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ASSESSMENT OF WHEAT FLOUR MILLING INDUSTRY IN TAJIKISTAN



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Assessment of Wheat Flour Milling Industry in Tajikistan

Prepared for:
The Government of the Republic of Tajikistan
The United States Agency for International Development (USAID)
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ACRONYMS

DRS	Districts of Republic Subordination
FAO	United Nations Food and Agriculture Organisation
FAOSTAT	FAO Statistics
GAIN	Global Alliance for Improved Nutrition
GOST	The CIS countries Inter-State Standard, also the Soviet Standard
GMP	Good manufacturing practice
ha	hectare
HACCP	hazard analysis and critical control points
kg	kilogram
m	million
MT	metric ton (1000kg)
MoHSPP	Ministry of Health and Social Protection of Population of the Republic of Tajikistan
QA	Quality assurance
QC	Quality control
SES	The Republican Centre of State Sanitary and Epidemiologic Supervision
TJS	Tajik Somoni
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USD	US dollar
WFP	United Nations World Food Program
WHO	World Health Organization
VAT	Value Added Tax

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EXECUTIVE SUMMARY

Although the latest national micronutrient survey for Tajikistan has shown improvements in nutrition indicators since 2003, the prevalence of micronutrient deficiencies in Tajikistan is still high and of public health concern.

Despite the high per capita levels of wheat consumption in Tajikistan there has been little domestic fortification of wheat flour since 2007, when an Asian Development Bank (ADB) regional project concluded. Currently, the only wheat flour in Tajikistan fortified for consumption is that supplied by World Food Program (WFP) for its school feeding programs, although there has been a draft law on the fortification of wheat flour since 2007.

In May 2014, the United States Agency for International Development (USAID) and Global Alliance for Improved Nutrition (GAIN) hosted a national roundtable on scaling-up wheat flour fortification in Tajikistan, which discussed key findings of GAIN-USAID assessments and how best to meet the urgent need to improve nutrition among the people of Tajikistan. Since, USAID had commissioned GAIN to assess the wheat sector in Tajikistan and the opportunities for strengthening flour fortification and the original aim was to set up a flour fortification program in one province, which could then be rolled out across the country to establish a sustainable national wheat flour fortification program. This assessment *looks at the current picture of the flour produced and sold in the country and the existing fortification provisions; identifies gaps and challenges in the milling industry in relation to future fortification efforts; and presents recommendations to enact and implement legislation to enhance flour fortification and therefore the nutritional standards of the population.*

The findings of this assessment showed that there is enough milling capacity in the country to meet local demand for wheat products. The majority of the mills are located in the province of Sogd, with few mills located in Khatlon Province. Local theoretical milling capacity is estimated¹ at two million metric ton (MT) of grain with local demand for wheat products estimated¹ at 1.5million MT of grain – extrapolation from FAOSTAT data indicates 1.2m MT of grain. There is around 770,000 MT of flour on the market - 575,000 MT from imported wheat and 197,277 MT from imported flour from Kazakhstan.

However, it has been found that consumers in Tajikistan, in common with those in their neighbouring countries, have a preference for flour produced from wheat grown in Kazakhstan because of its high quality. Local millers respond to this demand though supplying wheat flour imported from Kazakhstan, but locally milled. In some cases, flour sold in markets was labelled as from Kazakhstan when it was in fact Kazakh flour milled locally. These factors have implications for the production and supply of wheat flour in the country, including the fortification process.

The assessment also reports that while there is some good manufacturing practice (GMP) in local mills, as well as some suitable equipment for fortification and a few individuals experienced in the process through the Asian Development Bank (ADB) project, more was needed to establish a sustainable fortification program that could be adequately, and effectively monitored. As a prerequisite, training in the process of flour fortification, and its monitoring, will be necessary for both producers and inspectors. Training should also encompass information on food fortification and its benefits, as we found knowledge about this was weak, and sometimes ill-informed or incorrect. The following training modules may be

¹ Personal communication – Mr Tagoimurod Sharipov; Director State Unitary Enterprise “Korporatsiya Ghalla” (Wheat Corporation)

recommended: control and monitoring systems, quality control (QC) and quality assurance (QA), QA forms, fortification premix procurements, bagging and stop control, instruction of mix receipt record, micro-feeder calibration and control. Tajikistan already has the national standards for wheat baking flour of types “Premium and Grade -1” (ST RT 1057-2004) and for the fortified breads and bakeries (ST RT 1058-2004) as well as technical specifications for premix KAP complex (TU 9352 RT 020007157- 001-2002) issued by the Agency for Standardization, Metrology, Certification and Trade Inspection– which permits wheat flour fortification if duly identified as such (see Annex 1). This standard will require repealing or amending to fall in line with World Health Organization (WHO) recommendations, and with the current draft law on wheat flour fortification, once that is enacted and implemented.

Although this assessment was originally targeted at a fortification pilot for Khatlon province only, we have concluded that the program should be expanded nationally to become more feasible, effective and sustainable.

The primary conclusion of this assessment is that fortification is feasible but should be mandatory and not a voluntary program focused on a single province. This assessment concludes with a series of recommendations to the Republic of Tajikistan Ministry of Health and Social Protection of the Population (MoHSPP), including the setting up of a working group or a National Alliance, involving various ministries and sectors, to advocate for the ratification of the draft law on fortification of wheat flour and the necessary by-laws and technical rules, including a timescale for implementation, as well as other supporting strategies, such as tax incentives, support for small mills and ensuring consumer demand for fortified flour. Training of producers and inspectors and consumer education will also be needed to ensure that flour fortification becomes an effective program that enhances the nutrition, health and wellbeing of the people of Tajikistan.

SECTION 1. BACKGROUND

1.1. General Information about Tajikistan

Tajikistan is a mountainous landlocked sovereign country in Central Asia with an estimated 8 million population. It is bordered by Afghanistan to the south, Uzbekistan to the west, Kyrgyzstan to the north, and China to the east. Tajikistan is the smallest nation in Central Asia by area. Tajikistan became independent in 1991 following the breakup of the Soviet Union, and experienced a civil war between regional factions from 1992 to 1997.

Tajikistan consists of 4 administrative divisions. These are the provinces (viloyat) of Sughd and Khatlon, the autonomous province of Gorno-Badakhshan (GBO), and the Districts of Republican Subordination (DRP). Each province is divided into several districts, which in turn are subdivided into jamoats (village-level self-governing units) and then villages. As of 2006, there were 58 districts and 367 jamoats in Tajikistan.

Despite repeated efforts by the Tajik government to improve and expand health care, the system faces challenges with severe shortages of medical supplies. Ministry of Labour and Social Protection of Population of the Republic of Tajikistan reported that 104,272 disabled people are registered in Tajikistan (2000). This group of people suffers most from poverty in Tajikistan. Life expectancy at birth was estimated to be 66.38 years in 2012. The infant mortality rate was approximately 37 deaths per 1,000 children in 2012.

Figure 1- Map of Tajikistan



Source: World FactBook CIA 2014, accessed March 2015

1.2. Nutritional Status

According to a World Bank/UNICEF report of 2012² in Tajikistan 53% of children and 58.6% of women were iodine deficient, and 28.8% of children and 24.2% of women were anaemic. The national micronutrient survey 2009 reported that iodine deficiency was prevalent in 58.6% of women on average, and as high as 85% in Khatlon and 74% in Districts of Republic Subordination (DRS). Micronutrient deficiencies can be extensive, affecting overall health, cognitive development, increased risks of mortality and co-morbidities, and reducing national productivity and socioeconomic development. Iodine deficiency is the single most important cause of irreversible mental retardation in the world, and also causes cretinism.

