484</td>
</tr>
<tr>
<td>Fruit &amp; Vegetable Products</td>
<td>667</td>
<td>128</td>
</tr>
<tr>
<td>Sweets &amp; Baking Products</td>
<td>1,732</td>
<td>328</td>
</tr>
<tr>
<td>Sweetening Agents</td>
<td>218</td>
<td>28</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>740</td>
<td>188</td>
</tr>
</tbody>
</table>

12,030 3,081 8,910 2,241

Adulterated means not good for human consumption. The test performed were to check whether products tested are complying with the standards defined in the Rules and whether products in condition which is safe for human consumption.

3.3.7 As per our review of documentation maintained at laboratory following documentary process is used for sampling, testing and reporting:

i. All samples collected by Food Safety Officers delivered at the Laboratory by the officers along with a form which includes information about the food outlet from where sample is collected, date of sample collection, item description, quantity collected and mention of any specific physical observation noted by the officer while collecting samples and description of test requested for. One copy of this form is kept by the Officer and the other is delivered along with the Sample at the Laboratory.
ii. In laboratory the test is performed and results are recorded in a pre-printed report signed by the Public Analyst.

iii. Based on the report the Food Safety Officer decides on the next course of action.

iv. All records at the Laboratory is Manual in hard files.

v. As of right now it is not possible to easily do analysis of various test performed by Businesses, locations, Safety Officers, results and time period.

vi. It is also important to note that since all records are in hard form in files accordingly, these records are prone to modification and manipulation.

3.3.8 Although we noted that the capacity of the staff members at the laboratory was good but there quantitative capacity is limited to the extent of the samples they are testing at the moment. The infrastructure of the laboratory seemed to have enough capacity to accommodate substantially more tests if equipment is provided and more qualified staff is provided for this purpose. Further, the data management and security system is required to be in place considering following key objectives:

   i. Security of testing data;
   ii. Security of Business Information of manufacturers, whole sellers and retailers;
   iii. Accessibility of data for analysis on real time basis;
   iv. The information could be used effectively for enforcement; and
   v. Integrity of information could be ensured.

3.3.9 The facts noted above in paragraphs 3.2.6 to 3.2.8 above are only related to Lahore only. The situation in other parts of the Punjab are not pretty different since there are no compiled records of food testing performed by Food Authority available for review at provincial level. Further, quality of laboratories is also considered to be weak as compared to Lahore.

3.3.10 Conclusively, currently the monitoring responsibilities for food quality in Lahore rests with PFA for which Food Safety Officers collect samples as per rules defined in the Punjab Pure Food Rules 2007 and get them tested in the Laboratory. As per test results enforcement measures are taken for which proper procedures are defined in the rules. For all other parts of Punjab it is the EDO Health (the Food Authority) which are responsible for sampling and testing of food items for ensuring quality as per standards defined in the Rules. The quality of this process is weak since there is no compiled record of the samples collected and tested along with results by each EDO health or a summary at division level. As per discussion with the Health Department samples are collected by their officers and they also tested but they do not have any data to present as evidence in this regard. Food Department of Punjab do testing of samples on Wheat grain and wheat flour but that is mostly focused only on testing of level Moisture.
3.3.11 As per discussion with consumer rights groups, representatives of health department, food department and PFA the extent and quality of monitoring require substantial improvement not only at food quality level but also at labeling and facility standard compliance level. With this objective the Government of Punjab promulgated the new Punjab Food Authority Act. The monitoring of both Wheat Flour and Edible Oil now coming under this new Act and any new problem related to Wheat Flour and Edible Oil has to work within the parameters of this Act and Rules defined under these rules.

