



The life of the Saharawi Food Basket

A report from the Nutrition Group in the
Saharawi Refugee Camps

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Introduction

First time the writer of this document was asked to evaluate the Food Basket was at a WFP- UNHCR meeting in Rabouni March 2000.

The food basket then should, according to WFP, consist of 300 g wheat flour (fortified), 33 g rice, 33 g lentils, 33 g beans, 67 g sugar and 33 g oil per day.

In addition to this the refugees were given yeast, salt and tea, and different NGOs gave some fortified milk powder (RIDA), and sardines in an amount of approximate 1 each 3rd day.

This was a very poor food basket where only thiamin (vitamin B) reached the estimated needs while vitamin C and A were absent, calcium gave less than 20 % of the needs and iron was low as always, even with fortified wheat flour.

The Saharawi Red Crescent (SRC) suggested some supplementary food such as barely, pasta, canned fish, corned beef, dried milk and cheese and in addition, I as a nutritionist, suggested fruit and vegetables.

This was the first time a scientific reason for an extended food basket was made.

Norwegian Church Aid (NCA) started their fresh food in the hospitals - program the same year (2000), and ECHO and AECID, in cooperation with Oxfam, MUNDOBAT and CISP, followed with general distribution of fruit and vegetable to all, some years later.

They started carefully and only with meat and dates during Ramadan but in 2006 were fruit and vegetable distributed in 4 months.

It has been different food items that has been distributed; always onion, more and more often potato, carrot and apple or orange. In 2007 was it fresh food distribution in 8 of the months, in 2008 11, in 2009 10 and in 2010 was it fresh food distribution in all of the months.

This has increased the food variety in the camps and are especially important for the intake of vitamin C, iron absorption and the intake of antioxidants.

But according to the Nutrition Strategy from 2009, which stated that within 3 years should all the Saharawi refugee population be ensured access to food that is nutritionally sufficient, diverse and culturally acceptable, are there still some challenges to overcome.

Development of the adapted food basket

In April 2009 SRC called for the first Round Table of Coordination of the Food Aid and in this meeting the Food Basket Group was given the mandate to develop a new, or adapted food basket, meaning not only taking into consideration the food given by WFP but also all food that the different organizations want to give.

Methods

It was used different methods when the first adapted food basket was made.

Evaluation of food situation

First of all we evaluated the food situation and food given at the time by using information from SRC and a local food composition table.

This table was created of nutritional values of the food used in the camps when the information was available, otherwise values from similar foodstuff from other places in Africa was used¹. A comparison of both the food items and the nutritional content for the years from 2006 to 2009 was done.

Acceptability survey

Secondly we wanted to learn more about the people's thought regarding the food situation and the food distributed, so an acceptability survey was conducted among 136 household randomly selected in the all in the camps; 27 February, Smara, El Aiune, Ausserd and Dakla. This was done during 12 days in the end of June and beginning of July 2009. Abdalhai Nayem (MoH) and two women from each camp did the interviews which took approximately 30 minutes and it was the woman that was head of the household that was interview.

The questionnaire was developed by Ahmettou Bol-la (SRC) and Abdelhai, and consisted of questions concerning both the fresh and dry food distributed, if it was enough, on time, if it was used, if there were foods that people use to buy, if they share the food, and if they think some food should be added because it is healthy.

Brahim Salem (SCR) entered the data and the food basket group with Abdelhai, Ahmettou and Ingrid analyzed it.

Results and discussion

Evaluation of the food situation

It is SRC that register the food distributed in the camps, month by month. As a nutritionist I have been given information about the amounts of food distributed from 2006 and up to 2010.

This food items has been grouped and evaluated as single foods, food groups and the nutrients they are given.

Table 1 shows the intended food basket from WFP in 2000 and the development of the distribution.

Figure 1 and 2 show values from some chosen nutrients.