Although the latest 2012, national micronutrient survey has shown improvements in nutrition indicators since 2003, the prevalence of micronutrient deficiencies is still high in Tajikistan and of public health concern, and to address these public health issues continuous efforts are needed.

SECTION 2. FORTIFICATION IN TAJIKISTAN

2.1. History of Food Fortification in Tajikistan

Bread is consumed by all the population in Tajikistan, usually at every meal, making wheat flour an ideal food for micronutrient intervention, with an estimated per capita consumption of 365 grams per day as per GAIN's recent wheat flour assessment by D. McKee (2014).

The second grade wheat flour is used for making standard homemade “non”, and premium and first grade flour is used for baking. The first is seen as healthier, more filling and a better source of energy; and the second, used for baking and bread making, are more for special occasions or hosting guests. There has been little domestic fortification of wheat flour in Tajikistan since 2007, when the Asian Development Bank (ADB) regional project concluded. The project, funded by the Japan Fund for Poverty Reduction, aimed at improving the nutritional status and physical and cognitive development by establishing a regional program to fortify salt and wheat flour. It ran from 2002 to 2007 and involved about 20 mills that received feeders and premix. At the end of the project, most of the mills returned their remaining stocks of premix as it had passed its expiry date.

Currently, the only wheat flour in Tajikistan that is fortified for consumption is supplied by WFP for its school feeding programs, representing about 12,000 tons per year. About 7,000 tons of this is donated directly by Russia and fortified according to WFP specifications. WFP procures the remainder via tenders in Russia with cash from the Russian Federation.

Tajikistan developed national standards for the voluntary fortification of wheat flour during the 2002-2007 ADB project on salt iodization and flour fortification (see Annex 2). The Agency for Standardization, Metrology, Certification and Trade Inspection of Tajikistan under the Government of Tajikistan, (Tojikstandard <http://standard.tj>), which is a successor organization to the Soviet-era Gosstandard, has well-established procedures to adopt new standards and revisions, and also plays a regulatory monitoring role by enforcing adequate iodization of salt.

² Situational analysis, Improving economic outcomes by expanding nutrition programming in Tajikistan, February 2012, UNICEF and the World Bank

2.2. Tajikistan Flour Fortification Project

There has been very little domestic fortification of wheat flour in Tajikistan since 2007, when a regional project ended (see Section 5.4), although the per capita wheat flour consumption remains high at around 360 grams per day. Improving nutrition for vulnerable women and children in Tajikistan is a key objective within the U.S. Government's Feed the Future Initiative. In 2015, USAID Tajikistan commissioned GAIN to assess the wheat sector in Tajikistan and identify opportunities for strengthening flour fortification efforts.

In May 2014, USAID and GAIN hosted a national roundtable on scaling up wheat flour fortification in Tajikistan. Key findings of the GAIN-USAID assessments were presented, and informed discussions among policymakers, donors and partners to help maximize impact in meeting the urgent need to improve nutrition among the people of Tajikistan.

This new project, starting in late 2014, Tajikistan Flour Fortification Project (Tajikistan Field Support) funded by USAID will allow GAIN to work with partners to build the enabling environment for a sustainable national wheat flour fortification program in order to improve intakes of iron and folate.

SECTION 3. METHODOLOGY

To support the Government of Tajikistan in building sustainable wheat flour fortification programs, it was necessary to conduct wheat flour milling industry assessment since there has been very little domestic fortification of wheat flour in the country since 2007, when a regional project ended (see Section 5.4).

The objective of this assignment was ***to conduct a detailed assessment of selected (large and medium-scale) flour mills in Tajikistan to determine their respective equipment and premix requirements, recommend protocols that can be adopted within the current manufacturing process to ensure fortification requirements can be consistently fulfilled, and determine the training requirements for production personnel, if applicable.*** Large and medium scale flour mills were selected for this assessment, as they make up more than 50% of total flour market share and are the most suited for the fortification process.

This assessment was carried out, between the 6th and 31st March 2015, through a desk review of available documents – including past assignments relating to the Tajikistan milling industry by David McKee, for GAIN and USAID in 2014, a few reports found on the internet relating to the Asian Development Bank (ADB) fortification pilot, and statistical information from FAOSTAT (www.faostat3.org), which was checked within the country.

Additionally, the consultant conducted an in-country assessment with focused personal interviews with government officials, millers, the Consumers' Union and donors.

SECTION 4. RESULTS

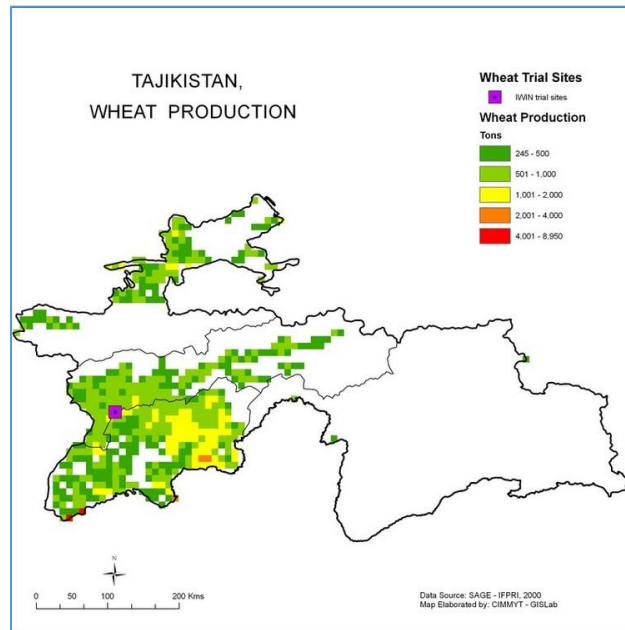
4.1. Production and Consumption

Wheat flour is the main staple in Tajikistan, providing an estimated 70% of energy requirements - one of the highest per capita flour intakes in the world. The flour is industrially milled, making it an ideal vehicle for fortification.

Wheat is one of the most significant crops in Tajikistan,³ occupies about 40% of the total arable land and is grown in valley areas, both under irrigation and in rain-fed conditions. The most important wheat producing regions include:

- Khatlon, accounting for 55% - 60% of the country's total production
- Sogd (Sughd) - about 20% of the wheat production
- Central Tajikistan - about 18%
- Grono-Badakhshan - about 3%-4%.

Figure 2- Map of wheat production in Tajikistan



4.2. Tajikistan Flour Milling Capacity

Although wheat is primarily grown in Khatlon, the majority of the large flour mills, with the largest capacity for milling, are found in Sogd Province. Local theoretical milling capacity is estimated⁴ at 2m MT of grain with local demand for wheat products estimated¹ at 1.5m MT of grain – extrapolation from FAOSTAT data indicates 1.2m MT of grain (substantiated by Tables 1-3 and discussion below). The country's ability to mill, therefore, exceeds local demand for wheat flour products, meaning that any imports of finished flour are detrimental to the local milling industry. Consumers view Kazakhstan flour extremely favourably in Tajikistan (as in other neighbouring countries in the region). Incentivising wheat imports through reduced taxation, a common practice in countries with a local industry and a net importer of a commodity, enables the local milling industry to provide consumers with what they demand, Kazakhstan wheat flour, but locally milled.

