

Medical Assistance to Self-settled Refugees

Guinea, 1990-96

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Preface

My position

In 1989, I came to live and work in N'Zérékoré, in the Forest Region of Guinea, as a member of *Médecins Sans Frontières* (MSF). My remit was to assist the Guinean Ministry of Health (MOH) to develop its public health care system. Work had barely begun when the first refugees from Liberia started to arrive. Together with my counterpart, MOH's regional medical inspector for the Forest Region, we took on as added responsibilities the medical aspects of the *Programme d'Assistance aux Réfugiés Libériens et Sierra-Léonais* (PARLS).

This sequence of events influenced our perception of the refugees and PARLS. It was an added problem, a new factor, disrupting the setting-up of the still fragile Guinean health system. We thought PARLS should not be allowed to negatively influence the ongoing development of the Guinean health system; rather we tried to organise PARLS in such a way that it would strengthen the national health system. I was thus a 'development worker' as opposed to the 'relief workers', who came to Guinea 'to assist the refugees'. From the very start, the difference in logic between development and relief was clear, and this will be a central theme throughout this study.

I stayed in Guinea till mid-1992. Since then I have followed up on the evolution of PARLS during yearly field missions to Guinea till mid-1996. During these follow-up visits, I had no more operational responsibilities in Guinea. I came as a 'researcher' for some, as a 'visitor' for others. It was amazing to discover to what extent this change in position changed the observations I made, and how this had an impact on my perception of the problems and merits of PARLS. Certain realities only became visible during these follow-up missions. Other problems, which were among my major preoccupations when I was working in Guinea, became less of a problem.

On data and decision making

This study covers the period from January 1990, when the first refugees arrived and PARLS was started, till August 1996, when I paid my last field visit. Information from before 1990 is used to clarify the context and health system in which PARLS was set up. The description and analysis of PARLS is mainly based on my personal experience, on analysis of written reports, and on discussions with different actors of PARLS.

Most quantitative data are from routine reports by the health services.* These are fraught with flaws and inaccuracies. Some data may appear improbable, or contradict other data. This is particularly so for data on the number of refugees and on the utilisation of health services. Surveys conducted by PARLS are also not free from flaws. Survey methods and inclusion criteria changed over time, and yielded data that are not strictly comparable. I discuss respective merits and possible biases, and compare them with other quantitative or qualitative information. Sometimes I had to rely on well-informed guesstimates rather than on hard data. On other occasions, no quantitative data were available to substantiate qualitative observations. The possibilities and limitations of the use of routine data is a recurrent theme in this study.

The actual decision making process in PARLS was based on such imprecise and doubtful data – but they were the only ones available to the field workers at the moment they had to make their decisions. That data were available does not imply that the field actors knew all the information that could be generated from these data. Many insights appeared while examining data years after they were collected. The next central theme of this study is to address the rationality of decision making in dealing with the refugee problem. With the benefit of hindsight, I will try to identify whether decisions were ‘good’ (‘Did it have the best results possible?’) and/or ‘rational’ (‘Was the best possible decision made, given the information available, and the prevailing time constraints?’). Obviously, hindsight provides us with a better – if still inadequate – basis for judging whether what had been decided was the ‘best’ and/or most ‘rational’ option.

Assisting self-settled refugees and the search for appropriate methods

Assisting large numbers of self-settled refugees has, to my knowledge, never been documented before. The strategies and methods thus had to be invented and adjusted on the spot. The two reference frames (‘types of logic’) of primary health care (PHC) as part of overall development, and of emergency medical assistance (EMA), or emergency relief, were constantly present. The ‘development actors’ started from the former, but recognised that assistance to refugees had to incorporate relief elements. The ‘relief actors’ started from the latter, but recognised that this had to find an adequate in-

* Only the data on major obstetric interventions in Guéckédou and on measles were collected specifically for this study.

terface with the Guinean health system. This continuous search for the best strategies and methods within PARLS – a constant balancing act between ‘assisting the refugees’ and ‘developing and safeguarding the Guinean health care system’ – is a third central theme. The discussion became more fruitful after two or three years, when even the most fervent relief workers came to recognise that the refugees would stay in Guinea for a very long time, and that approaches used by PARLS should be compatible with this reality. At the same time, all those primarily concerned with development came to recognise that refugees have specific needs: even after years they remain ‘strangers’ with weaker social networks.

Limitations

I try to cover different fields and aspects that appear relevant to the overall picture. This implies, of course, that not everything can be discussed in depth. In the words of Livi-Bacci:¹ *“I had to enlarge my plan of attack to include several problems and topics [...]. I have been haunted by the constant fear of losing the depth of this study for the breadth of its extension. This is, however, a calculated and consciously accepted risk. The temptation to take shelter within safe disciplinary boundaries is great; but problems remain complex and in order to solve them it is not sufficient that they be individually identified and isolated. Now and then it is worth making an attempt at reconstruction.”*

Although I use in this study some elements of anthropology, sociology and economics to understand the situation of the refugees in the Forest Region, I still primarily look at PARLS, and not at the refugees, and this through the eyes of a public health manager, rather than through those of an economist, sociologist, anthropologist or political scientist. This is a pragmatic choice, and it does not distract from the need to better understand refugees as human beings, and not as mere numbers in a body count.