¹ For more information contact Ingrid Barikmo ibarikmo@hiak.no

Table 1 Food distributed in the Saharawi refugee camps from 2006 to 2010

Food items	Intended to give WFP 2000	Ration g/day 2006	Ration g/day 2007	Ration g/day 2008	Ration g/day 2009	Ration g/day 2010
Cereals, total	333	384.2	317.3	358.5	430.0	404.7
Wheat flour						47.2
Wheat flour fortified	300	342.1	265.7	318.3	250.0	238.1
Barely		3.2	6.7	25.4	66.7	55.6
Pasta		8.3	10.0	5.6	26.7	5.6
Rice	33	26.5	35.0	9.2	70.0	50.0
Gofio (corn flour)		4.1			16.7	8.3
Legumes, total	66	58.5	54.1	58.1	70.0	56.6
Lentils	33	55.8	54.1	20.0	43.3	45.4
Beans/peas	33	2.8		38.1	26.7	11.1
Oil, total	33	29.9	32.7	30.6	33.3	28.9
Oil						2.8
Oil fortified	33	29.9	32.7	30.6	33.3	26.1
Animal food, total		36.5	29.6	19.5	23.3	6.1
Tuna fish. canned		5.7	11.3	2.4		
Mackerel. canned					13.3	4.7
Meat		2.2	5.6	6.2	6.7	1.4
Cheese		18.8	12.7	1.3	3.3	
Milk		9.9		9.7		
Fruit and vegetables, total		36.8	98.6	127.0	110.0	121.5
Potato			29.6	34.7	33.3	40.1
Carrot		7.1	18.3	16.7	13.3	9.7
Onion		17.4	32.8	35.4	30.0	41.5
Apple		5.8	7.5	11.3	6.7	5.2
Orange		2.7	3.3	18.8	13.3	8.6
Zucchini				2.8	3.3	2.8
Tomatoes tetra pack						2.8
Dates		3.8	7.1	7.3	10.0	10.8
Others						
Sugar	67	29.3	31.7	29.9	33.3	31.3
Tea		1.3	5.1	3.4	1.3	1.1
Yeast		7.2	4.4	2.6	3.3	2.4
Biscuit. fortified			16.0	9.0		
CSB (CornSoyaBlend) flour. fortified			5.0	16.7	30.0	25.0

Cereals

The cereals are the main staple food² in the camp. The total cereal has increased but the amount of wheat flour has decreased at the cost of barley and rice which has increased. This gives more variety to the meals and the possibility to make different dishes.

Special good is it that barley has been reintroduced because this is a well known and used cereal among the refugees.

Legumes

Lentils and beans/peas are important sources of protein and fiber but on the other hand they are inhibitors for iron absorption and should only be given in the amount as a supplement to other staple foods, not as a staple food.

WFP has in their general suggestions to food baskets always from 50 - 100 g legumes/d³. This is too much when we know that one of the main health problems is anemia.

Oil

The oil that is given is usually fortified with vitamin A and ideally this should be enough.

But we see more and more that people use oil for cooking for example potatoes and egg (deep-fry). If that is extra oil coming from outside the distribution, this can give too much fat and energy which in turn can cause problems of obesity.

Animal food

The amount of animal foods has always been very low but in 2010 it was even lower than the other years. The different kind of animal foods give different kind of vitamins and mineral, but all of them give high valuable protein.

The amount of animal foods should be increased to cover for example the need of omega 3 fatty acid (canned mackerel or sardine), iron (meat) and calcium (milk and cheese).

Fruit and vegetables

The continuance of distribution of fruit and vegetables is very gratifying. But the amounts are not enough, except for onion which can be difficult to eat in big amounts for children and other people with a delicate stomach.

The amount given last year (2010) was approximate 120 g/d and make up for only approximate 25 % of the recommended amounts which from WHO⁴ is ≥ 400 g/d, without counting the amount of potato.

Fruit and vegetable contain different types of vitamins and minerals, and for example vitamin C increases the absorption of iron. Antioxidants reduce the risk for coronary heart disease, stroke, metabolic syndrome and high blood pressure. It is also found that antioxidants may help prevent or

² Food eaten in a big amount

³ UNHCR, UNICEF, WFP and WHO (2002). Food and Nutrition Needs in Emergencies

⁴ WHO, FAO (2003). Diet, nutrition and the prevention of chronic diseases. Report of a joint WHO/FAO expert consultation, WHO Technical Report Series 916

delay the progression of eye diseases such as cataracts, glaucoma, and age-related macular degeneration⁵.