³ <http://wheatatlas.org/country/environment/TJK/0?AspxAutoDetectCookieSupport=1>

⁴ Personal communication – Mr Tagoimurod Sharipov; Director State Unitary Enterprise “Korporatsiya Ghalla” (Wheat Corporation)

In 2010, the Government reduced Value Added Tax (VAT) for imported wheat from 18% to 10%. Thus, the Government led a political shift in the flour milling industry to develop domestic flour milling industry rather than the importation of wheat flour, already milled in other neighbouring countries. The milling industry allows the procurement of food for both human consumption and animal feed. Wheat from Kazakhstan is preferred, as the map below illustrates (Figure 3). Sogd province in the north is the main entry point for wheat from Kazakhstan, and fuel and other bulk commodities from Russia. Tajikistan receives up to 900,000 tons of wheat and wheat flour per year from Kazakhstan. Most of this arrives by rail to Sogd Province (90%)⁵ where the wheat is stored and milled with over 60% sent southwards by truck. Traders and milling companies say that if demand for wheat increased, there would be no transport constraint on movement of much larger quantities of wheat. Sogd Province should be the primary focus of flour fortification for Tajikistan.

Figure 3- Tajikistan Rail Assessment



A list of mills known to the regulatory authorities is given under the contacts listed in Annex 1. Many of these mills, however, were not operating at all (some for some considerable time, judging by the condition of the buildings) and others only intermittently.

4.2.1. Wheat Production Data – Tajikistan

As can be seen in Table 1, the land planted under wheat has remained virtually consistent (crop rotation with rice appears to be common) though wheat yields have doubled, leading to a doubling in wheat grain produced. Table 1 shows that the quantity of local wheat entering the food chain has decreased significantly from less than 350,000 to around 120,000 MT while that entering the animal feed sector has significantly increased from around 12,000 MT to in excess of 625,000 MT (close to 1m MT in a good production year).

The assumption is that Tajikistan wheat has a poor baking quality but Kazakh wheat flour is recognised as of good quality. Thus the proportion of Kazakhstan flour entering the Tajikistan market has increased, while the Tajikistan flour produced has increasingly been reassigned to the animal feed market.

⁵ Tajikistan rail assessment-

<http://dlca.logcluster.org/display/public/DLCA/2.4+Tajikistan+Railway+Assessment;jsessionid=0B86BE C319DF9CA146A1632AA4B9D05B>

Table 1 shows that in 2013 the local wheat grain entering the food chain was approximately 124,000 MT. As this is a small amount of grain, nearly all of this wheat would have been milled by smaller mills. This wheat would equate to around 93,000MT to 99,000 MT of flour at a 75% or 80% extraction respectively.

Table 1- TAJIKISTAN WHEAT PRODUCTION

Year	Hectares	Yield MT/Ha	Production MT	Feed MT	Seed MT	Food MT
2000	343102	1,18	406196	12596	29570	364030
2001	295700	1,31	387314	11606	30426	345282
2002	304259	1,79	544565	20896	33487	490183
2003	334866	1,97	660222	120168	31730	508324
2004	317300	1,99	631328	166052	31550	433726
2005	315500	1,96	618467	336299	32070	250098
2006	320700	2,00	640339	416634	27630	196075
2007	276300	2,35	649300	511078	33176	105046
2008	331766	1,97	659096	583601	35877	39619
2009	258766	3,03	1088591	902326	34257	152009
2010	342566	3,02	1033144	845918	31118	156108
2011	311179	2,33	726880	575443	30368	121069
2012	303677	2,68	812588	655534	31700	125354
2013	317000	2,46	780000	624575	31700	123725

Source: FAOSTAT/Production/Crops Sourced March 2015

4.2.2. Imports and Exports of Wheat and Wheat Flour

Food and Agriculture Organization (FAO) trade data for 2000 to 2011 indicated almost no exports of either wheat flour or grain (wheat 1,684 MT in 2001 and 100 MT in each of 2010 and 2011; wheat flour for most years was less than 1,000MT). Table 2 shows the data for wheat and flour imports.

Table 2-TAJIKISTAN IMPORTS OF WHEAT GRAIN AND FLOUR

Year	Wheat imports MT	Flour imports MT
2000	321347	56236
2001	263966	54548
2002	291627	124911
2003	143881	196486
2004	127200	278181
2005	283500	380658
2006	291200	397836
2007	283900	520600
2008	258102	566661
2009	413100	410100
2010	442800	385833
2011	442500	403700
2014*	746908	197227

Source: FAOSTAT/Trade Wheat and Flour of Wheat Sourced March 2015

* Personal communication Mr. Tagoimurod Sharipov; Director of the State Unitary Enterprise "Korporatsiya Ghalla"
(Wheat Corporation)

Data for the first two months of 2015 indicates grain imports of 108,810 MT and flour imports of 21, 993 MT.

Table 2 shows that the decline in flour imports is significant with no indication that the market is moving back towards flour importation. This highlights that the duty decrease has benefited the local grain milling industry, and that market preference is towards imports of grain that are milled into flour in Tajikistan.

Table 3 shows the 2014 imports by month. There seems to be no clear monthly trend, indicating that the ratio of wheat grain to flour fluctuates throughout the year depending on demand.

Table 3-TAJIKISTAN IMPORTS OF WHEAT GRAIN AND FLOUR 2014

2014	Wheat Grain MT	Flour MT
Jan	74523	1744
Feb	47198	19399
March	47650	15455
April	81741	18522
May	62391	12218
June	54276	17378
July	48650	15455
August	48650	9311
Sep	64131	11509
Oct	48650	15655
Nov	80255	26081
Dec	88793	18804
Total	746908	197227

Source: * Personal communication Mr Tagoimurod Sharipov; Director State Unitary Enterprise "Korporatsiya Ghalla" (Wheat Corporation)

4.2.3. Understanding Tajikistan Wheat Flour Market

It is clear that further clarifications are needed to fully understand the wheat flour market.

There is around 770,000MT of flour on the market - 575,000MT from imported wheat and 197,277MT from imported flour from Kazakhstan. While the imported flour from Kazakhstan is fortifiable, it is difficult to identify how much of the remaining imported wheat is fortifiable.

If small millers account for 50% of the flour milled for total consumption, locally produced flour would only account for approximately 300,000MT that would be fortifiable (50% of local milled production excluding local wheat milled at small/village level). This highlights the need to understand where from the small millers are sourcing their wheat. It seems implausible that wheat is not going to feed as indicated in Table 1 but is going to wheat flour production instead as this would lead to an increase in bread consumption, which is not the case. Secondly, large millers are selling wheat to small millers, as a side-line to their business, which is possible but one of the larger mills was identified as milling wheat grown locally by individuals and/or collective farms. But the impact of this single miller would not be significant, with a maximum milling capacity estimated at 1,000MT to 1,500MT per year. Thirdly, traders are importing wheat and selling it to small millers. This is possible but unlikely, as profit margins would be low. Distribution costs are high and cash flow in small milling operations are usually at crisis level.

During the interviews with mill representatives, it became obvious that they have very limited knowledge about the process of flour fortification and the benefits of fortification.

4.2.4. Wheat Price Assessment

Tajikistan is currently experiencing significant pressure on its currency due to, among other factors, the crisis in Russia. The value of Tajik Somoni (TJS) to the US dollar (USD) and to the Kazakhstan Tenge has fallen dramatically (see graphs).