3.3.12 As per our assessment the Regulatory Monitoring System of Punjab require augmentation in following key areas:

i. Availability of more testing laboratories equipped with quality equipment and trained staff members (Public Analyst) as defined in Article 35 of the Punjab Pure Food Rules of 2007 which are as follows:

   a. No person shall be appointed to be a Public Analyst unless he holders Ph.D in Chemistry or Biochemistry or food technology with at least three years practical experience in the analysis of food; or

   b. if none is available then M.Phil in chemistry or biochemistry or food technology with at least seven years practical experience in the analysis of food.

ii. Assessment of appropriateness of sample sizes given in Article 37 of the Rules. Further, the mix of sample size amount various products should also be defined and samples should be collected, tested and reported as per defined parameters;

iii. A data base of all samples collected, tested and reported should be maintained to ensure timely reporting, analysis and security of data related to monitoring of food quality in Punjab. This data could be linked with the licencing and vigilance section of PFA for effective coordination.
3.4 Pricing Framework

Price of Wheat Flour

3.4.1 The price for Wheat Flour could be clustered in two main categories which are as follows:

i. Price of Wheat Flour produced using Wheat provided by the Food Department of Government of Punjab; and

ii. Price of Wheat Flour produced using Wheat procured by Flour Mill from open Market.

3.4.2 The final retail price of Wheat Flour produced by Flour Mills using Wheat provided by the Food Department is determined under Food Stuff Control Act of 1952. In this regard the Wheat is provided by the Food Department to Flour Millers for milling for which a standard milling charge is paid on unit basis. Plus a transportation charge is also paid. Accordingly, the mix of price in this case is as follows:

i. Cost of Wheat determined by the Food Department considering their purchase price plus cost of borrowing;

ii. Milling charges to Millers; and

iii. Transportation Charges

3.4.3 The current price of a 20kg bag (collected from open market in July 2013) of Wheat Flour is in the Rs. 750 per bag which is equal to around USD 7.5 per bag.

3.4.4 The price of Wheat Flour produced by Flour Millers using Wheat procured by them directly from the open market the price fixed by millers own their own depending on their cost and margin they would like to make.

3.4.5 As per analysis of information provided by the Millers and Food Department around 70% of the Wheat Flour produced by 800 plus flour mills of Punjab consumes Wheat provided by the Food Department of Government of Punjab. Accordingly, the pricing of said Wheat Flour also has impact on the prices determined by the Flour Millers for the Wheat Flour produced by miller using Wheat procured by millers from the open market.

3.4.6 It is important to note that for practical reason the milling cost accepted by the Food Department cannot be tracked back to a proper cost working, rather it is a rate fixed by the Food Department during negotiation with the Millers keeping cost workings of the millers as one of the underlying factors. Accordingly, millers are conscious of costs if they will be asked to perform mandatory fortification of Wheat Flour.
Price of Edible Oil & Iodised Salt

3.4.7 Effectively Government has no direct control of the sale price of Edible Oil & Iodised Salt in Market but they do monitor the prices and in-case there is material increasing trend the Provincial Government do ask the producers to justify their prices as per costs and reasonable margin basis. But generally the prices are determined by the millers as per their cost plus margin models. Since most of the Edible Oil is dependent on imported raw material accordingly impact of international oil prices, foreign exchange rate is included in the retail price of the end product.
3.5 Exports to Afghanistan

3.5.1 Pakistan is one of the major Wheat Flour exporters to Afghanistan. Flour exports to Afghanistan are carried out by traders and not by the flour mills directly. The number of traders within Pakistan involved in this export trade is not known. Based on other trading patterns in Afghanistan, it is likely that the flour trade may be controlled within Afghanistan by a small number of traders. The bulk of the flour is Maida flour not Atta flour. The reason for this is that the Afghan consumer does not like Atta flour from Pakistan due to the higher extraction rate than the Afghan Atta flour. Nearly all the flour comes from Punjab because of the wheat supply that is readily available and the lack of wheat in other provinces. Flour enters Afghanistan through Torkham border of KPK Province and Chaman border of Baluchistan Province. The split is almost 50/50 between KPK and Baluchistan as the entry points.

3.5.2 Based on information provided by the Director of the Punjab Food Department, Afghanistan imports in the range of 1.0 – 1.2 million tons of wheat and flour (combined) per year. The estimated flour imports from Pakistan to Afghanistan range between 0.65 – 0.8 million tons per year. Since the flour trade is controlled by traders and not millers the fortification of wheat flour (Maida) destined for Afghanistan will be a challenge.