Dates is a fruit that is sweet and with high content of sugar and not so much other nutrients.

The content of different nutrient such as iron can seem high in dry dates, but that is because it is concentrated. Dates should therefore be eaten with care.

Sugar

Sugar is a source of energy and nothing else. There are no other nutrients such as protein, vitamins or minerals in sugar. So if people do not need the extra energy or if they have too much, sugar should be used with care.

Tea

The tea contains antioxidants and can help in reducing the risk for heart diseases and prevention or delay of the progression of eye diseases.

Fortified food

For all the years up to 2009 we have been told the wheat flour and oil has been fortified.

For 2010 WFP and SCR have notified that wheat flour has been without fortification for 2 months and oil 1 month. It is unclear if the gofio are fortified; sometime it is sometimes it is not.

Corn Soya Blend (CSB) is fortified flour given both as special nourishing food for children, pregnant and lactating women and in the general food distribution (GFB). Here is only the amount given in GFB included. It contributes to energy, protein, vitamins and minerals but not antioxidants or omega 3 fatty acid.

The situation for the fortified biscuits now is that they are only given to the school children. They should be given as snacks in addition to the children's normal breakfast and lunch.

Labeling

All food items should be properly labeled to make it is easy for all that is in need or have interest of evaluate the nutrient contents in the food.

Nutrients in the food

We have had focus on protein, iron, vitamin C (figure 1) and energy, calcium and vitamin A (figure 2) but other nutrients such as the different vitamin Bs, vitamin D, iodine and different types of fat.

If we translate the amount of food from the food basket into nutrients we see in figure 1 and 2 that the red column show the nutritional need for a women 19 – 50 years, and international recommendations are used⁶. The dark blue shows the WFP ration that they said they would give in 2000. The next and green one show the food basket distributed in 2006, the purple 2007, the blue 2008, the brown from 2009 and the light blue shows the food basket from 2010.

⁵ Rhone M & Basu A (2008). Phytochemicals and age-related eye diseases. Nutrition Reviews, Volume 66, Issue 8, pages 465–472

⁶ VITAMIN AND MINERAL REQUIREMENTS IN HUMAN NUTRITION, second edition – 2004. Joint FAO/WHO Expert Consultation on Human Vitamin and Mineral Requirements.

Figure 1 shows that the protein is more or less not a problem, but we see that iron has been a problem all the time. Here we use a recommendation for women in fertile age, with low quality iron, small amount of meat and fish and low vitamin C in the diet.

Vitamin C has improved– from nothing in 2000 and 3 mg in 2006 to 25 mg. or 55 % coverage of the needs in 2010. This is only because of the fruit and vegetables, but still not enough.

Figure 2 shows that the energy is not a problem and not vitamin A either because of the fortified oil. But calcium is still a problem with less than half of the need covered.