Wim Van Damme
Antwerp, August 1998

Introduction

Although some 100,000 people are estimated to have died due to the famine, these deaths were caused not by lack of food but by 'health crises'. These health crises consisted in localized outbreaks of disease, particularly measles and the diarrhoeas, which were precipitated by population movements and by lack of sanitation and clean water. It is commonly argued that diseases become more prevalent during famines because people are undernourished and so weak and more susceptible to disease. I am arguing that this is false, at least in the case of Darfur. One important factor in this was the decline in both the quantity and the quality of water. A second was the large-scale movement of people. Large concentrations of people accelerated the rates of transmission of infectious diseases. The new situation was equivalent to a sudden change from a dispersed or rural-type environment to a concentrated or urban-type environment. This also put pressure on water supplies and sanitation facilities in the host communities: the public health environment became degraded, for hosts and migrants alike.²

Alex de Waal

The location of the refugees may range from spontaneous settlement over a wide area, through organized rural settlement, to concentration in a very limited area. Circumstances can make this last possibility unavoidable, but the establishment of refugee camps must be only a last resort. A solution that maintains and fosters the self-reliance of the refugees is always preferable. [...] Whatever the circumstances, the overriding aim must be to avoid artificial, high density, refugee camps.³

UNHCR Handbook for Emergencies

Refugee emergencies are frequent, and the most dramatic Somalias, Gomas and Sudans get wide media coverage. Nowadays, concentration of refugees in camps is often considered an inherent feature of mass migration. The terms 'refugees' and 'camps' are intimately linked, both in collective consciousness and in practice. Most aid workers and relief administrators will acknowledge that refugee camps are a bad thing, while stating that, unfortunately, they cannot be avoided; "there simply is no alternative". There is, in dealing with refugee crises, a big gap between theory – "*Whatever the circumstances, the overriding aim must be to avoid artificial, high density, refugee camps*"³ – and practice – the almost systematic creation of refugee camps.

Common wisdom has it that refugee camps are a necessary evil. To concentrate large numbers of people in a small and chaotic area is a scenario for catastrophe, but good management of such situations can make a

huge difference. Camp management has become a science in which lining up, counting, supplying and organising are important skills. More and more, state-of-the-art camp management has become the norm in refugee assistance. Humanitarian agencies know the craft of bringing relief in refugee emergencies.⁴⁻¹¹ Excess mortality can be brought down in a spectacular way in a few weeks. Yet, these interventions are mostly conceived as short-term, although the overwhelming majority of the world's refugees stay in the host country for several years.¹²⁻¹⁴ This puts most officially recognised refugees for years in chronic refugee camps, and makes them passive recipients of aid. With little or no autonomy, they wait for an ever postponed repatriation, in often miserable 'humanitarian sanctuaries'.¹⁵

The living conditions in these camps create an ideal breeding ground for epidemics of infectious and nutrition-related diseases. They also constitute an undesirable social and psychological environment.^{16,17} Camp life keeps refugees largely dependent on outside help. Consequently, camps are very expensive to maintain, and often the international community is unable to do so on the longer term.^{18,19}

But is there really no alternative? Do the disadvantages of "*spontaneous settlement over a wide area*"³ outweigh the disadvantages of camps? Less organised or chaotic dispersion of refugees among the host population occurs in each refugee crisis. A variable proportion of the refugees remain unassisted, some by choice.²⁰ There are always refugees who prefer to self-settle and rely on themselves and the host population, rather than on the aid bureaucracy.¹⁷ But in the current approach to refugee assistance, self-settlement almost invariably implies receiving no assistance, and leaves such refugees no other choice but to rely entirely on themselves and their hosts.

Between 1990 and 1996, some 500,000 Liberians and Sierra Leoneans found refuge in Guinea. The situation in Liberia and Sierra Leone remained unstable during many years, which limited prospects for repatriation. The Government of Guinea did not restrict freedom of movement or settlement. Refugees self-settled among the local population; very few were confined to refugee camps. Medical and nutritional assistance to the refugees was adapted to this reality. Rather than forcing refugees to congregate in order to receive assistance, aid followed the refugees in the places where they self-settled. Refugees got access to medical care in existing health facilities, which were upgraded and extended to cope with the additional workload. Many refugees developed a high degree of economic self-reliance, and were thus less dependent on food aid than refugees in camps. This study describes the medical assistance in Guinea in response to the refugee emer-

gency. It analyses the development of the approach, its strengths and weaknesses.

The first three chapters present the context in which the refugee crisis took place. Chapter 1, 'Guinea, Liberia & Sierra Leone', gives some background on the countries. Guinea and Sierra Leone are among the poorest and least developed countries in the world. They are inhabited by a patchwork of ethnic groups, and national borders cut across ethnic divisions. The Forest Region, where the refugees settled, is a remote part of Guinea, but with considerable agricultural potential and low population density.

Chapter 2 describes the 'Health System in Guinea, 1989-96'. When the refugees started arriving, the Guinean health system was in the early stages of its nation-wide transition and expansion. Geographical coverage with health facilities was still very poor, but plans and staff were prepared for their fast expansion.

Chapter 3, 'The Refugee-crisis: Between Self-reliance and Pragmatic Assistance', gives an overview of the dynamics of the refugee crisis: the different waves and settlement patterns. This chapter also describes how the *Programme d'Assistance aux Réfugiés Libériens et Sierra-Léonais* (PARLS) started and evolved over time between 1990 and 1996.

The following three chapters deal with three key aspects of the assistance provided to the refugees in the context of PARLS. Chapter 4 describes 'Food Aid'. Refugee registration and assessment of the nutritional situation were fraught with difficulties. Food aid covered only part of the needs of the refugees; they were partly self-sufficient. Preconceived ideas and standard strategies – not adapted to the non-camp situation – inspired the approach to food aid more than knowledge of the socio-economic situation of the refugees or hard data.

Chapter 5, 'Control of Epidemics' analyses the epidemics that occurred and how they were controlled. Most epidemic control measures were highly cost-effective – with meningococcal meningitis mass vaccination as a notable exception – but decisions on control of epidemics were not only inspired by the potential burden; fear also played an important role. Bio-demographic burden and psychological impact are indeed both essential dimensions of the epidemic phenomenon.

Chapter 6, 'Health Services for Refugees: between Primary Health Care and Emergency Medical Assistance', analyses the organisation of health services for refugees, integrated in, or as an extension of the Guinean health care system. PARLS managed to give most refugees access to health services, but their utilisation remained low, as refugees were dissatisfied with the quality of care. The approach to health service organisation was too tech-

nocratic and top-down, and largely ignored the refugees' demands and perceptions. But thanks to PARLS, the host population in the refugee-affected areas got better access to health services.