3.5.3 Based on previous missions to Afghanistan by the consultant in 2003 and 2007 the Afghan traders would be willing to ask for fortified flour but the level of trust between the traders in Pakistan and Afghanistan is a major issue that needs to be addressed. If all flour (Maida and Atta) fortification from mills in Punjab is made mandatory then the exports to Afghanistan would be fortified as well.
4 Proposed Program Structure

4.1 Lessons Learned from Previous Program

I. The last large scale wheat fortification program of GAIN has number of highlights available at flour mills, food department and laboratories. There are more than 100 Micro feeders already installed at flour mills in Pakistan as part of previous program of GAIN. The laboratory technician were trained in GAIN funded training programs for quality and quantitative testing of wheat flour, equipment provided by GAIN to Laboratories is still in use, the brand of Pholadi Atta (Iron Flour) is still intact and number of staff members of miller are already trained;

II. The emphasis of Flour Miller was on creating demand for fortified flour and how to meet the cost of fortification due to which the whole flour fortification process was subsidized and when subsidy stopped the Program got stranded;

III. Effective system for monitoring of production of Wheat Flour and its fortification was not in place;

IV. Various groups among Punjab Flour Mills Association (PFMA) dominated in the selection process of mills which restricted the penetration of the program to all geographic locations and population groups;

V. The previous program was led by the Health Department which has the mandate for nutrition but no direct or indirect control over setting up food quality standards and also to monitor its implementation;

VI. There was no significant progress on the legislation for mandatory fortification of Wheat Flour since the GAIN Program was federal and the food is a provincial subject and legislation was required at provincial level.
4.2 Key Ground Facts

4.2.1 The Punjab Food Authority was created in 2011 with the objective to bring new drive in the efforts of the Government of Punjab for effective monitoring of food quality in the Province of Punjab. For this purpose new standards and rules are currently under drafting stage.

4.2.2 All key stakeholders including PFA, Food Department and Punjab Flour Mills Association has agreed to make Flour Fortification Mandatory and for this purpose they are in the process of modifications in the standards. In June 2013 as part of the meeting between all three key stakeholders it has been agreed in the minutes of the meeting that.

4.2.3 Full wheat flour production of Flour Mills will be fortified under the changes in the standards and rules to be set by PFA. The flour millers will get one year from the date the new standard or rule will be effective to ensure compliance. The cost of fortification will allowed by the food department as pass through item to consumers in the end price of Wheat Flour as part of their price determination framework.

4.2.4 All stakeholders have categorically communicated that they don’t need subsidy as part of this program they need technical support from GAIN and its partners for effective legislation, implementation and monitoring of this Wheat Flour Fortification initiative.

4.2.5 The Food Department of Punjab which provide around 70% of Wheat to Flour Mills for Wheat Flour Product has shown keen interest in fortification of Wheat Flour and are even willing to procure Premix for fortification in bulk quantity as part of the program. The flour mills of Punjab on an average producing around 5.7 million tons of Wheat Flour per year. This production not only caters the demand of Punjab province but also feeds demand of northern Sindh Province, Baluchistan, KPK, Northern Areas and Azad Kashmir. The value of Wheat Flour Produced by Flour Mills of Punjab using current rate of Wheat Flour is in the range of USD 2.1 billion (Rupees 215 billion) per year. To ensure fortification of 100% production of Flour Mills the Program will require availability of Premix of around 588,650 kg.
4.2.6 For making wheat flour fortification mandatory, a legislation of the Parliament of Punjab will not be required. The fortification of Wheat Flour could be made mandatory through required changes in the rules and standards to be defined under PFA Act. As per discussion with the representatives of the Law Department, Government of Punjab for making Wheat Flour Fortification Mandatory legislation from the Parliament of Punjab will not be required. Under the Act PFA has the authority to defined and approve the rules and standards for food quality. Accordingly, the proposed process for making wheat flour fortification mandatory will required following steps:

v. Drafting of technical standards of Fortified Wheat Flour;
vi. Approval of new standard by the Scientific Panel of PFA;

vii. After the approval of Director General PFA the standard will be forwarded to the Provincial Cabinet of Punjab through Secretary Food Department;

viii. After the approval of the Provincial Cabinet the Chief Minister of Punjab will approve the change in the Standard and accordingly it will be promulgated in the official Gazette of Punjab and will become enforceable on producers.

It is important to note that PFA is currently under the process of draft of their rules and food quality standards so in case the initiative for making Wheat Flour Fortification Mandatory is made and proper technical support is provided to PFA above noted process could be performed as part of the overall standard definition and approval process.