TJS per 1 USD

9 Mar 2014 00:00 UTC - 9 Mar 2015 09:19 UTC
USD/TJS close: 5.46140 low: 4.80009 high: 5.46580



KZT per 1 TJS

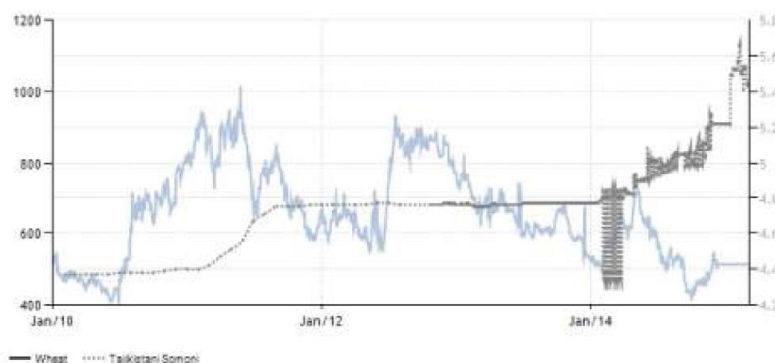
13 Mar 2014 00:00 UTC - 13 Mar 2015 11:57 UTC
TJS/KZT close: 33.96570 low: 33.56798 high: 38.06521



When currency fluctuates, many businesses absorb this as the consumer expects stable pricing, and is rarely aware that the price of wheat can vary by USD10/MT either way in a few days. In some situations, however, the currency movement makes price rise inevitable, and this can have a severe impact on the cost of staple food.

World prices of wheat have declined, apart from in early 2014 when Russia announced it was ceasing exports, although it is not a significant exporter.

The value of the Tajik Somoni over the past five years has generally been flat and was below wheat price movement until 2014 (See graph below). Since 2014, the Somoni has been slowly, and steadily, losing value against wheat prices.



Currently wheat is being procured in Kazakhstan at around USD 250 per metric ton and being delivered at mill at around USD 330 upwards – most millers indicating around USD 350. Import taxes have been reduced (from 18% to 10%) but transport from Sogd province to Khatlon province adds a minimum of USD 20/MT in toll fees, fuel (prices also rising) etc.

In 2008, the government reduced import duties on wheat grain from 18% to 10% (flour import duties remained at 18%) in an attempt to protect and support the local milling industry. Import duties on grain, at 10%, remain high, especially as Tajikistan has:

1. low local wheat production with little to no support to improving both its quality and quantity; and
2. high demand for wheat flour.

4.3. Wheat Milling Industry Assessment

Data from Dr. Vokhidov, former ADB Tajikistan Project Coordinator, indicates 14 mills with a capacity of 50MT to 350MT per day (this assessment indicates that number will rise if mandatory flour fortification comes to fruition). The large/medium mills have a theoretical capacity of around 2,000MT/day.

4.3.1. Large and Medium Mills

The mills visited during this assessment were generally of recent manufacture, with equipment predominantly from Turkey and some from China. Good manufacturing practice (GMP) was in place but not formally documented. This would be needed to establish a sustainable fortification program that could be adequately, and effectively, monitored.

When the consultant visited the mills, none were operating at full capacity due to the market situation, which are due to either an oversupply of wheat flour or a cash flow problem.

Table 4 The list of large and medium-scale mills in Tajikistan

	Official Name	Location	Visited	Current status	Milling capacity MT/24 hours ⁶	Actually milling	Warehouse capacity	Willingness to fortify	Availability of Feeders	Availability of trained staff	Number of conveyors
1	Ordi Istaravshan	Istaravshan, Sogd Province	No	TBD	120						1
2	Ordi Nodir	Istaravshan, Sogd Province	Yes	Working	120 (15)	7.5	200	Yes	No	No	1
4	Barakat	Istaravshan, Sogd Province	Yes	Working	100	50	10,000	Yes	No	No	2
5	Farovon 1	Kayrakkum, Sogd Province	Yes	Working	100	25 - 30		Yes	No	No	2
6	Ordi Temurmalik	Kayrakum, Sogd Province		Not working	100						1
7	Ordi Nov	Spitamen, Sogd Province	Yes	Not working	320 (240) Looking to procure a new Buhler 500 MT/day mill with feeders	Virtually nil in last 2 years	54,000	Owners yes, Technical staff No	No	No	1
8	Zernovaya kompaniya	B.Gafurov, Sogd Province	Yes	Working	100	120 Plans to procure new 300 MT/day	24,000 with plans to double	Yes	No and will definitely need multiple feeders	No	2
9	Gallai Sugd	B.Gafurov, Sogd Province	Yes	Working	50	80	7,500	Yes	No	No	2
10	Ghallai Shimoli	Istaravshan, Sogd Province	Yes	New, under installation	80						1
11	Anhor	Chkalovsk, Sogd Province	Yes	Working	50 (100)	40	7,500	Yes	No	No	1
12	Ajr	Chkalovsk, Sogd Province	No	Working	80						1
13	Ordi Sugd	Chkalovsk, Sogd Province	Yes	Working	80 (100)	80	9,000	Yes	No	No	1
14	Alvadud	B.Gafurov, Sogd Province	No	Working	TBD						1
15	Kolkhozobod	Kolkhozobod, Khatlon	No	TBD	350						1
16	Somon Turon	Tursunzoda, RRP	Yes	Working	150	As required	3,000	Yes	No	No	1
17	Ordi Shahri Nav	Shahri Nav, RRP	Yes	Not Working	?						1
18	Justcombelinvest	Dushanbe	Yes	Working but not in 2015	100 (was milling 7,000 MT/annum)	>2,500 MT/annum	1,000	Worried about cost and consumer acceptance	No	No	1

⁶ Highlighted in blue are those visited.

4.3.2. Small Mills and Village Milling

No small mills or village milling were visited during this assessment. Although small millers could be supported to fortify their flour, there are high costs associated with installing the equipment and little cost-benefit to them, as:

1. The equipment is proportionally expensive compared to the cost of the mill.
2. Monitoring the mills by regulatory agents when they are operating could be problematic and very expensive
3. Distributing small quantities of premix would significantly increase the price of fortification and increase the risk of premix "leakage" (that is, not reaching its intended source).
4. When the consumer buys the grain they will see fortification as a proportionate increase in the cost of milling not the cost of flour.

At this stage, engagement with small mills is not recommended.

4.3.3. Capacity of Milling Industry to Fortify

While there has been some experience in fortification through the ADB project, there is currently very limited personnel and equipment for the process. However, in the large/medium mills we found that the technical background on milling practices was good and the mills, while almost totally automated, were being run efficiently. Mills indicated that they used either first-grade or second-grade flour, with some also producing an "all-purpose flour". If fortification were to become mandatory, no additional staff would be required.

The GOST 26574-85 Wheat Bakery Flour Standard (Annex 2) recognises the following types of flour – coarse granular flour; premium, first and second grade; and wholegrain. Many of the mills produced all three types at the same time. Before implementation of mandatory fortification, stakeholders should determine what flours need to be fortified. It is strongly

recommended that all wheat flour types should fall within the legislation, to avoid any loopholes.

4.3.4. Tajikistan Millers' Associations

Under the ADB project, the association for wheat millers and salt producers was established. However, the association stopped its activities following the death of the Chairman, Mr. Ishoki. Since, then this association had not undertaken any new activities. The millers' association's involvement in flour fortification is essential. They would be highly suited towards the appropriate distribution and maintenance of stocks of premix and would be able to advocate for flour fortification to the Government. They would also be able to advocate to the Government on other industry interests and issues.

SECTION 5. REGULATORY ASSESSMENT

Tajikistan law is guided by by-laws; technical requirements (implementing rules) are based on those by-laws. The Act is written in general terms with the composition detailed in a by-law supported by a technical requirement.