A final chapter, Chapter 7, 'Towards a more Balanced Refugee Policy' reviews the policy lessons that can be learnt from the Guinean experience. Refugee assistance should be designed to be complementary to the refugees' own coping mechanisms, and not to replace them. To enable such approach, settlement pattern is crucial. Self-settlement and integration facilitate refugees' self-reliance. But even in camps, the refugees' own initiatives can be supported.

This was the first large-scale refugee situation in which the government of the host country knowingly opted for such a non-directive policy and set up a programme to assist the self-settled refugees in collaboration with the United Nations High Commissioner for Refugees (UNHCR) and other agencies.* No other systematic description or analysis of this kind of experience exists. It is meant to stimulate a rethinking of refugee health care policies.

* In the 1960s and 1970s Liberia, Sierra Leone and Guinea have been hosts to refugees from neighbouring countries, but these populations were not recipients of international assistance.²²

1. Guinea, Liberia & Sierra Leone

Three poor countries

Guinea, Liberia and Sierra Leone are small countries in West Africa (Figure 1). In 1988 there were some 6,500,000 inhabitants in Guinea, 2,400,000 in Liberia and 3,900,000 in Sierra Leone. The total fertility rate (between 6.1 and 7.0 births per woman) and crude birth rate (between 45 and 50 ‰) were very high in all three countries. The population of Liberia was growing at an annual rate of 3.2%. Growth rates in Sierra Leone and Guinea were somewhat lower (2.5% and 2.7%), due to the higher mortality rates in these countries.¹⁻⁵

Indicator	Year	Sierra Leone	Guinea	Liberia
Total fertility rate (births per woman)	1982	6.1	6.2	6.9
	1988	6.5	6.2	6.5
	1993	6.5	7.0	6.8
Crude birth rate (‰)	1960	48	48	46
	1982	47	47	49
	1988	48	47	45
	1993	48	50	47
Population (density per km ²)	1988	3,900,000 (54.2)	6,500,000 (26.4)	2,400,000 (21.6)
Annual population growth rate (%)	1965-80	2.0	1.6	3.0
	1980-93	2.5	2.7	3.2

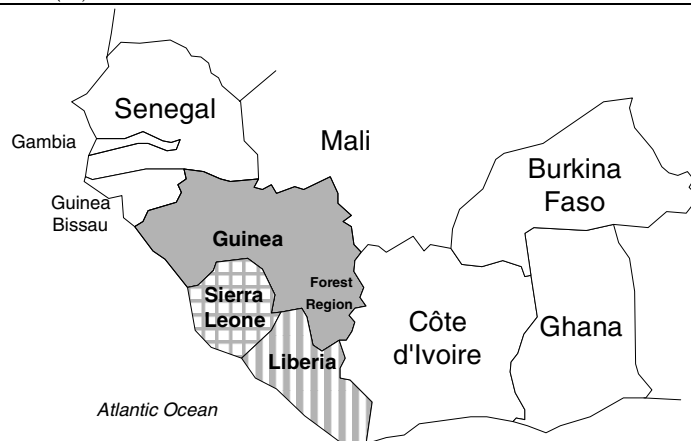


Figure 1: Location & demographic indicators of Sierra Leone, Liberia & Guinea

Guinea and Sierra Leone are among the least developed countries in the world. The 1992 Human Development Index* of the United Nations Development Programme classified them last and penultimate, on the basis of data from 1989 and 1990.¹ At that time Liberia ranked 30 places higher (Table 1).

Rank	Country	Life expectancy at birth, 1990	Adult literacy rate, 1990	Real GDP per capita, 1989 (PPP\$)	Human Development Index
131	Liberia	54.2	39.5	937	0.227
...
153	Djibouti	48.0	19.0	730	0.084
154	Gambia	44.0	27.2	886	0.083
155	Mali	45.0	32.0	576	0.081
156	Niger	45.5	28.4	634	0.078
157	Burkina Faso	48.2	18.2	617	0.074
158	Afghanistan	42.5	29.4	710	0.065
159	Sierra Leone	42.0	20.7	1,061	0.062
160	Guinea	43.5	24.0	602	0.052

GDP = gross domestic product; PPP\$ = purchasing power parity in US dollars.

Table 1: 'Tail' of the Human Development Index, 1992

Different sources (e.g. UNICEF, UNDP, WHO and World Bank) provide slightly different figures for the classic health status indicators such as Infant Mortality Rate, Under Five Mortality Rate and Life Expectancy at Birth. However, all concord that Sierra Leone and Guinea are among the

* The Human Development Index is based on three indicators: (1) longevity, as measured by life expectancy at birth; (2) educational attainment, as measured by a combination of adult literacy (two-thirds weight) and combined primary, secondary and tertiary enrolment ratios (one-third weight); and (3) standard of living, as measured by real gross domestic product (GDP) per capita (the GDP per capita of a country converted into US dollars on the basis of the number of units of a country's currency locally required to purchase a representative basket of goods and services that a US dollar would buy in the United States – expressed in purchasing power parity = PPP\$). For each indicator, an index comprised between 0 and 1 is constructed using mathematical formulas. The Human Development Index is a simple average of the three indexes.²

worst-off in the world. Sierra Leone invariably ranked among the five worst countries in the world, Guinea among the worst ten. There has been improvement over the last decades, but at a slow pace. The indicators give a somewhat better picture of Liberia, but have deteriorated since the start of the war in 1989. Figure 2, based on data from the State of the World's Children,³⁻⁵ shows the evolution of these indicators in the three countries.

