

# **Summary Report for Nutrition Coordinator**

23/08/94

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## **RECOMMENDATIONS**

1. The highest priority from the point of view of health and nutrition is the transfer of the refugees from the town Sites of Alfajiri and Nguba to organized camps.
2. Efforts to improve sanitation at these sites should be undertaken urgently, in cooperation with NGOs working in Bukavu town, SCF - UK, Concern MSF).
3. Wet feeding centers are being established in a number of town Sites, but this should be viewed as purely as an interim measure, and should by no means delay the transfer of refugees from these sites to organized camps. It is essential to maintain high standards of hygiene in these centers, to avoid the possibility of amplification of the dysentery outbreak already occurring in Alfajiri.
4. The nutritional status of children screened to date in camps is acceptable. Supplementary feeding centers do not appear necessary at this time. A supplemental dry ration of 700 kcal per child per day is planned in all camps, to be implemented by the NGO responsible for supplemental feeding in the respective camp.

## **SUMMARY**

This report is based on data collected from 28/07/94 to 22/08/94, during a series of site visits both to organized camps and to spontaneous encampments of refugees within Bukavu town, and during formal anthropometric screening of refugee children entering camps established since 11/08/94. It should be borne in mind that the situation in Bukavu is changing rapidly, and much of the information in this report will quickly be outdated.

The majority of Rwandese refugees in the Bukavu area arrived in two waves, the first around mid-July and the second in the last week, anticipating the departure of the French forces from SW Rwanda on 21/08 and the closing of the Zaire- Rwanda border, which officially occurred on 19/08. The number of refugees who have crossed is difficult to estimate with certainty. However, an estimated 90,000 refugees are now in known camps around Bukavu, and more than 100,000 are thought to be encamped in spontaneous settlements in Bukavu town, and in need of assistance and transfer to organized sites (Appendix 1). Transfer is now occurring at a faster rate with 3 sites, Inera, Hongo, and Nyamirangwe camps, currently receiving refugees. The onset of the rainy season, and the occurrence of a higher than baseline rate of dysentery cases in town sites (especially Alfajiri), makes the transfer of refugees from overcrowded sites in town medically imperative.

Although the border is officially closed, refugees are still permitted to enter at Ruzizi II several km South of Bukavu town, on the condition that they are transported directly to a campsite outside of Bukavu town. The border crossing at Cyanguu, which is closer to Bukavu town is currently closed to refugees. The transfer of refugees from the border at Ruzizi II occurred directly to Hongo camp yesterday.

Refugees are being transported from town sites (largely from Cathedrale) to the Inera camp by Caritas. The town sites which are most crowded and least sanitary at this time are Alfajiri and Nguba, and transporting refugees from these sites should be prioritized. Transfer is occurring in an organized fashion both by vehicle and on foot, with refugees given tickets for entry to the camps, but also many refugees arrive spontaneously in the camps along the road leading to the airport.

Because many of the refugees have been encamped in town for more than a month with no general distribution of food, the decision was made to begin wet feeding in several town sites as of today. It is hoped that this will be a strictly temporary measure to try to prevent malnutrition until refugees can be transferred to organized campsites. The sites where wet feeding is planned, and the NGOs responsible, are listed in Appendix II.

Nutritional screening of all children younger than 5 years in Kashusha Camp was carried out, and screening continues now in Inera and Hongo. The prevalence of low weight-for-height (8%), although elevated, is in the acceptable range, and is much lower, for example, than the rate in Goma (>20% low wt-for-ht, R.Waldman, personal communication). Based on current rates in Kashusha, there is no need to set up supplementary feeding or nutritional rehabilitation centers. Rather, a dry ration supplement of 700 Kcal per child per day is planned in the camps for all children younger than 5 years. If data from the other camps suggest a markedly different situation, this plan will be revised.