5.1. Fortification Standards

Tajikistan already has the national standards for wheat baking flour of types "Premium and Grade -1" (ST RT 1057-2004) and for the fortified breads and bakeries (ST RT 1058-2004) as well as technical specifications for premix KAP complex (TU 9352 RT 020007157- 001-2002) issued by the Agency for Standardization, Metrology, Certification and Trade Inspection– which permits wheat flour fortification if duly identified as such (see Annex 1).

Section 2 states that "Fortified flour – a flour fortified with vitamin –mineral supplements (premix)" and vitamin is a mineral premix – supplement that includes a number of vitamins such as iron and zinc.

Chapter 3 stipulated that the premix can be applied to the premium quality and first grade of flour.

National standard - ST RT 1057-2004 potentially has some legal implications that require investigation:

- 1 The concept of fortification appears to be already accepted in national law (even if standards are voluntary)
- 2 Section 3 appears to suggest that only top and first-grade flour can be fortified.

None of the above are critical issues, as standards are relatively easy legal instruments to alter, and the draft law on fortification and its resultant by-laws would make the standard redundant.

SECTION 6. QA/QC PROTOCOLS AND REQUIREMENTS

The large mills visited had internal laboratories with capacity for food analyses. Some of the medium sized mills, but not all, had internal laboratories with capacity for food analyses.

Section 6.1. Qualitative

None of the mills visited had equipment for iron spot tests to ensure that the flour met the standards for fortification.

The iron spot test AACC 40-40 relies on the action of 2N hydrochloric acid and 10% potassium thiocyanate reacting with added ferrous sulphate, ferrous fumarate or electrolytic iron in the presence of 3% hydrogen peroxide to produce red spots. If NaFeEDTA is the iron source then there is no need to add the hydrogen peroxide (the purpose of which is to convert ferrous ions into ferric ions). This test does not return a positive response to intrinsic or natural, iron content in wheat flour.

The purchase of iron spot tests is recommended prior to the implementation of flour fortification. In addition, the training of staff on the use of iron spot tests is recommended.

Section 6.2. Quantitative

In order to perform quantitative analysis of flour, an iCHECK Zinc may be used. BioAnalyt, the manufacturers, must do the training to ensure that millers are able to operate these hand-held devices accurately and thus check and monitor compliance with the standards. It is important to note that apart from some training during the ADB project, no other training appears to have been carried out.

The purchase of iCheck Zinc is recommended, along with training on their use. A detailed QA/QC assessment, both internal and external, is recommended to assess the requirements for adequate monitoring of flour fortification.

Section 6.3. Flour Bag Labelling

Flour bags in the marketplace were observed and indicated one of the following:

1. flour was milled in Tajikistan but from Kazakhstan wheat in Sogd province;
2. flour was milled in Tajikistan but from Kazakhstan wheat in Khatlon province;
3. flour was milled in Kazakhstan and imported into Tajikistan.

Most of the bags were 50kg but 25kg and 10kg bags were also noted – but only for flour as in 1 and 2 above. Bags were stored behind the sales area with only one bag of each type displayed for sale, making it difficult to estimate the relative proportions of each type of flour available, although it appeared that locally milled flours and Kazakhstan flours made up 50:50.

Discussions with some market sellers indicated they sourced their supplies of wheat flour from:

1. local Khatlon province distributors;
2. Sogd province distributors;

3. direct from mills in Khatlon province;
4. direct from mills in Sogd province.

The flour identified on the bag as being milled in Kazakhstan was frequently sourced from mills in Sogd province. The sellers – many of who drove to the mills in Sogd province themselves – were clear that they sourced all their wheat flour direct from the multiple mills⁷ they used. None of the sellers interviewed identified which mills they sourced from and it was not possible to conduct a full audit of available stock to trace all possible suppliers.

This situation was discussed with the Republican Centre of State Sanitary and Epidemiologic Service (SES) who indicated that although they were responsible for monitoring food labelling this area of their activities was “weak”. The Consumers' Union also believed this was an infringement or a serious misrepresentation.

Until mandatory fortification is implemented, only local mills will be supported to fortify flour, and flour which is apparently sourced from Kazakhstan mills will not be. The mislabelling of bags creates a loophole that would be difficult to close unless the source of the flour bags can be identified. Although this loophole is likely to be closed when mandatory fortification takes effect, there are questions about its implementation.

Section 6.4. Premix Options

The KAP formulation (a premix suggested by the Kazakhstan Academy of Nutrition during ADB project) above is close to, but not totally in line with, the

⁷ Retailers sourced according to price and the brand demand from their customers

WHO recommendations⁸ which for consumption below 300g/day are as in Table 4 below.

Table 4 – Basic premix options following WHO Recommendations

Nutrient	Compound	Level of nutrient to be added in parts per million (ppm) by estimated average per capita consumption (g/day)		
		>300g/day		
Iron	NaFeEDTA	15		
	Ferrous sulphate		20	
	Ferrous fumarate			20
Vitamin B ₁₂	Cyanocobalamin	0,008	0,008	0,008
Zinc	Zinc oxide	30	30	30
Addition g/MT		200	150	150

Additionally, in view of the high goitre rate, Tajikistan might wish to consider adding potassium iodide (not iodate) at 2ppm to the premix formulation to cover gaps in the enforcement of salt iodisation, and to ease the potential cost of increasing potassium iodate as consequence of reduced salt consumption.

Section 6.5. Fortification Legislation

Under the ADB project, there was an attempt to adopt mandatory flour fortification law, but due to the global financial crisis, it has been put on hold.

Section 6.6. Control of Imports

8

http://www.who.int/nutrition/publications/micronutrients/wheat_maize_fortification/en/ Also available in Russian

The major problem with import control is getting a representative sample of wheat flour. SES has more than adequate resources to track and trace imports should they be given the relevant mandate (it is unclear if SES is the lead agency on import control) and, especially, the necessary resources.

Section 6.7. Premix Supply and Distribution

As mentioned above, as little as 330,000MT of flour could currently be fortified locally, amounting to 50% of flour available in the market. At an addition rate of 200g/MT of premix, the total supply would be around 70MT per annum, almost all of it in Sugd province.

The use of local agencies to supply premix would enable ease of access and cash flow. Others commented that such entities incurred high Tajikistan tax implications. A compromise may be the use of companies already working with the millers – German company, Mühlenchemie and a Turkish entity both compete in this sector of the market.

The Korporatsiya Ghalla (Wheat Corporation) could also involve itself in premix procurement and/or distribution if it has the necessary mandate.

A GAIN assessment report (Guyondet & Latypova (2015, unpublished draft) indicated that “if a company was to start a business in import / distribution of premix, at present, reselling premix would attract:

- Value Added Tax (VAT) - 18%
- Income taxes -13% plus 1% Social Fund Tax
- Customs fee - 5%.

In comparison, if a miller were to import premix, it would only attract 18% VAT.

SECTION 7. MARKET OBSERVATIONS

Flour prices in the markets in Khatlon and Sogd provinces were similar. Locally milled wheat flour was typically around 180 Tajik somoni (TJS) for premium, 165-170 TJS for first-grade and 135-140TJS for second-grade (but

the latter was in 45kg bags, which was proportionately 150-155TJS- price valid at time of assessment).

Sogd markets were very marginally cheaper than Khatlon so pricing appeared to be negotiable based on volumes being purchased. We were repeatedly told that pricing was the major driving factor in the market, yet prices varied for exactly the same commodity in a 10-20 metres stretch of the same market. We noted no unbranded flours at any time, although the practice of using unregistered brand names had been identified as a possible problem.

Whereas the majority of millers indicated that second-grade and/or all-purpose flour made up most of their production, market sellers suggested that first-grade constituted the majority of their sales.