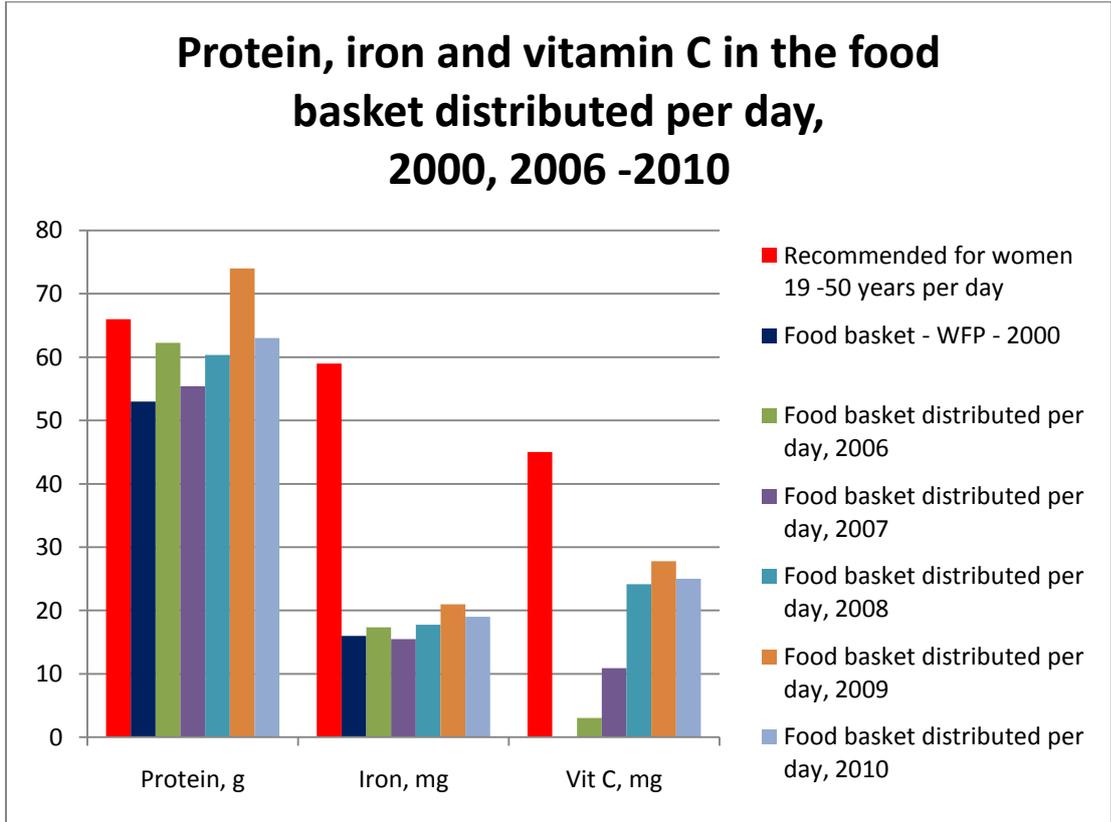


Figure 1 Nutrients (protein, iron, vitamin C) in the food basket distributed per day from 2006 – 2010 in the Saharawi refugee camps.