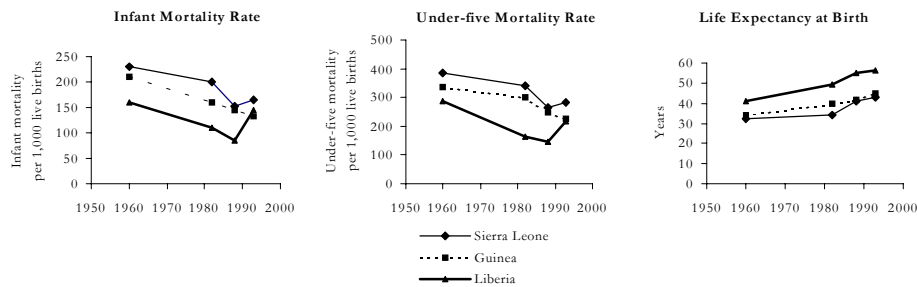


Figure 2: Health status indicators for Sierra Leone, Guinea and Liberia, 1960-93

Different histories, different economies

LIBERIA has a very particular history.^{6,7} In 1822, freed American slaves came back to their African roots and resettled in Liberia. They had a very hard time and were decimated by disease. In 1847, they declared independence, but maintained close links with the United States of America. The descendants of the freed American slaves are identified as the Kongo, and have an English-based Creole language as their mother tongue. They dominated the indigenous people and controlled the country politically and economically.

Liberia's economy was largely based on foreign, mainly American, investment in mining and plantations. Its infrastructure was very good. Diamonds were won in the border area between Liberia and Sierra Leone. Control of the diamond mines was one of the main stakes in the war. There were also large palm-tree and rubber plantations in Liberia. The Firestone plantation, close to Monrovia, was the largest rubber plantation in the world. Liberia was only sparsely populated, and its agricultural resources were very rich. Gross national product (GNP) per capita remained stable between US\$490 and US\$450 throughout the 1980s and even in the beginning of the 1990s (Figure 3).

In April 1980, Master Sergeant Samuel Doe overthrew the Kongo gov-

ernment in a bloody coup. This gave the indigenous population real political power for the first time since the American slaves had settled. Because of his authoritarian rule, Samuel Doe's constituency shrank. In December 1989, the National Patriotic Front of Liberia (NPFL), led by Charles Taylor, made its first incursion in Liberia. This was the start of a civil war that profoundly destabilised the country, and produced a refugee influx in Guinea, Côte d'Ivoire and Sierra Leone.

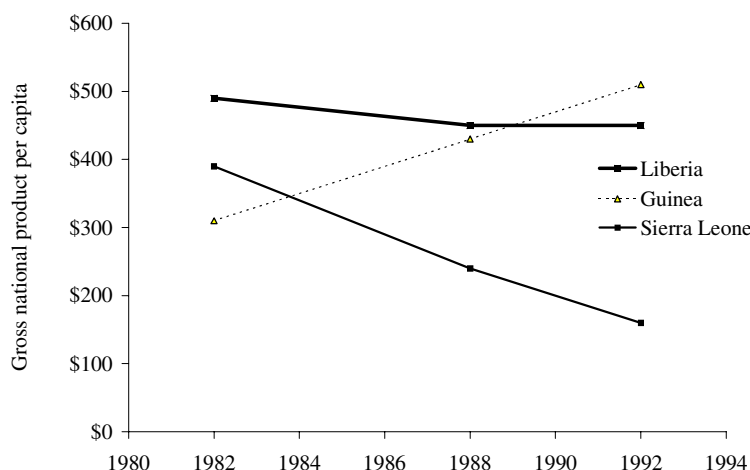


Figure 3: Gross national product per capita, Sierra Leone, Guinea & Liberia, 1982-92

SIERRA LEONE played a special role during the abolition of slavery.^{6,8} In 1787, the first settlers arrived in Freetown. Many were slaves who had been set free. In the first half of the 19th century, some 70,000 'recaptives', West Africans liberated from slave ships intercepted by the British navy, were dropped at Freetown. They formed a mixed Creole population, the Krio, with an English-based Creole as native language. Many recaptives converted to Christianity and followed western style education; some attended British universities. Recaptive missionaries and traders from Sierra Leone played a major role in the colonisation of the interior of West Africa. From the beginning of the 20th century racial discrimination became policy and blacks – 'natives' and 'Creoles' alike – were kept in subordinate positions, no matter how highly qualified. In 1961 Sierra Leone became independent from Great Britain, with Siaka Stevens as head of state. Eighteen years later

he was succeeded by Major General Joseph Momoh.

Sierra Leone's economy was mainly based on agriculture, diamond and rutile (titanium) exploitation. Its roads and infrastructure were generally poor. Between 1982 and 1992 there was a fast decline in GNP per capita in Sierra Leone, at an average of -8.6% per year, from US\$390 to US\$160 (Figure 3). In 1991, the Liberian conflict spilled over into Sierra Leone, and Sierra Leonean refugees started fleeing to Guinea.

GUINEA was the only former French colony in Africa that voted against joining a French commonwealth in 1958: "*Nous préférons la pauvreté dans la liberté à la richesse dans l'esclavage*".⁹ * President De Gaulle immediately granted them independence, but withdrew all French support.¹⁰ This drove Guinea's President, Sekou Touré, in the arms of the socialist block, which thus could set up its first development co-operation in Africa. Sekou Touré and his local version of African socialism isolated Guinea from its neighbouring countries and from the western world. The President largely dominated and controlled the Guinean scene for 26 years, until his death in 1984. During this period some 250,000 Guineans fled the country. They went in exile in the neighbouring countries Liberia, Sierra Leone, Côte d'Ivoire and Senegal. The new head of state, General Lansana Conté, liberalised social and economic life and opened Guinea's borders for trade and aid. In recent years Lansana Conté, who had by then been elected as civilian president, also liberalised political life.

Most of the Guinean population lives from agriculture and derived trade, but Guinea also has among the richest bauxite reserves in the world.¹¹ They provide up to 60% of government income.¹² Between 1982 and 1992 GNP per capita increased steeply from US\$310 to US\$510, at an average of +5.1% per year (Figure 3).

When civil war started in Liberia, and later in Sierra Leone, refugees started moving into Guinea, and particularly into its Forest Region.

A patchwork of ethnic groups

Besides the Kongo – the resettled freed slaves – Liberia has a large number of small ethnic groups. Samuel Doe was a Krahn, as were most soldiers of his Armed Forces of Liberia. In the cities, many merchants were Guinean Mandingo, loyal to Samuel Doe. The Mano and Gio (Dan) are the main tribes in Nimba county and formed the backbone of Charles Taylor's NPFL.