SECTION 8. CONCLUSIONS AND RECOMMENDATIONS

This assessment was originally targeted to form the basis of a pilot scale fortification for of wheat flour supply into Khatlon province. However, the program should be expanded nationally as:

- supply into Khatlon province is extremely diversified;
- supporting just a few millers would be viewed negatively by those outside the program;
- having fortified and non-fortified flour in the market at the same time would not be suitable
- Any pilot schemes would be totally subsidised and become unsustainable once funding stops.

The primary conclusion of this assessment is that fortification is feasible but should be mandatory and not a voluntary program focused on a single province.

The Ministry of Health and Social Protection of the Population of the Republic of Tajikistan has taken the position that this flour fortification is its responsibility and it believes the Minister will sign off the initiative, and so

positive momentum is at its peak. Our recommendations are therefore as follows.

The government should:

1. Initiate wheat flour fortification as soon as possible.
2. Support the newly formed Working Group on Food Fortification, chaired by the Ministry of Health and Social Protection of the Population, to also include:
 - Ministry of Economic Development and Trade
 - Ministry of Agriculture
 - Ministry of Industry and New Technologies
 - Ministry of Health and Social Protection of the Population.

The Working Group on Food Fortification, chaired by the Ministry of Health and Social Protection of the Population should:

- 1) Advocate for the passing of the draft law on food fortification (.
- 2) Draft and promulgate the necessary by-laws and implementing technical rules, co-opting entity identified above to draft the necessary legal implementation
- 3) Identify the frequency of meetings and to whom it addresses its written progress reports
- 4) Identify entities and/or individuals who may need to be brought into the working group
- 5) Establish a time scale for the implementation of the draft law on fortification, preferably within 12 months
- 6) Identify how to involve and inform the flour millers
- 7) Clearly identify who is the lead monitoring agency for fortification
- 8) Address the issue of taxation on premix and aim for tax exemption/0% rate, which might require a resolution of the President or a government decree - the government should not be taxing its own nutritional interventions on a food security listed commodity

The Ministry of Health and Social Protection and the Institute of Public Health should:

- A. Address import issues such as
- B. Ensuring importers are aware of pending legislation
- C. Identifying and agreeing on health and safety codes and protocols relating to:
 - a. Premix
 - i. Equipment such as micro feeders and other fortification related equipment.
 - ii. iCheck Zinc (with vials⁹ and syringes).
- D. Obtain agreement on the premix formulation for use in Tajikistan.
- E. Identify the WTO focal point and keep them informed of progress on mandatory fortification.
- F. Develop a small miller strategy that covers the source of their wheat, the quantity they mill and whether their supply chain is seasonal or year-round.
- G. Strengthen food consumption database, including questions in the next DHS, MICS census on how often commercially milled flour is purchased throughout the year.
- H. Identify how the government procures wheat flour – by individual ministries or centrally - and advocate for procurement only of fortified flour.
- I. Identify if any behaviour change is required and how to achieve it, such as how to store fortified flour and increase consumer demand.
- J. Laboratory training should be carried out in laboratories to increase capacity at both mill and monitoring level
- K. Include a clause in the law to avoid any legal challenges to individual paragraphs, such as:

⁹ Vials contain a ready-made mixture of chemicals in the proportions required for analysis

Separation: If any part, section or provision of this law shall be declared invalid or unconstitutional, other provisions or parts thereof which are not affected thereby shall remain in full force and effect.

L. Additionally, it is recommended to add in the law or the by-law that commercially produced bread should be made from fortified flour to ensure imported flour for bread production must be fortified.

Annex 1. National Standard for Fortified Wheat Bakery Flour

AGENCY OF STANDARDIZATION, METROLOGY, CERTIFICATION AND TRADE INSPECTION UNDER THE
GOVERNMENT OF THE REPUBLIC OF TAJIKISTAN (TAJIKSTANDARD)

WHEAT BAKING FLOUR,
FORTIFIED WITH VITAMIN –MINERAL SUPPLEMENTS (PREMIX)
ST RT 1057-2004
GENERAL TECHNICAL SPECIFICATION

ST RT 1057-2004
STANDARD OF THE REPUBLIC OF TAJIKISTAN
WHEAT BAKING FLOUR,
FORTIFIED WITH VITAMIN –MINERAL SUPPLEMENTS (PREMIX)
Technical specifications
Орди гандумии бо иловаҳои витаминию – минерали ғизоноккардашуда (премикс)
Шартҳои техники
Official issue
AGENCY OF STANDARDIZATION, METROLOGY, CERTIFICATION AND TRADE INSPECTION
Dushanbe

ST RT 1057-2004

Preface

- DEVELOPED AND INTRODUCED by the Association of wheat processors and salt producers of Tajikistan.
- AGREED by the Ministry of Health of the Republic of Tajikistan, the State Sanitary Epidemiology Service.
- APPROVED AND MADE EFFECTIVE in accordance with the order of the Agency Of Standardization, Metrology, Certification and Trade Inspection as of January 14, 2004 # 47.
- INTRODUCED FOR THE FIRST TIME.

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ST RT 1057-2004
STANDARD OF THE REPUBLIC OF TAJIKISTAN
WHEAT BAKING FLOUR,
FORTIFIED IN VITAMIN –MINERAL SUPPLEMENT (PREMIX)
Technical Specifications

Орди гандумии бо иловаҳои витаминию – минерали ғизоноккардашуда (премикс)
Шартҳои техники
Date of issue: 2004-02-01

This standard is applied to wheat baking flour of extra and first rate grade, produced from light flour with the solid impurities no more than 20 % and fortified with vitamin “CAP Complex #1” (premix), content and introduction rate of which are determined and approved by the Ministry of Health of the Republic of Tajikistan, meant for sale in trade network and production of bread and bakery products. Mandatory requirements aimed at securing the peoples’ life and health are stated in 3.9,4.4.

An Official issue
REGISTERED AND INTRODUCED into the register of the state registration
Under # 2259 as of January 14, 2004

Deputy Director of Tajikstandard _____ Tagaev
R.T _____

Chapter 1. REGULATORY REFERENCES

In the present standard references for the following standards are used:

- State Standard 9353-90. Wheat. Requirements at procurement and transportation.
- State Standard 9404-83 Flour and wheat bran. Moisture determination method.
- State Standard 20239-74 Flour, cereals and wheat bran. Metal-magnetic admixture determination method.
- State Standard 26791-89 Products processed out of wheat grain. Packing, marking, transportation and storage.
- State Standard 27494-84 Flour and wheat bran. Ash content determination method.
- State Standard 27558-81 Flour and wheat bran. Color, odor, taste and crunch determination method.
- State Standard 27559-87 Flour and wheat bran. Infection and pollution determination method caused by pests of cereal stocks.
- State Standard 27560-87 Flour and wheat bran. Grain fineness determination method
- State Standard 27668-88 Flour and wheat bran. Acceptance and sampling method
- State Standard 27839-88 Wheat grain. Gluten (fibrin) quantity and quality determination methods
- State Standard 29138-91 Vitaminized wheat grain, bread and bakery product. Vitamin B₁ (thiamine) determination method
- State Standard 29139-91 Vitaminized flour, bread and bakery products. Vitamin B₂ (riboflavin) determination method
- State Standard 29140-91 Vitaminized flour, bread and bakery products. Vitamin PP (nicotine acid) determination method
- State Standard 30483-97 Grain. General and fractional content determination methods of trash and other grains; contents of fine grains and coarseness; contents of wheat grains damaged by shield-backed bugs; content of metal-magnetic impurities
- Sanitary rules and norms 2.3.2.560-96 Hygienic requirements to quality and security of food related raw materials and foodstuffs
- TS (Technical Specifications) 9352 RT 020007157 001 -2002 Vitamin –mineral premix “KAP Complex # 1”. Technical Specifications
- State Fund USSR X Article 3.