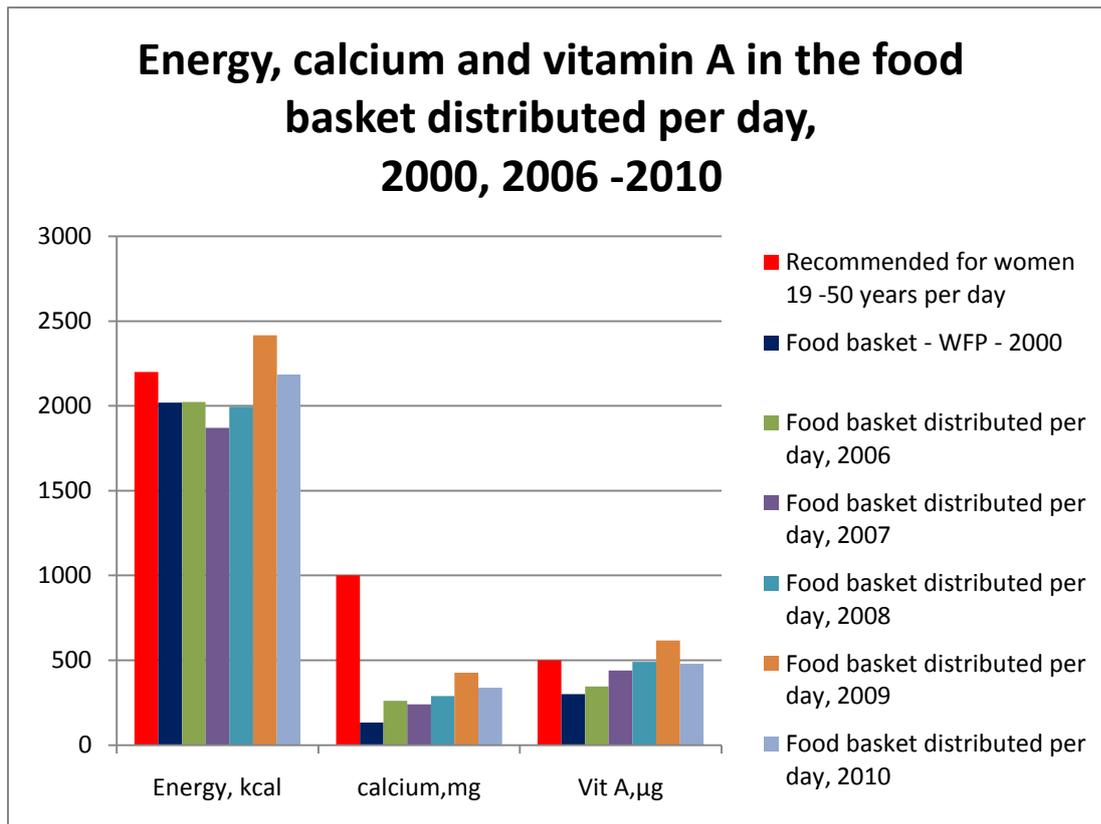


Figure 2 Nutrients (energy, calcium, vitamin A) in the food basket distributed per day from 2006 – 2010 in the Saharawi refugee camps

The acceptability survey

Nearly all families (99 %) said that the rations were not enough and at that time (2009) they said it was the wheat flour that was lacking. Many of them (82 %) said that the monthly distributed food did not come in right quantity and quality and 99 % said it was always something that was missing.