* We prefer poverty in freedom to riches in slavery.

In Loffa county and Bong county, bordering Guinea, live the Kpellé, Loma, Kissi and Gbande. In Sierra Leone, there are two main peoples: the Mende form the majority in the South, and the Temne in the North. The descendants of the freed slaves are the Krio, and mainly live in Freetown. In Guinea there are four main ethnic groups. Three are Islamised: the Susu, the Fulah or *Peul*, and the Mandingo or *Malenke*. The fourth is the group of the forest tribes, constituted by the Kpellé (*Guerzé*), the Mano, the Loma (*Tomas*) and Kissi.¹³ The forest tribes are mostly Christian or follow their traditional religions. When the French colonised the Forest Region, they based their local administration on the northern Mandingo. These live in the cities and still dominate trade in the Forest Region. The original forest tribes mostly live in the rural areas.

State borders in West Africa cut across ethnic divisions. The ethnic map of Guinea, Liberia and Sierra Leone illustrates this (Figure 4).¹⁴

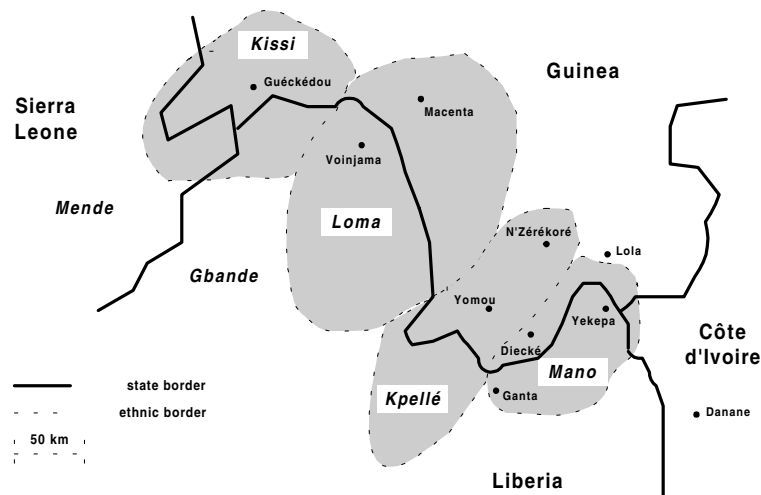


Figure 4: Ethnic map of the border region between Guinea, Liberia and Sierra Leone

The four main forest tribes in Guinea, for example, live in an area that lies partly in Guinea, partly in Liberia. Population mobility is very high, also across borders. People may move on a temporary or permanent basis, often across state-borders, in search of employment or better living conditions. Many, however, keep links with their area of origin, hoping to build a house and to spend their old age there. As a consequence of this ethnic patch-

work, many Liberian and Sierra Leonean refugees arrived in Guinea in territories inhabited by their ethnic kin. For the United Nations, the crossing of state borders made them refugees. For the refugees themselves, they were displaced within the territory inhabited by their own people. This feature is of paramount importance for understanding the context of the refugees in Guinea.

The Forest Region of Guinea

The Forest Region (Figure 1, page 10), which was host to the Liberian and Sierra Leonean refugees, has some 1,200,000 inhabitants. It has important iron ore deposits in the Nimba Mountains, on the border between Liberia and Guinea. Inside Liberia, this ore was mined by the *Liberian Mining Company* (LIMCO) in Yekepa and exported through a railway to Buchanan. Plans to start mining on the Guinean side in Lola were put on stand-by since the conflict in Liberia, as the ore has to be transported by rail through Liberia.

The basis of the economy in the region is agriculture. It is covered by tropical rain forest, with flood plains and valley swamps between the hills. Agriculture was mainly based on slash and burn rotational cultivation on the hills.¹⁵ After clearing the forest, upland rice, tubercles, and groundnuts were grown during one or two years; land was then left fallow for five to seven years. Palm oil was also an important nutrient. The flood plains and valley swamps remained poorly exploited, although they had an important potential for growing lowland rice. Before the arrival of the refugees, its agricultural potential was still underused. The population density at that time was between 15 and 50 inhabitants per km², below its carrying capacity.* With better exploitation of these swamps, up to 80 inhabitants per km² could be sustained in the region. In January and February, the people harvest kola nuts and coffee. They sell these cash crops immediately to traders. This gives many people important cash revenue, but only for a short period of the year. Outside this period, little cash is available at household level and the rural economy is poorly monetarised. This is often problematic when people have to face medical expenses. They must then sell part of the rice and palm oil they keep for household consumption. There is almost no livestock in the forest, except for some chickens and some rare pigs, goats and sheep.

In 1990, the Forest Region was still very isolated from the rest of the

* Carrying capacity is defined here as the population that can sustain themselves on the agricultural resources of the area.¹⁹⁻²¹

country. There were no telephone services, nor was television reaching the area. The only possible connection between N'Zérékoré and the capital Conakry was by road, a trip which, under favourable climatic conditions, took 18 hours. There were many wooden bridges and a ferry on the main axis between Macenta and N'Zérékoré. Many villages could not be reached by car, and during the rainy season, mud or broken bridges often limited access even further. Even the main roads could be impracticable for several days, except for 4-wheel drive vehicles. On the other hand, N'Zérékoré was only at some 300 km tarmac road from Monrovia. Before the war broke out in Liberia in 1990, this road was in excellent condition. A trip between N'Zérékoré and Monrovia took only 5 hours. Supplies thus reached the Forest Region more easily through Liberia than from Conakry. Economically, the Forest Region of Guinea was more integrated with Liberia, and partly Côte d'Ivoire, than with the rest of Guinea.

From the mid-1980s onwards foreign donors started investing in the Forest Region. In the Diecké area, host to large numbers of refugees since January 1990, the *Société guinéenne de Palmiers et Hévée* improved the exploitation of the agricultural resources. The valley swamps were used for rice cultivation, and the use of water control measures improved considerably their yield. In the flood plains, palm tree and rubber plantations were created, employing many workers. These interventions attracted migrants to Diecké and created a monetarised economy in the project area. In Guéckédou, host to the largest concentration of refugees from 1991 onwards, the *Projet Agricole de Guéckédou* also introduced swamp farming.