## **SITE VISITS TO CAMPS**

1. Chimanga camp ; includes Nyakanenge) (29/07 and 01/08)  
Chimanga camp is located 70 km from Bukavu on land belonging to Pharmakina, a company which produces quinine. The road to the camp is dirt, and there is a bridge which is presently under repair, so that the trip takes at least 2 hours (2 and a half because of the bridge). Passage will be very difficult during the rainy season. There is no village close to the camp. The closest water supply is a small spring about 1 km away. Latrines have been built by the refugees.

The camp is organized into 2 parts occupying 2 adjacent hills (Chimanga and Nyakanenge), each with a refugee responsible for organization. The storage depot is at the end of Chimanga furthest from Nyakanenge. There is a

dispensary manned by 2 nurses for FICR beside the depot, and MSF has a dispensary on the road common to the two encampments.

The general food ration per person per day distributed the week of 25/07, according to personnel at the depot, consisted of:

Maize meal	200 g	corresponds to
Maize grain	150 g	1870 kcal
Beans	120 g	57 g protein
Oil	25 g	
Salt	5 g	

As of 01/08 there was nothing in the storehouse at Chimanga except some 25 sacks of Maize grain. On 30/07 the only non-ration food seen was manioc (cassava) but on 01/08 there were local people selling sweet potatoes and bananas as well. However, the majority of the refugees at Chimanga appear to be without resources for buying or barter.

The 1870 kcal general ration listed above contains 5.4 available niacin equivalents (ANE), far below the recommended 10.3 ANE and close to the reported content of the ration being distributed in the Mozambican refugee camps in Malawi when the epidemic of the pellagra occurred there in 1990 (4.4 ANE, MMWR 1991,40:209).

2. Kalehe camp (04/08 and 06/08): Kalehe camp is also about 2 hours from Bukavu. The road is paved as far as Katana, and then is a very uneven dirt road for the last 30 or so km, which will also be very difficult to reach during the rainy season. However, Kalehe is not as isolated as Chimanga, having several large villages on the road, and Kalehe village with a parish house about 30 minutes walk away from the camp. The camp is situated on a headland overlooking the lake, and there is no shade of any sort. The tents are organized in neat rows, according to the province of origin of the refugees, with signposts, and there is a more orderly arrangement than in Chimanga. However, there are so far only 7 latrines for more than 4000 people, and in contrast to Chimanga, were not very clean. There is an urgent need for more wood posts to build latrine superstructures. Water from the lake is treated with chlorine provided by MSF and carried about 10-15 minutes up the hill to the camp.

MSF has a dispensary and an oral rehydration center. The dispensary sees on average 150 patients per day, with the most frequent diagnoses being fever illness, treated as malaria with either chloroquine or quinine, superficial wounds, treated with gentian violet, and diarrhea, treated with ORS.

Food distribution takes place from the parish house, to which it was moved reportedly after the disappearance of some food stores when the food was stored nearer the camp. The parish house is 30 minutes walk, from the camp. The only food items in the depot on the day of the visit were some 20 sacks of rice, and 10 cases of oil, but this was at the end of a week of distribution

On rapid inspection of the camp, there is evidence of much complementary food, nearly all of it manioc, which people are either boiling on top of maize grain, or drying for 7 days in the sun before pounding manually into flour for porridge. Some refugees are working in the fields near the camp in exchange for manioc, and reportedly the inhabitants of Kalehe village have also donated food. One person working 2 days in a field is said to earn enough manioc to make 2 kg of flour. Some refugees also had bananas.

The appearance of the refugee families is somewhat heterogeneous, with some tents containing moderate amounts of household goods and others (which tend to be grouped at the far end of the camp near the MSF tent) with very little. The findings of the MUAC survey, though the number sampled is small reflect this difference, with the children with low MUAC grouped at this end of the camp. As in Chimanga, these tend to be the people who have spent some months displaced within Rwanda before coming to Zaire. Some people are still in need of cooking pots.