Figure 3 shows what they said did not come systematically, what they wanted to have more systematically and what they bought.

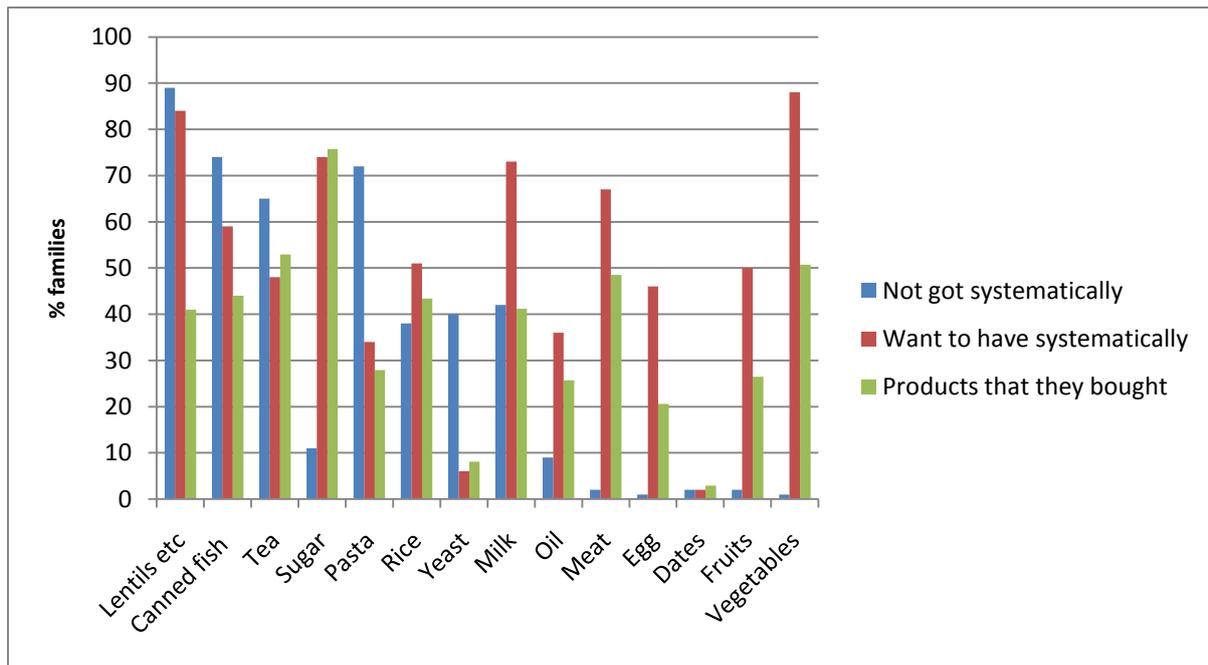


Figure 3 Different food that was not distributed systematically or they wanted to have it systematically or food that the refugees want to buy. Saharawi refugee camps. June 2009

Most of them (97 %) said that the fruit and vegetables lasted only for a short time and more that 80 % said both that it was not enough and that it could not be kept in a proper way. They suggested that the same amount should be distributed twice a month instead of once.