It is in this poorly developed region – even by Guinean standards – that some 500,000 refugees from Liberia and Sierra Leone would arrive between 1990 and 1995.

The influx of refugees between 1990 and 1995

The refugees came in different waves (Figure 5 & Figure 6). A first wave of some 100,000 refugees from Nimba county in Liberia arrived in Guinea between January and March 1990. These rural refugees arrived with only few belongings but soon established intensive links with their rural hosts. They self-settled and inserted themselves in the local rural subsistence economy. By the time arrivals from Nimba county area had diminished to a steady trickle, a new wave – now of refugees from urban areas – had started. Some 100,000 Mandingo fled from various towns in Liberia to the towns of Macenta, N'Zérékoré and Beyla. These carried more belongings than the refugees of the first wave, and became part of the urban monetarised econ-

omy. In June – August 1990 a third wave of 50,000 refugees – rural people again – arrived. Most refugees of this third wave came from Loffa county in Liberia and settled in Yomou, Macenta or Guéckédou prefectures in Guinea. The fourth major wave of 100,000 refugees came from Sierra Leone, in March-April 1991.

After these four major waves the situation stabilised somewhat, but between 1992 and 1995 there were some 150,000 ‘late arrivals’, who fled to Guinea in a heterogeneous series of small waves of refugees.

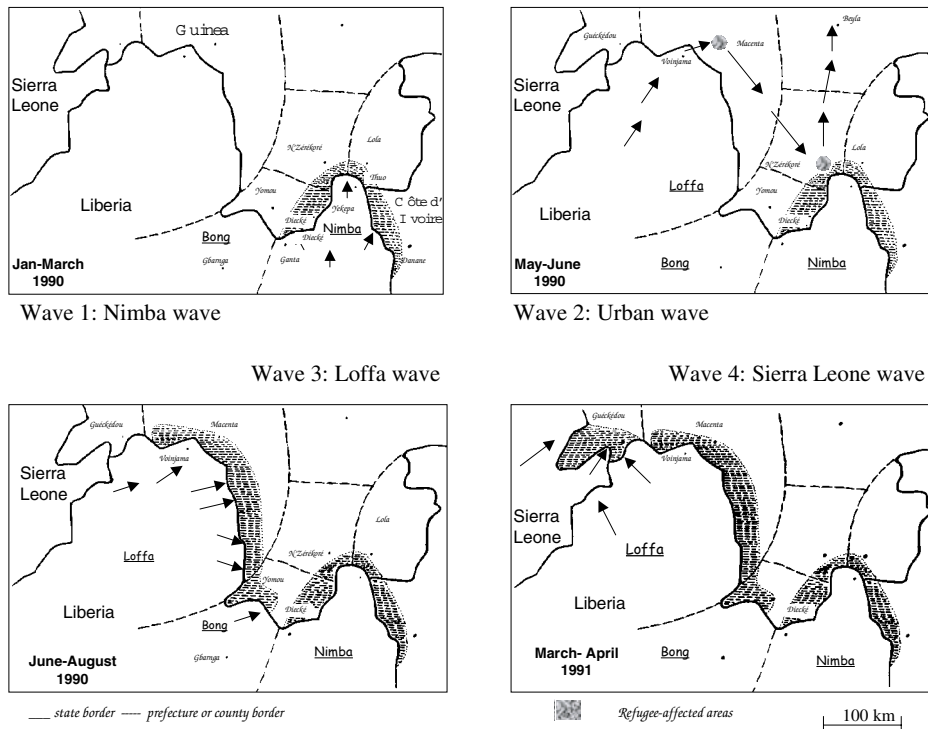


Figure 5: The four major waves of refugees, Guinea, 1990-91

Each wave was quite distinct, both in terms of needs and of coping mechanisms. All in all, Guinea had to deal with the build-up, over a period of 5 years, of a group of 500,000 refugees (Figure 6), in an administrative region inhabited by 1,200,000 inhabitants. Such a progressive build-up of a refugee-influx is not all that unusual.^{16,17} At the time of the arrival of the

refugees the health care system in the Forest Region was going through a phase of accelerated development (Chapter 2, page 19). The progressive build-up of the refugee-load and the specific characteristics of each group of new arrivals had important consequences for the assistance programmes in the area (Chapter 3, page 35), and, in the end, offered opportunities to strengthen the development dynamics in the region.

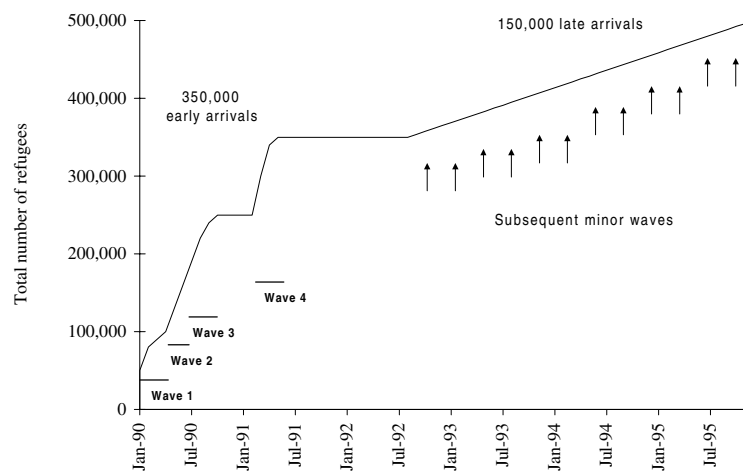


Figure 6: Progressive build-up of refugee caseload, 1990-95

By mid-1995 603,750 refugees were officially registered with UNHCR in Guinea, 578,846 in the Forest Region alone. The World Refugee Survey estimated the number of refugees in Guinea at 640,000 at the end of 1995.¹⁸ Both numbers were roughly equivalent to 10% of the total population of Guinea. This was one of the highest refugee concentrations of any country in the world, second only to Jordan. At the end of 1995, one in every three inhabitants of the Forest Region was a refugee.