Rapid assessments :In Chimanga and Kalehe, rapid surveys were conducted to collect basic information. Briefly, a tent was chosen at random for each of two clusters in each site. In Chimanga, one cluster was chosen on Chimanga hill, the other on Nyakanenge, while in Kalehe, one Cluster was chosen from each end of the camp, consecutive tents were surveyed until the designated number was reached.

The population structure highlights the need for special attention to vulnerable groups (Table 1) . About 20 percent of the population consists of children younger than 5 years, and 9 percent of the population is made up of pregnant. or lactating women. Data on morbidity indicates endemic diarrhea, dysentery, acute respiratory infections and malaria, with no evidence of major outbreaks at this time (Table 2). MSF has undertaken ongoing disease surveillance.

The data on mid-upper arm circumference appear to indicate that this population already has a significant level of malnutrition among children, especial in weaning age (Table 3). Overall, nearly 20 percent of the children have MUAC less than 12.5 and among children 6 – 18 months, 43 percent have MUAC less than 12.5 cm. These data, which are based on a very small sample size, must be interpreted with caution, and these camps need to be reassessed with anthropometric surveys .

3 . Murhala Mudaka (08/08) . This is a site close to the main tarmac road leading north out of Bukavu along the lake, about 35 minutes from Bukavu containing some 6000 people in 2 areas, with food distribution and camp management coordinated by Caritas through the seminarists of the site .The site is on a fairly steep hillside, with some areas of shade. Health care is also through Caritas/Medicus Mundi, provided by medical missionaries with many years of experience in Rwanda. The major diagnoses seen in the

dispensary are fever illness, treated as malaria with chloroquine or fansidar, ARI and dysentery in moderate numbers, which was being treated with Bactrim. Registration and food distribution was very orderly, and latrines were in the process of construction by the refugees. UNICEF was working on a water source at the time of the site visit.

There was a small market set up by local people at the end of the camp closest to the road (small dried fish, bananas, tomatoes, beans, potatoes), and also refugees selling foods stuffs (soy flour, beans) at the other end of the camp, at a mark-up over the market price. Much manioc was being dried by refugees, and there was quite a variety of food cooking (manioc ugali, beans, a stew made of beans and small fish, fried potatoes). Some parts of the camp contained households with substantial quantities of household goods, and a few people had vehicles.

Needs expressed included registration of about 400 people who were in the camp but not receiving rations and firewood for cooking,

4. Kashusha (11/08, 13/08, 16/08): Kashusha is a camp on a fairly flat stretch of land just off the main road, not far past Murhala Mudaka. On the days it was visited registration was going on, and people were moving in. Now it is full, in fact, is said to have excess population, due to spontaneous movement from Bukavu to the site. On the days of the visits, registration and food distribution were proceeding in a fairly orderly fashion, although registration was very slow on some days due to lack of personnel. The population is heterogeneous but overall does not appear very poor. Many vehicles are in evidence (about half of the camp population arrived in vehicles other than HCR transport) .

The ration for the week of 16-23/08 was:

Maize meal	:	300 g	Corresponds to
Unimix	:	100 g	2093 kcal
Beans	:	120 g	65 g protein
Oil	:	25 g	
salt	:	5	

Food distribution appeared to be taking place in an orderly fashion. MSF vaccinated all children < 15 years as part of the registration process, and have set up a dispensary. As of the time of the site visits, some cases of dysentery were being seen, but not at the rate of town sites.

5. Inera (Kambongo, Kampene): These sites are on the same tarmac road leading from Bukavu to the airport, 27 km from town. The site is a hill side, less steep than Murhala Mudaka, but very muddy, which is said to have a capacity of 10-12,000. Caritas, in cooperation with a variety of church organizations, is managing the camp, and will provide health care after the initial set-up by MSF. On the day of the visit, 21/08, registration by the

Groupe Jeremie was in progress but proceeding slowly. Access to this site will be good since it is close to the airport and right on the tarmac road, but already the presence of many camps (Inera, Kashusha Adikivu) within 3-4 km of each other is causing major traffic snarls.