Half of the families said there were food they usually not use and most of them said it was yellow peas. On the other hand, 76 % of the women said that they would like to have foods like tomato and soy beans (not as CSB) in the general distribution when they were told that they were rich in vitamins and protein. This and the fact that 90 % want more vegetable in the ration and 50 % are buying it shows that the population knows about the benefit of the vegetables and want to have it in their diet.

Nearly half (46 %) of the families said that not all in the household got a ration but 95 % said that all members in the household shared the food. It has been problems with the numbers of beneficiaries; UNHCR and WFP reduced the numbers in 2006, from 165.000 to 90.000 and thus reduced the amount of food given to the refugees. In 2007 the UN and Saharawi Red Crescent agreed on given rations to 125.000 of the vulnerable refugees⁷.

Figure 4 shows that happened when the amount of the distributed food decreased. The malnutrition was on its way down in 2005 but during 2006 and 2007, when the food rations and beneficiaries were reduced, we saw this huge increasing of the acute malnutrition among the children and this should not be necessary in a long-term situation like this. Since 2008 Plumpy Nut has been used for treating the severe acute malnutrition and an intergraded health and nutrition program for children (PISIS) were also moderate and chronic malnutrition, anaemia and growth monitoring is focused on.

⁷ UNHCR Global Appeal 2011 Update

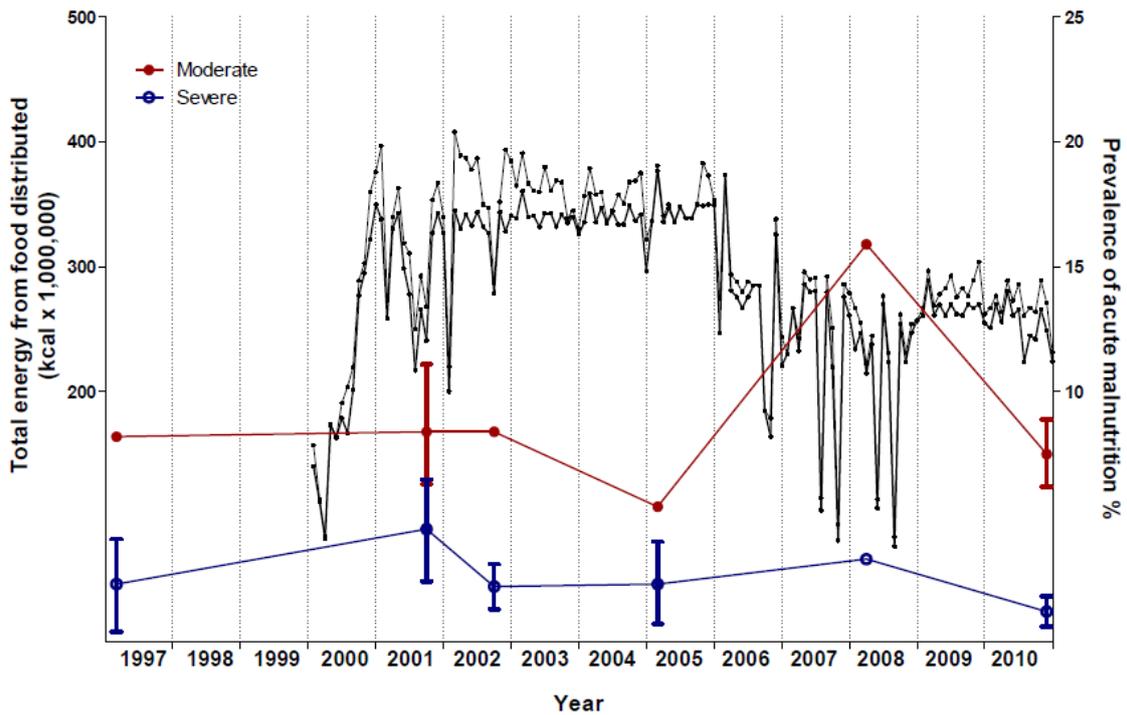


Figure 4 Total energy from food distributed and prevalence of moderate and severe acute malnutrition among children 6-59 months in the Saharawi refugee camps from 1997 – 2010.
 UNHCR/WFP/ENN, Nutritional Survey – April 2011

Adapted food basket

The development of the adapted food basket is built upon the results from the survey and the evaluation of the food situation and food given at the present time. Also the nutritional aspect is taken into consideration as well as that the food items that were suggested should be possible to achieve.

The solution to the problems came up very clear; it was a need for more diversity in the cereals, milk and cheese, more canned fish and three to four times more vegetable and fruit (400 g/per day) (see table 2).

Table 2 Example on how an Adapted Food Basket can look like. from the “II Mesa de Concertación y Coordinación de la Ayuda Alimentaria” November 2009 and verified in the “IV Mesa de Concertación” June 2011

Adapted Food Basket			
	Foods included	Ration kg/month	Period of proposed distribution
Food given monthly by UN	Wheat flour. fortified	8	annual
	Barely	2	annual
	Rice	2	annual
	CSB-soya. fortified	1	annual
	Lentils /Beans/Peas	2	annual
	Oil. fortified	1	annual
	Sugar	1	annual
Suggested foods to be donated by other organizations	Gofio	1	annual
	Soy-beans	1	annual
	Milk UHT	5	annual
	Cheese	1	annual
	Mackerel. canned	1	annual
	Potato	3	annual
	Carrot	3	annual
	Onion	2	annual
	Apple	1	annual
	Orange	1	annual
	Tomatoes in tetra pack	1	annual
	Pasta	1	annual
Other foods	Tea	100 gr	annual, adults
	Yeasty	100 gr	annual
	Dates	1	Ramadan
	Camel meat	1	Ramadan
	Olive Oil	1	annual for vulnerable

Figure 5 and 6 shows that this adapted food basket covers the recommendation for some chosen nutrients for a woman 19 – 50 year per day, except for the iron. The recommendation is set to be 60 mg iron/day. This is recommended from the fact that the meals in the old food basket have very high portion of foods that inhibit iron absorption (cereal and lentils) and very low portion of foods that promote the absorption such as fruit and vegetable with vitamin C and fish, and no meat which contain both iron and promote the absorption of iron from other sources. By increasing the food basket with iron promoting foods as we have shown here, make the need of iron lower and improve the total iron absorption. But the women that are anemic have also to take iron supplements. It is also other minerals and vitamins that are important, but those that we have showed here are some of those that are most difficult to cover.