2. The health system in Guinea, 1988-96

The formal health services had started to implode at the end of the Sekou Touré regime in 1984. Utilisation of curative and maternity care was very low, and vaccination coverage dropped below 5%. People would rely on traditional medicine,^{1,2} or, increasingly, on self-medication through purchase of drugs at the market or in pharmacies.³

Apart from the capital, Conakry, there were 33 prefectures divided in 346 sub-prefectures. Each prefecture had on average between 100,000 and 200,000 inhabitants, a sub-prefecture between 5,000 and 15,000. There was one hospital in each prefecture, whereas each sub-prefecture was supposed to have a health centre. In Guinea, almost all formal health services were state-owned and managed by Ministry of Health (MOH).^{*} Most health workers were civil servants. Health services in cities as Conakry, N'Zérékoré and Guéckédou had a plethora of staff. Small rural hospitals had several doctors. Each health centre had at least one qualified nurse. Even so, many recently graduated doctors and nurses were unemployed, because of restrictions on new enrolments in the public service.

From 1986 on, MOH took three major initiatives to revitalise the sector.⁴ First, in collaboration with UNICEF, it formulated PEV/SSP/ME,[†] a programme to revitalise the health centres. PEV/SSP/ME was a nation-wide Guinean version of UNICEF's Bamako Initiative, combining provision of essential drugs with immunisations.^{5,6} Second, MOH introduced cost recovery in the hospitals. Third, MOH looked for a foreign field partner[‡] for each prefecture to assist in the implementation of PEV/SSP/ME, and to relaunch the hospitals.

When the refugee influx started in early 1990, the new policies of MOH were showing their first results. In the Forest Region, some 35 health centres had been revitalised – out of 73 planned – and each hospital had a cost-recovery system with a reliable drug supply, either in operation or in the planning stage. Each prefecture was assisted by a foreign field partner.

^{*} The only official private health facilities in Guinea were two mine hospitals, one mission hospital, a few mission dispensaries, and some rare private practises in the capital, Conakry. The informal private sector, however, was well developed.

[†] PEV/SSP/ME = *Programme Elargi de Vaccinations - Soins de Santé Primaires - Médicaments Essentiels*.

[‡] Field partner was the term commonly used in Guinea to designate all foreign agencies collaborating with MOH, be they NGOs, bilateral or multilateral co-operation agencies.

These were *Gesellschaft für Technische Zusammenarbeit* (GTZ) in Guékédou, *Mission Philafricaine* in Macenta and *Médecins Sans Frontières* (MSF) in N'Zérékoré, Yomou, Lola and Beyla.* These foreign field partners were well established and had a close working relationship with MOH.

In response to the refugee-influx MOH started a *Programme d'Assistance aux Réfugiés Libériens et Sierra-Léonais* (PARLS). PARLS was organised as an annex to this health system; it soon became an integral part of it. It is thus not always possible to make a clear distinction between the Guinean health system and PARLS. Nevertheless, it is useful to describe the Guinean health system separately, before discussing the assistance to refugees. This is what this chapter sets out to do: summarise those aspects of the health centres, the hospitals, the administrative structure, the human resources and the funding of the health system that are relevant for understanding PARLS or its consequences.

The Bamako Initiative at the health centres

In 1988 PEV/SSP/ME became operational.⁶⁻⁸ The main objective was to offer in the health centres a package of essential curative and preventive health services to the majority of the population. Seminars were organised to prepare all health staff.⁹ UNICEF equipped the health centres with a.o. a refrigerator and a motorcycle, and supplied drugs and running costs for two years. Standardised decision trees for diagnosis and treatment (*ordino-grammes*) and the supply of 29 essential drugs helped to rationalise curative care. Immunisations and antenatal care were organised daily in the health centres and monthly during outreach activities (*stratégies avancées*), serving between 6 and 10 villages per health centre. Family planning activities were gradually introduced from 1992 on. In rural health centres, a team of 2 to 4 health workers, headed by a nurse, carried out these activities. In urban health centres, there was usually more staff. The district medical officer (*Directeur Préfectoral de la Santé*) supervised the health centres.

In 1994, the most frequent diagnosis at health centres was malaria (27%), followed by acute respiratory infections (17%), helminthiases (13%), diarrhoea (10%), and skin conditions (5%).¹⁰ Patients paid a fee-for-service,

* MSF is mostly known as a relief agency, but was working in a long-term development programme of structural assistance to MOH in the Forest Region since 1987, well before the arrival of the first refugees. In early 1990, when the first refugees arrived in Guinea, MSF was only working in two districts: N'Zérékoré and Yomou. When refugees arrived in Lola, MSF extended its operations to Lola and a few months later also to Beyla.

between FG200 and FG2,000 (US\$0.2-2.0)* per episode of disease or risk (Table 2). A health centre management committee (*Comité de Gestion*) collected the fees and put them in a bank account.^{11,12} The money remained the property of the health centre. After the two years of externally funded supplies, the health centre paid for its operating costs from its bank account, but always kept a reserve fund. During the first years, PEV/SSP/ME was managed by central level MOH staff, with a high level of control on field operations and financial management. Biannual monitoring of all health centres allowed for close follow-up, and correction of problems.^{13,14} Some decision making power was gradually decentralised to prefecture level. From 1992 on, MOH also created health posts in remote rural areas to increase coverage. A health post is a peripheral extension of a health centre, where an auxiliary nurse delivered daily curative care. The head of the health centre supervised the health post, and provided monthly immunisations and antenatal care during outreach visits.