6. Hongo: This site is large (said to have a capacity of 50-80,000) but made up of agricultural land, on a hillside about 15 minutes up a dirt road off the main airport road, 8 km out of Bukavu town. At the time of the visit people were out working in the fields which are apparently meant to make up the camp. There is a school yard which will be used for registration and health and nutrition screening. Arrivals had begun as of 22/08.

7. I have not visited Nyantaba (Ninja) but at the time of writing, this was proposed as a large site (capacity 50, 000), 80 km out of town, on a road said to be impassable to trucks for the last 8 km, and dirt along its entire length. Thus access to the camp especially for provisioning is a major stumbling block to its use, and as of 23/08, It was not clear when it might be opened.

8. Nyamirangwe is located about 25 km SW of Bukavu. Transfer of refugees is scheduled to begin 23/08.

## **SITES IN BUKAVU TOWN**

1. Hotel Canadian (30/07): This site contained 85 students originally from Burundi, displaced from Rwanda. Most were adult males and are fending for themselves fairly well. By 16/08 these people had disappeared.

2. Cathedrale (30/07) is an encampment of 2,500 people, mostly urban Rwandese, who on visual inspection appear to have been well-to-do. There are many motor vehicles including large trucks, belonging to the refugees. People say they are running out of food now (after 2 weeks), however, many people appear to have saleable household goods. Several refugees stated that they do not want to leave town to go to the camps. Latrines have been built by the refugees themselves and they are obtaining municipal water apparently by barter or as a gift from towns people.

3. Alfajiri (16/08): Alfajiri is a college in the middle of Bukavu town whose entire grounds and the surrounding area have been spontaneously taken over by refugees. The area was said to contain an estimated 12,000 people as of 16/08, and when refugees are transported from here to camps others move in. The area is clearly congested and sanitation sub optimal, with visible human feces on the periphery of the camp, and a pervasive smell. People are encamped in improvised structures on all available land. There is a definite feeling of tension, with any conversation soon growing into a crowd scene.

At the site, there are transport pick-ups for the camps, there were 2 trucks, one containing people and the other belongings. Refugees engaged in conversation

about the transport say that tickets are obtained through registration with 'chefs de quartier' but that bribes are often accepted to circumvent the system and gain priority. In the course of walking around for about 2 hours, 3 or 4 men said to be responsible for a quartier of the camp were encountered, although the actual demarcation of the quartier is unclear. These men had lists, but it is not clear just how these lists are used for transport arrangement.

At the site, high-protein biscuit distribution by FICR, a 'chef de camp' was registering people for biscuits. His list included many 'celibataires' (single men or women) with large numbers of orphans listed as eligible to receive biscuits. The 'chef' stated that biscuits are distributed to heads of households (generally men). FICR was present at this discussion and will be looking into the method of distribution and whether it would be better to distribute to women rather than men.

The dispensary is run by MSF, and is in the center of one of the larger fields of the camp, surrounded on all sides by refugees' shacks. An ORS corner is set up in one of the permanent structures. MSF sees about 200 patients per day, with, many cases of dysentery. The number of dysentery cases is increasing recently. Severe cases are referred to Bukavu General Hospital.

With the new influx of refugees 18/08 to 21/08, the population around Alfajiri was said to have increased to approximately 20 to 30,000.

## **NUTRITIONAL SCREENING AND BASELINE SURVEYS**

Nutritional screening is being conducted in new camps as they open, by weighing and measuring each child between 65 and 110 cm in length. Registration of families occurs in one area and then all families with children are sent to the clinic screening area, where children younger than 15 years receive measles immunization. Children who pass under a 110 cm height bridge are then weighed and measured.