4.2.7 The Wheat Flour produced by flour mills only cater for around 50% of the total demand of Punjab, remaining 50% demand is met by Chakkis. Through any program focused on flour mills will not be able to target the consumers of Flour Chakkis.
4.3 Proposed Structure of the New Program

4.3.1 Considering above noted key facts and my discussions with all key stakeholders I propose following macro level structure for new Wheat Flour Fortification Program:

i. The Implementing Partner of the Program will The Punjab Food Authority (PFA);

ii. The Program need to provide technical assistance in following key segments:

   a. Changes in Rules and Standards for Mandatory Flour Fortification;
   b. Supply Chain Analysis and Strategy for Micro Feeders and Premix;
   c. Fortification Costing Model;
   d. Quality Control;
   e. Development and Implementation of an effective data management system for supply chain, production and monitoring for the Program;
   f. Public Awareness;
   g. Research on Nutrition Mix of various Wheat varieties produced in Punjab and also on Nutrition Facts differential in Wheat Flour produced in Flour Mills and Chakkis both without fortification and with fortification;
   h. A research on how to bring consumers currently being fed by Chakkis.

iii. The Program will require overall supervision of the Program along with DG PFA.

4.3.2 Key consideration and activities proposed to be performed as part of the proposed program structure are as follows:

**Mandatory Flour Fortification**

4.3.3 As per our discussions at the Law Department, Food Department and Punjab Food Authority the Legislation for Mandatory Wheat Flour Fortification could be done in any of the following two manners:

i. Since the new standards and rules of PFA are currently under drafting, as part of new rules and standards the standard for Fortified Atta is deleted and made part of the standard for Atta. But since fortification will be mandatory only on Flour mills not on Chakkis, accordingly, there is need for clearly defining that all Flour mills will have to comply with the standard for Atta which is fortified, whereas, for wheat flour produced at any unit other than flour mills, the standard of Atta will be the same as it is already defined in Paragraph 3.1.3 above. Further, the specification of Fortified Atta require more elaboration with respect to Nutrition facts including calories, fat, cholesterol, sodium, carbohydrates, Vitamins, Iron, Calcium etc. and type of premix used;

ii. The rules and standard as stipulated right now remain the same except the standard for Fortified Atta is elaborated to include Nutrition Facts and type of premix to be used and in the rules it is clearly stated that all flour mills will be required to produced fortified wheat flour only and for this purpose they will be required to comply with the standard for Fortified Atta. The flour mills also brand and label their products as fortified; and
iii. In the rules the specification of Micro Feeders, Premix, process for fortification and supply chain data management process will also be defined so that Flour Millers ensure compliance with these standards.

4.3.4 The program will require inputs of a technical fortification consultant and legal consultant for proper drafting of standards within the parameters of the laws and regulations of the Province.

4.3.5 PFA will have to ensure along with the Food Department that all Flour Mills are licensed under PFA and their manufacturing facilities are inspected and cleared under the standards set by the Authority.

Supply Chain Analysis and Strategy for Micro Feeders and Premix

4.3.6 For effective implementation of large scale wheat flour fortification in Punjab it is important that a detail supply chain study is conducted covering following key aspects:

i. Identification of all Flour Mills Registered with PFMA and classify them in active an non-active so that a final list of active Flour Mills could be developed;

ii. Identification of Production capacity of each active Flour Mill clustered in variety of products produced by them so that actual capacity for Production Wheat Flour could be calculated;

iii. Identify Plant Specifications;

iv. An accurate assessment of ratio between Food Department provided Wheat Flour Production and independent Flour Production;

v. Distribution of annual production on monthly basis to calculate monthly requirement for Premix;

vi. Identification of total number of micro feeders required by Flour Mills;

vii. Calculation of total premix required clustered in months and Flour Mills;

viii. Identification of key suppliers of Micro –Feeders and Premix short-listing of at least three such suppliers for each after proper technical evaluation and testing only on quality consideration. This will allow PFA to prescribe Flour Mills to procure Micro-Feeders and Premix at least three approved suppliers. If in case Flour Millers would like to procure Micro-Feeders and Premix from other suppliers also but only after securing proper approval from PFA. PFA will provide approval after going through proper quality testing and evaluation.