Chapter 2. DEFINITIONS

In the present standard the following terms are used with appropriate definitions:

- Fortified flour – a flour fortified with vitamin –mineral supplements (premix).
- Vitamin – mineral premix – supplement that includes a number of vitamins, iron and zinc.

Chapter 3. TECHNICAL REQUIREMENTS

- Fortified flour must be produced in accordance with requirements of the present standard based on formulation and technical instruction approved in established procedure.
- Fortified flour is classified in grades: premium quality and first grade.
- The following raw material should be used for production of the fortified flour:
- wheat according to State Standard 9353 vitamin – mineral supplement (premix).

- In wheat to be sent to the grinding after cleaning, there should be no more than, %: Grains of barley, rye, as well as germinating seeds of these crops and wheat (in aggregate) -5.0:
- Including germinating seeds – 3.0;
- Corn cockles -0.1;
- Harmful sediments – 0.05;
- Including Russian centaury and crown vetch (in aggregate) – 0.04;
- Admixture of the lowered fruit heliotrope seeds and Trichodesma Incanum (Bunge) –inadmissible. Note. Content of the germinating seeds is determined on results of wheat analyses before cleaning.
- In the production process top grade and first grade bakery wheat flour is fortified with vitamin –mineral supplement (the premix) allowed to apply by the Ministry of Health of the Republic of Tajikistan.
- By quality factors, fortified flour should comply with requirements indicated in Table 1.

Table 1

Name of the factor	Characteristic and flour norm	
Color	White or white with cream shade	White or white with yellowish shade
Odor	Appropriate to wheat grain, without foreign odors, not musty, not mold, it is admissible availability of the weak odor specific to the applied supplement	
Taste	Appropriate to wheat grain, without foreign taste, not sour, not bitter	
Moisture, % no more than	15	15
Ash content in translation to dry substance, no more than	0,55	0.75
Coarseness of grinding, %: -residue on the sieve made from silk cloth according to State Standard 4403 or polyamide cloth no more than -passing through sieve made from silk cloth according to State Standard 4403 no less than	5 sieves #43 5 sieves #49.52	2 sieves #35 2 sieves #36/36 80.0, sieve #43
Raw gluten: -Quantity, %, no less than	28.0	30.0
	Below second group	
Metal-magnetic admixture, mg per 1 kg of flour	3.3	
Infection and contamination of wheat grain stock by pests	Inadmissibly	
Quantity of vitamin –mineral additive (premix), mg/kg no less than	120	

Notes:

Size of the single particles of the electromagnetic admixture in the maximum linear measurement should not exceed 0.3 mm and mass of some of its particles should not be more than 0.4 mm.

Quantity of vitamin- mineral additive has a recommendation nature as the content of additives (premixes) can be changed depend on types of the complex.

On introducing vitamin –mineral additives into flour, it is taken into account content of the elementary iron and vitamins.

- Volume recovery and bread shape stability are established by baking quality test in enterprises of the flour –milling industry.
- Quantity of the introduced supplements into flour is monitored during their laying at least in 3 hours time.
- It is not allowed processing the raw material, where residual quantity of pesticides, toxic substances, micotoxins, radionuclides, harmful admixtures exceeding maximum allowed levels, specified by SanPiN (Sanitary rules and norms) 2.3.2.560, allowed for application within the territory of the Republic of Tajikistan.
- Packing. Marking.
- Parking and marking according to State Standard 26791.
- Marking should contain an inscription “fortified vitamin –mineral supplements”, marked out with large print.

Chapter 4. ACCEPTANCE PROCEDURES

- Acceptance procedures in accordance with State Standard 27668.
- Every batch of flour must be enclosed with the document on quality, with indication of the volume recovery and bread shape stability by baking quality test, as well as the name of the premix.
- Organoleptic and physical chemical indicators, presence of vitamins and micronutrients in the flour are determined in all batches.
- Periodicity of security indicators is determined in order established by producer of good in agreement with State Sanitary Epidemiology service of the Republic of Tajikistan but at least ones in a quarter.
- Content of vitamins and micronutrients in the flour is determined at the moment of conducting technical control.
- Arbitration analyses in case of disputes between the producer and consumers in assessment of quality and security of flour must be conducted by agencies and laboratories on certification accredited in established manner.

Chapter 5. METHODS OF CONTROL

- Method of sampling according to State Standard 27668.
- Determination of organoleptic indicators in accordance with State Standard 27558.
- In case of occurring a dispute in assessment of the flour quality on organoleptic indicators (taste, odor, content of mineral admixtures), they are determined through degustation of bread baked out of the flour.
- Determination of the harmful admixture content, germinating seeds, admixture of rye, barley and wheat in accordance with the State Standard 30483,
- Moisture determination in accordance with the State Standard 9404,
- Coarseness grinding determination in accordance with the State Standard 27560.
- Determination of ash content in accordance with the State Standard 27494.
- Determination of quantity and quality of gluten in accordance with State Standard 27839,
- Determination of metal-magnetic admixture in accordance with State Standard 20239.
- Determination of infection and contamination of grain stocks by pests in accordance with the State Standard 27559.

- Content of group “B” vitamins, iron and zinc are determined by methods approved in established manner.
- Determination of vitamin B1 (thiamine) content in accordance with the State Standard 29138
- Determination of vitamin “B2” (riboflavin) content in accordance with State Standard 29139
- Determination of vitamin B3 (niacin) content in accordance with the State Standard 29140.
- Determination of vitamin B4 (folic acid) content in accordance with the State Fund of USSR X, Article 13.

Chapter 6. TRANSPORTATION AND STORAGE

Transportation and storage in accordance with State Standard 26791.

Chapter 7. MANUFACTURER’S GUARANTEE

- Producer guarantees compliancy of flour, fortified with vitamin –mineral additives, to the requirements of the present standard under term of meeting condition of transportation and storage by consumer.
- Guaranteed period of storage of flour, fortified with vitamin –mineral supplements is 12 months.

ST RT1057-2004
ASSOCIATION OF WHEAT GRAIN PROCESSORS AND SALT PRODUCERS OF
TAJKISTAN

Chairman U. Isakov
Chief Specialist Z.B. Tsoy

Agreed
Deputy Chief Sanitary Doctor
C. Aliev

Agreed
Minister of Health
Republic of Tajikistan

APPENDIX Mandatory
INFORMATIONAL DATA

About nutritional and energetic value of 100 tons of wheat flour, fortified with vitamin –mineral supplement (premix)

Name of indicator	Norm for flour	
	Extra grade	First grade
Proteins, g	10.3	10.6
Fats, g	0.9	1.3
Carbohydrates, g	67.71	67.1
Energy value, kilocalory	327	329

N o t e - Vitamins and micronutrients are set by means of calculation based on their content in applied vitamin –mineral supplement (premix).