To date, screening has been completed in Kashusha camp. Of 1605 children measured, 12 (1%) have weight-for-height less than 70% of median, and 106 (7%) have weight-for-height between 70 and 79% of median, for an overall malnutrition rate of 8% (Table 8). Data collection continues in Inera, but of the first 490 children, 4 (1%) have weight-for-height less than 70% and 41 (8%) between 70 and 79% of median.

Mid-upper arm circumference (MUAC) data were collected in order to have a basis of comparison with weight-for-height data (Tables 10). In the past, in some camps around Bukavu, children have been screened first with MUAC, followed by weight-for-height only on children with MUAC less than 12 cm. The data from Kashusha demonstrate that this method will lead to a significant underestimate of the number of children with low-weight-for-height. In Kashusha, of 118 children with weight-for-height less than 80% of median, only 43 had MUAC less than 12 cm (Table 11). Thus, use of the MUAC screening method would miss 75 children with low weight-for-height. Although the age data is very approximate (because of difficulty ascertaining

age accurately in this area), it is clear that the use of this method preferentially selects younger children. The mean age of children with low weight for height and MUAC <12 cm is 28 months, while that of children with weight-for-height less than 80% but MUAC  $\geq$  12 cm is 40 months.

Data concerning prefecture of origin demonstrate that the majority of refugees in Kashusha are from Butare (23%) , Gitarama (16%), Kibuye (22%) and Kigali (12%) (Table 4) . Data from ongoing data collection: suggests that the proportion of children screened from Gikongoro and Cyangugu has increased in the last several days.

(Table 5), but these data should be reassessed as collection continues, bearing in mind the bias that may be introduced by the preferential transfer of refugees from particular town sites (as has happened for Inera camp)

Screening continues today in Inera and Hongo camps, in concert with the NGOs who will be responsible for nutrition in each camp (Caritas in Inera, CEPZa in Hongo). In Chimanga, Kalehe and Murhala Mudaka, baseline surveys are planned. Because these camps are already settled, and because there is evidence to support significant socio-economic heterogeneity within the camps, the surveys are planned as systematic samples of each camp, to cover all geographic areas, with a sampling interval to achieve a sample size of about 400 children in each camp. In addition to age, sex, weight, and height, data concerning female-headed households and prefecture of origin will be collected. Surveys will be conducted in coordination with the partners in charge of nutritional monitoring and supplementary feeding in each respective camp. These teams will then be available for follow-up surveys. Follow-up surveys of all camps, and re-evaluation of nutritional policy should be planned for 2 months from now.

## **APPENDIX 1:**

ORGANISED CAMPS established by HCR since July influx, with population figures including registered and estimated unregistered refugees.

1. Chimanga camp established 25/07: 13,000  
FICR (management, health care, nutrition); CARE to take over management and food distribution.
2. Kalehe Camp established 31/07: 6, 000  
MSF (health care, sanitation, nutrition), CARE to take over management and food distribution
3. Kashusha camp (established 11/08) 25,000  
FICR (management) , MSF (health care, nutrition), GTZ (water)

### **CAMPS NOW BEING FILLED AS OF 23/08**

4. Inera (Kampene and Kambogo) capacity 12,000, established 20/08.  
Caritas (management, nutrition), MSF (initial health care), Medicus Mundi (to take over health;
5. Adikivu (established 19/08), capacity 6,000. Ordre de Malta (all services)
6. Hongo (established 22/08); capacity 50-80,000. CARE (management), MSF (initial health), CEPZa (long-term health/hospital),

### **CAMPS PLANNED AS OF 23/08**

7. Nyamirangwe (to start 23/08) capacity: 8-10,000.  
FICR (transfer, management), GTZ (site prep) , SCF (water, sanitation)
8. Nyantaba (Ninja) (starting date unclear) capacity: 50,000.  
CARE (management, transfer, food and non-food distribution, site plan), MSF (initial health care, water, sanitation). CEPZa (to take over health, nutrition). Oxfam (to take over water, sanitation), GTZ (road access).