4.3.7 The process will required an input of consulting team in coordination with PFA, PFMA and Food Department.
Quality Control

4.3.8 Quality Control will require inputs of experts to determine testing objectives, frequency, framework for regulator and random sample testing and its reporting. The Consultant will also have to identify physical capacity needs in the form of equipment and chemicals required for full coverage. In care there is also need for additional staff that also will be identified. In my view the Quality Control for this Program is needed to be enforced at following three levels:

i. Quality Testing at Flour Mill level through Spot testing for this purpose Spot Test Sets will be made available to Millers on cost to cost basis;

ii. Periodic Testing of samples by independent testing institutions to be approved by PFA for this purpose. PFA will define the sample size and periodicity for sampling and objective of testing. Accordingly, the representatives of the independent testing institution will perform sampling and testing and forward their test report in two copies one copy to the mill and other copy to PFA and also enter the results in Data Management Tool. The cost for this testing will be borne by the Flour Mills; and

iii. Random sampling and testing by PFA and its affiliates through their Food Safety Officers. The cost of this testing will be borne by PFA.

4.3.9 Effectively as part of this Technical Assistance the Consultant will define the Monitoring / Quality Control framework for a macro level structure is presented above.

Fortification Costing Model

4.3.10 A fortification cost model is needed to be developed based on which Food Department will allow the cost of fortification as a pass through item in the overall cost of Wheat Flour. As of now I understand that following key cost elements will have to be considered in fortification cost model:

i. Cost of Premix

ii. Cost of Micro Feeder

iii. Cost of Periodic Laboratory Testing and Reporting thereon;

iv. Cost of any staff directly attributable to management of fortification processing including on site quality testing; and

v. Any other directly attributable fortification cost.
Data Management

4.3.11 Without good and secure data management effective monitoring is not possible. Accordingly, I propose that an integrated data management system is designed and implemented encompassing following modules:

   i. Administration
   ii. Definition of Flour Mills and related Capacity Information;
   iii. Production Management;
   iv. Premix Supply and Usage;
   v. Quality Testing and Reporting; and
   vi. Reporting.

4.3.12 It is proposed that a consultant is engaged to design this application using cloud technology for easy accessibility and integration.

Public Awareness

4.3.13 All with production and supply fortified flour it is important that positive public awareness initiative is also initiated so that penetration of fortified flour could be increased from 50% of the population. A consultant for this purpose will be required to play a role to design an awareness strategy in coordination with existing public health awareness initiatives of Government of Punjab and other vertical programs of the Federal Government. In this component I don’t envisage to go for high cost TV and Radio campaigns, but use of existing network of lady health worker and other social marketing channels which are already in place in Punjab.

Overall Management

4.3.14 The Government of Punjab has shown keen interest in initiating this Large Scale Wheat Fortification Program this interest is evident at all level so the Government. But for the success of this program effective coordination at macro and micro level will be required. Accordingly, the Program will have to deploy some resources for coordination which will cover:

   i. Coordination in efforts of various consultants as defined above;
   ii. Coordination between PFMA – Millers, Food Department and PFA;
   iii. Coordination with key external Program Partners including WFP, Unicef and MI; and
   iv. Support to DG PFA for implementation of the Program.
4.4 **Sustainability**

I. Through this new proposed program we will be able to target around a population of 76 million in all four provinces of the Country.

II. The Wheat Flour Fortification will become mandatory and the Program will ensure that within one year of promulgation of related rules all large flour mills will produce only fortified Wheat Flour;

III. The Program will work for systematic implementation of program activities in coordinated manner so that the process for implementation and monitoring could be able to secure perpetual succession;

IV. Since this Program Design does not have any subsidy component and all reasonable costs related to Fortification will be included in the end price of the Product accordingly this program is safe from risk of discontinuation at the end of donor funding;

V. By providing more capacity to laboratories, design and implementation of data management and implementation of independent quality control framework sustainability of the Program will be ensured; and

VI. Through technical inputs related to supply chain, research on Chakkis the Program will be able to provide significant inputs for any future program for penetration in the remaining portion of Wheat Flour Supply chain.