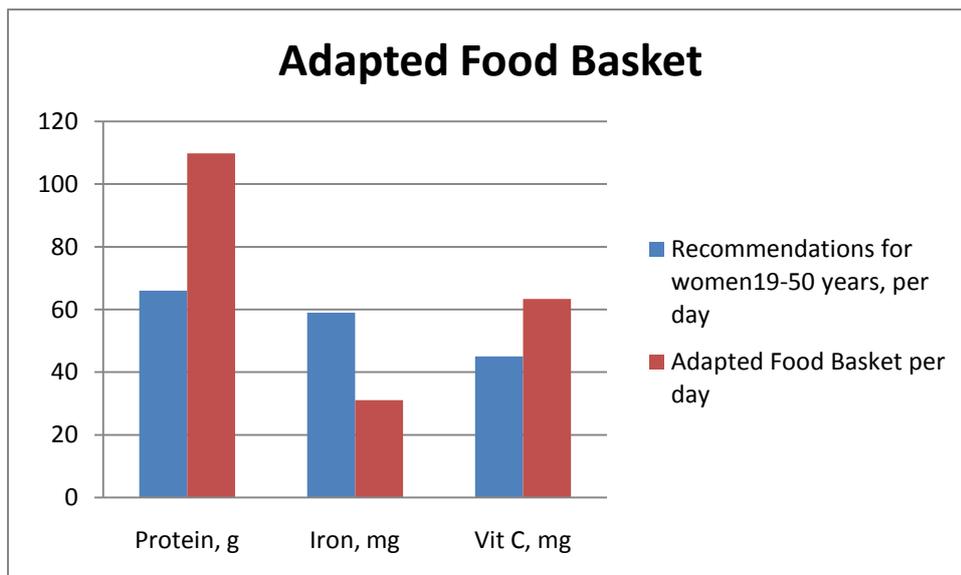


Figure 5 Recommendation for protein, iron and vitamin C for women 19-50 years and the contribution from the Adapted Food Basket. 2011

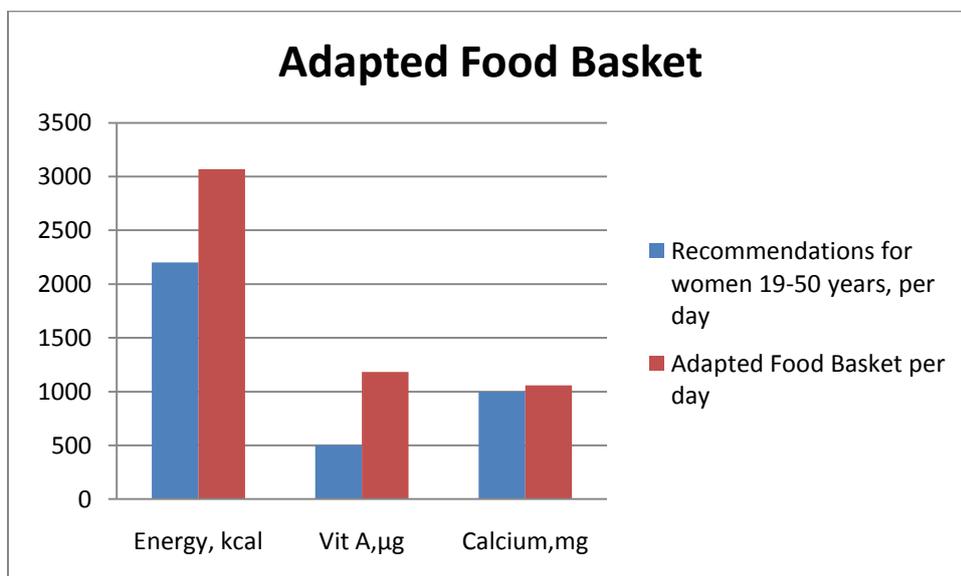


Figure 6 Recommendation for energy, vitamin A and calcium for women 19-50 years and the contribution from the Adapted Food Basket. 2011

To make the adapted food basket more flexible, the II Mesa de concertacion group, November 2009 suggested using following food groups instead of single food items when called for donation:

- ✚ Vegetable and fruit
- ✚ Canned fish (mackerel or sardines) or meat
- ✚ Milk and cheese
- ✚ Other foods such as gofio and pasta and soy beans

Vulnerable groups

In general children less than 5 years, pregnant and lactating women, old people, sick people and disabled people belong to the vulnerable groups in a society. In the “IV Mesa de Concertación y

Coordinación de la Ayuda Alimentaria. June 2011” was diseases such as celiac, diabetes, hypertension, anaemia, malnutrition especial mentioned, as well as children less than 5 years and pregnant and lactating women. Feeding programs are ongoing for children and women to combat malnutrition and anaemia but the meeting highlighted the importance of ensuring complementary distribution programs for all these groups.

Conclusion

Per 2011, the food basket are still lacking foods such as vegetable, fruit, milk, fish and meat to ensure the nutritional health of the general population and sufficient complementary food programs for the vulnerable groups.