OTHER SITES receiving ration from WFP (Except for Murhala, these sites predominantly Accommodate refugees already in Bukavu before the July influx.

Nyagavogo	4,000
Murhala Mudaka	6,000
Katana orphanages :	1,500
Nyantende	1,689
Nyangezi	3,377
Idjwi	2,536
Birava	472
Nyabibwe	320

ENCAMPMENTS IN BUKAVU TOWN with more than 1000 (figures very approximate).

Alfajiri	20-30,000
Panzi (military)	5,000
Nguba	>5,000
Mukukwe	9,600
Ihembwa	2,000
Chai	1,000
Athenee Bagira	6,000
Athenee d'Ibanda	1,200
Zone de Bagira	> 1,000
(Commissariat, Ecole Officielle, Eglise CELZA)	
Ruzizi I and II (border areas)	>1,000
Cathedrale	3,000
(but many of these people have been relocated)	
Eveche Anglican	3,500

**APPENDIX II:**

SITES IN BUKAVU TOWN WHERE WET FEEDING HAS BEEN UNDERTAKEN AS OF 23/08

<b><u>SITE</u></b>	<b><u>NGO</u></b>	<b>Est. Pop.</b>
Eveche Anglicane Cathedrale	Eglise Anglicane	3500
Panzi	CEPZa/CEPZa	5000
Mukukwe		9600
Nguba		5000
Ihembwa		2000
Chai		1000
	Total (CEPZa/CELZa)	22,600
Alfajiri	MSF/College seminarists	20,000
Nguba/Sominki	Assemblies of God	1,000

**TABLES: RESULTS OF RAPID ASSESSMENTS IN CHIMANGA AND KALEHE CAMPS.**

Table 1: Population structure: Chimanga and Kalehe camps

Age (years)	Males		Females	
	No.	(%)	No.	(%)
Under 5	71	(19)	62	(16)
5 – 14	106	(29)	124	(32)
15 – 44	174	(47)	170	(44)
45 – and over	17	(5)	29	(8)
Of 170 women 15-44 years old, 53 (31%) are lactating, and 14 (8%) are pregnant				

Table 2: Point prevalence of selected illnesses in Chimanga and Kalehe camps (133 children younger than 5 years and 620 persons older than 5 years surveyed).

Illness	Under 5 years		Older than 5 years	
	No.	(%)	No.	(%)
Diarrhea	12	(9)	12	(2)
Dysentery	3	(2)	5	(1)
Acute respiratory infection	42	(32)	55	(9)
Fever illnesses	8	(6)	43	(7)
Fever without ARI reported	3	(2)	36	(6)

Table 3: Prevalence of low mid-upper arm circumference among children 6 months to 4 years, Chimanga and Kalehe camps.

MUAC (cm)	Chimanga		Kalehe		Both	
	No.	(%)	No.	(%)	No.	(%)
Less than 11	4	(10)	4	(5)	8	(7)
11-12.4	5	(12)	10	(13)	15	(12)
12.5-13.4	8	(20)	17	(22)	25	(21)
13.5 or more	24	(58)	47	(60)	71	(60)
Total less than 12.5 cm	9	(22)	14	(18)	23	(19)

Tables: Results of anthropometric screening in Kashusha and Inera camps (data to 21/08, screening still in progress in Inera).