Ministry of Health of the Republic of Tajikistan
Republican Center of the State Sanitary –Epidemiology Service

Form code by OKUD
Form code by OKPO
Medical documentation
Form #303 / U

Approved by the Ministry of Health of the Republic of Tajikistan

CONCLUSION #1

Sanitary –epidemiology assessment of the project (services, processes, situations, facilities)

January 6, 2004

I. Assessment Record.

- Name of the project technical specifications – Bakery wheat flour, fortified with vitamin –mineral supplements (premix)
- Name of the facility, product (goods, produce, services)
- Field of application (construction site) for use in food
- Project client Republican Center of State Sanitary – Epidemiology Supervision
- Subordination, form of property non –governmental
- The project developed by Association of wheat grain processors and salt producers of Tajikistan/name of design company/
- Submitted documents
- a/ project Technical Specifications
- b/ technical instruction
- c/ explanatory note
- Presented samples
- The project is represented with Cover Letter under # 463 as of December 23, 2003
- The project received on December 23, 2003, incoming # 01/474
- Product samples passed security tests
- Name of research _____
- Number and data of minutes or hygienic conclusion
- At the moment of conducting sanitary –epidemiology assessment of the submitted project materials and samples, it was identified that the present Technical Specifications cover wheat grain bakery flour of the first grade, their soft or admixture of hard no more than 20% and fortified with vitamin -mineral supplements (premix), meant for sale and use in production of mass varieties of bread.
- Requirements to raw materials are determined by the project according to existing ND, organoleptic and physical – technical indicators, which regulate exterior view, color, taste, maximum allowed moisture, ash content, coarseness of grinding, gluten content, metal-magnetic admixture, infection by storage pests are regulated according to State Standard 26574 – for extra and first grade flour.
- Content of vitamins mg/kg no less than: B1-1.80: B2-1.85: B3-12.6; Bc-0,77; elementary electrolytic iron -38.4: zinc (zinc oxide)-17.5.
- Pesticide content, toxic substances, micotoxins and radionuclides are regulated in raw materials and should not exceed levels determined by SanPiNs as of 04.01.047 (2.3.2.560).
- Procedures of packing, marking, accepting, control method, transportation and storage are in compliance with the existing normative documentation and interrelated among each other. In the project under proposal B is presented the recommended methods of vitamin group “B, iron” and zinc definition through High performance liquid chromatography (HPLC) method.
- Flour, fortified with vitamin –mineral supplements, must be stored in dry, clean, well ventilated storage facilities for grain stocks, not infected by pests. Guaranteed term of storage is 12 months from the date of production.

II. Conclusion

Taking into account the above stated, the project under technical specifications of bakery wheat grain flour, fortified with vitamin-mineral supplements (premix). TY 8-5-5-99, TY 9293 Republic of Tajikistan 020007157 002-2002

AGREED:

On the basis of article 16-39-50, Law of the Republic of Tajikistan “On providing sanitary –epidemiology security of the residents of Tajikistan”, the present conclusion has a valid force.

Chief Doctor
Republican Center of State Sanitary – Epidemiology Supervision, Aliev S.P.

Deputy Chief State Sanitary Doctor Grezov I.G
Republic of Tajikistan

27 55 79

Conclusion is developed in 2 copies

Annex 2 List of Contacts

#	Name and position people interviewed	Organization	Contact information
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5	Mr. Tagoimurod Sharipov Director	State Unitary Enterprise "Korporatsiya Ghalla" (Wheat Corporation)	Cell phone: (+992) 919 411 14 91 Email: Not available
6	Ms. Aviva Kutnick Food Security Team Leader	USAID Tajikistan	109-A, Ismoili Somoni Avenue (Zarafshon district) Dushanbe, Tajikistan 734019 Work phone: (+992 37) 229 20 00 Cell phone: (+992) 98 5808073 Email: akutnick@usaid.gov
7	Ms. Yuki Suehiro Head of Health and Nutrition Office Mrs. Safina Abdulloeva Nutrition Officer	UNICEF Tajikistan	UN House - 2, "VEFA" Center, Floor 7 37/1, Bokhtar Street, Dushanbe, Tajikistan, 734025 Phone: (+992 44) 6000190, 6000191 Cell phone: (+992) 918 310090 Email: ysuehiro@unicef.org Email: sabdulloeva@unicef.org
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9	Mr. Bakhadur Khabibov Chairman	Consumers' Union of Tajikistan	137 Rudaki Avenue, Dushanbe, Tajikistan, 734002 Work phone: (+992) 224 1411 Cell phone: (+992) 93 577 88 64 Email: contaj@rambler.ru

	Name of the milling company	Contact person and position	Contact information
1	LLC "Ordi Khatlon"	Not available	Kurghan Tube, Khatlon Province, Tajikistan Cell phone: (+992) 907-70-74-47
2.	Subsidiary company "JUSTCOMBER- INVEST"	Mr. Mahmadyor Kulov Finance Director	Dushanbe, Tajikistan Work phone: (+992) 237 2350128 Cell phone:(+992) 907 716620 Email: justcombeinvest@rambler.ru
3	LLC "Somon-Turon"	Mr. Komron Teshae, Director	Duti Village, Turzunsoza District, RRP, Tajikistan Cell phone: (+992) 919 507774 Email: somonturon@mail.ru
4	Ordi Shahrinav	Not available	Shahri Nav District, RRP, Tajikistan
5	LLC "Zernovaya Companiya" Buona	Mr. Sergey Rahimov General Director	64 Khobilova Street, Gafurov, Sogd Province, Tajikistan, 735690

	Name of the milling company	Contact person and position	Contact information
			Work phone: (+992) 3442 34102 Cell phone: (+992) 92 7771 3131 Email: sergey.rahimov@buona.tj
6	LLC "Farovon "	Mr. Ahliddin Nabiev	Cell Phone: (+992) 92 7773371 Email: farovon1@mail.ru ahliddin69@mail.ru
7	LLC "Gallai Sugd"	Mr. Farhod Kurbonov, Director	1 Donish Street, Unji Jamoat, B. Gafurov District, Sogd Province, Tajikistan, 735690 Work phone: (+992) 3442 30500 Cell phone: (+992) 92 707 5555 Email: farhod.kurbanov@sugdgrain.com
8	Subsidiary company "Ghallai Shimoli"	Mr. Bakhtiyor Narzullov, Chief Accountant	Spitamam District, Sogd Province, Tajikistan Cell phone: (+992) 919 121545 Email: not available
9	LLC "Ordi Sugd"	Mr. Adolat Sardor, Director Mr. Abdurahim Safarov, Chief Technologist	Cell phone: (+992) 92 774 1868 Email: safarov-1968@yandex.com Safarov.abdurahim@mail.ru
10	LLC "Anhor"	Mr. Iskandarov Khayrullo, Director	Kutuzov Street, Chkalovsk, Sogd Province, Tajikistan Cell phone: (+992) 92 787 4880 Email: not available
11	LLC "Ordi Nov"	Mr. Gafurjon Gafforov, Director Mr. Tursunali Kholmatov, Chief Technologist Mrs. Valentina Asksionova, Lab Chief	Spitamam District, Sogd Province, Tajikistan Cell phone: (+992) 92 771 9885 Email: not available
12	LLC "Ordi Nodir 2000"	Mr. Irfon Sanginov, Chief Technologist	Kalachai Arab, Jamoat Zarhalol, Istaravshan, Sogd District, Tajikistan Cell phone: (+992) 92 707 1307 Email: not available
13	LLC "Barakat"	Mr. Ahmad Aslonov Director	Istaravshan, Sogd Province, Tajikistan Cell phone: (+992) 918816201 Email: barakat79@mail.ru

Annex 3. Questionnaire for Interviewing Mills

Mill Name		
Contact details		
Question	Response	Comment
Theoretical mill capacity MT per 24 hours		This establishes the potential premix requirement
How many types of flour can you produce at the same time		This establishes how many micro feeders are required
How much of each flour is produced from 1 MT of wheat		This establishes the size of the micro feeder
How many flour collection conveyors do you have		This confirms information above or indicates follow up questions are required