Table 4: Children screened by Prefecture of origin:

Prefecture of origin	Kashusha No. (%)	Inera No. (%)	Combined No. (%)
Butare	370 (23)	108 (22)	478 (23)
Byumba	56 (4)	17 (4)	73 (4)
Cyangugu	51 (3)	36 (7)	87 (4)
Gikongoro	40 (2)	41 (8)	81 (4)
Gisenyi	135 (8)	15 (3)	150 (7)
Gitarama	263 (16)	56 (11)	319 (15)
Kibungo	101 (6)	52 (11)	153 (7)
Kibuye	346 (22)	91 (19)	437 (21)
Kigali	195 (12)	71 (14)	266 (13)
Ruhengeri	48 (3)	3 (1)	51 (2)

Table 5: Percentage children registered from each prefecture by date (11/08 to 19/08 in Kashusha; 20/08-21/08 in Inera)

PREFECTURE	AUGUST										
	11	12	13	14	15	16	17	18	19	20	21
Butare	29	21	23	21	20	23	28	23	13	16	26
Byumba	4	5	1	3	3	7	1	0	0	6	2
Cyangugu	1	<1	2	4	1	5	9	12	13	12	5
Gikongoro	<1	2	2	1	4	5	4	6	0	10	7
Gisenyi	2	14	11	1	8	9	2	8	17	3	3
Gitarama	15	25	20	12	12	12	11	7	8	7	14
Kibungo	5	7	14	7	4	4	5	1	4	14	9
Kibuye	24	15	18	20	40	20	25	21	13	18	19
Kigali	9	10	11	22	9	16	15	16	29	14	15
Ruhengeri	11	1	0	9	2	<1	1	6	4	<1	1

Table 6: Mean weight-for-height (WHZ) and height-for-age Z-scores (HAZ) by prefecture or origin.

Prefecture of origin	Mean WHZ	Mean HAZ
Butare	-1.01	-1.50
Byumba	-0.50	-0.92
Cyangugu	-0.84	-1.58
Gikongoro	-0.54	-1.45
Gisenyi	-0.81	-1.45
Gitarama	-0.90	-1.49
Kibungo	-1.21	-1.75
Kibuye	-0.96	-1.51
Kigali	-0.83	-1.25
Ruhengeri	-0.42	-0.7
All prefectures	-0.90 (SD 0.98)	-1.45 (SD 1.47)

Table 7: Mean weight-for height (WHZ) and height-for-age Z-SCORES (HAZ) by prefecture of origin, for Kashusha camp only.

Prefecture of origin	Mean WHZ	Mean HAZ
Butare	-1.00	-1.46
Byumba	-0.49	-0.66
Cyangugu	-0.79	-1.56
Gikongoro	-0.37	-1.45
Gisenyi	-0.78	-1.40
Gitarama	-0.92	-1.40
Kibungo	-1.20	-1.54
Kibuye	-0.97	-1.48
Kigali	-0.82	-1.17
Ruhengeri	-0.39	-0.79
All prefectures	-0.89 (SD 0.97)	-1.40 (SD 1.45)

Table 8: Prevalence of low weight-for-height: percent of median.

Weight-for-height % of median	Kashusha No. (%)	Inera No. (%)	Combined No. (%)
<70	12 (1)	4 (1)	16 (1)
70 – 79	106 (7)	41 (8)	147 (7)
≥ 80	1484 (92)	443 (91)	1927 (92)

Table 9: Prevalence of low weight-for-height: Z-scores.

Weight-for-height Z-scores	Kashusha No. (%)	Inera No. (%)	Combined No. (%)
< -3	21 (1)	7 (1)	28 (1)
-3 to -2.1	165 (10)	54 (11)	219 (11)
≥ -2	1415 (88)	427 (88)	1842 (88)

Table 10: Prevalence of low mid-upper arm circumference.

Mid upper-arm circumference	Kashusha No. (%)	Inera No. (%)	Combined No. (%)
< 11.5	39 (2)	17 (4)	56 (3)
11.5 to 12.4	80 (5)	33 (7)	113 (5)
≥ 12.5	1482 (93)	440 (70)	1922 (92)

Table 11: Comparison of mid-upper arm circumference less than 12 cm with weight-for-height (% of median) in Kashusha camp.

MUAC	Weight-for-height	
	< 80	≥ 80
< 12	43	25
≥ 12	75	1455

↑  
NORTH