<i>Treatment</i>	<i>Child fee</i>	<i>Adult fee</i>
Local treatment, or oral rehydration therapy	FG200	FG200
Oral treatment without antibiotics	FG300	FG600
Oral treatment with antibiotics	FG500	FG1,000
Injectable treatment, or praziquantel	FG850	FG2,000
Antenatal care	-	FG600
Delivery	-	FG1,000
Vaccination	Free	-

Table 2: Fees in health centres, 1992-96

PEV/SSP/ME was highly successful in terms of extension of coverage and cost recovery.^{8,15} Between 1987 and 1994, PEV/SSP/ME revitalised 307 health centres (Figure 7). By 1994, health centre coverage in the Forest Region was completed as planned, with 73 health centres functioning. Most health centres could recover their recurrent costs, except for salaries, which were paid by the government.¹⁶

Use of curative care and coverage of preventive activities increased

* Between 1990 and 1996, the exchange rate between the Guinean Franc (FG) and the US dollar (US\$) was relatively stable, it fluctuated between FG850 and FG1,000 for US\$1. Fluctuations between US\$ and the European currencies were larger than between US\$ and Guinean Francs. In this document, an exchange rate of FG1,000 for US\$1 has been used, without attempting to adjust for yearly fluctuations.

considerably, in parallel with the opening of new health centres (Figure 7).¹⁰ Utilisation of curative care increased from 0.037 visits per capita per year in 1988 to 0.24 visits per capita per year in 1994.¹⁰ Registration at antenatal clinics increased from below 10% in 1988 to 54% of pregnancies in 1994, with on average 2.7 visits per pregnancy. Immunisation coverage rose steadily with the opening of new health centres, reaching over 70% in 1994 (Figure 7). In contrast, utilisation of family planning services remained very low. In 1993-94, family planning in health centres covered less than 1% of women between 15 and 44 years.¹⁷ According to a survey in 1993, only 7.4% of women questioned had ever used any family planning method, although 56.7% answered they wished to do so.¹⁸ In the Forest Region, use of curative care was similar to, or higher than, the national average, depending on the prefecture. Vaccination coverage was similar to the national average, but registration at antenatal clinics was close to 100%.¹⁹

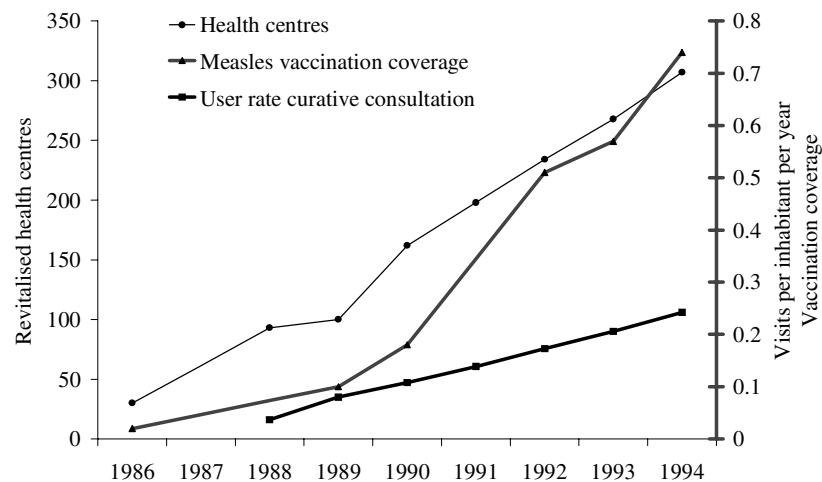


Figure 7: Development of PEV/SSP/ME, aggregate national data excluding Conakry, 1986-94

Hospitals: rationalisation, cost recovery... but low utilisation

By 1990, roughly two-thirds of the inland prefectures were foreign-assisted. MOH requested the foreign field partners to relaunch the hospitals and set up a cost-recovery system able to recover all recurrent costs, except sala-

ries.* Most hospitals were under-equipped, under-supplied and under-used, but with an over-abundance of staff. The foreign field partners invested in equipment and supply, in staff training²⁰ and in physical rehabilitation. Whereas PEV/SSP/ME introduced a uniform management and cost-sharing system in the health centres, this was not the case in the hospitals. MOH gave its partners a large degree of autonomy to organise and manage the hospitals, in collaboration with the hospital director and the district medical officer (DMO). As a result, the cost-recovery systems in the hospitals varied widely, with big differences in user fees and levels of cost recovery between prefectures.⁴ From 1992 on, MOH attempted to streamline the different systems, and introduced uniform inpatient fees for all hospitals.

Hospitals provided only curative care, to inpatients and outpatients. All hospitals had the four basic services: paediatrics, surgery, obstetrics and internal medicine. Outside the capital, Conakry, there were 0.31 beds per 1,000 population. In the Forest Region, there were only 0.22 beds per 1,000 population, including the refugees.[†] In most hospitals, the level and quality of care remained modest. In 1994, only 9 out of 33 hospitals had X-ray equipment, laboratories performed only basic investigations, no bacteriological cultures nor ionograms were possible. Most hospitals could only perform the most basic surgical interventions, such as hernia repair and caesarean section. Not one of the 33 hospitals had a blood bank. Availability of drugs and other consumables depended largely on supply from the foreign field partners. Hospitals without foreign assistance invariably faced chronic shortage of drugs. The referral system between health centres and hospitals did not function well. Most patients attending the hospital went on their own initiative, and were not referred from a health centre. Many were primary care consultations. This happened despite considerably higher fees for outpatients at the hospitals than in the health centres.[‡]

* What is discussed below does not apply to the two University Teaching Hospitals in Conakry, nor to the two private mine hospitals in Kamsar and Fria.

[†] In 1994, Guinea had one of the lowest bed per population ratios in sub-Saharan Africa. Nation-wide, including Conakry, there were only 0.6 hospital beds per 1,000 population in Guinea. According to the World Development Report, in 1992, only Ethiopia and Burkina Faso with 0.3 beds per 1,000 population had lower ratios than Guinea in 1994. Sierra Leone had 1.0 bed per 1,000 population, Senegal and Côte d'Ivoire 0.8 beds per 1,000 population. The whole of sub-Saharan Africa had an average of 1.4 beds per 1,000 population.²⁵

[‡] A study³¹ in the Coastal Region of Guinea compared 1,422 children (0-14 years) with acute respiratory infection presenting at health centres with 1,200 similar children presenting at a hospital outpatient department. Severity of disease was similar in both groups. Treatment costs per child were, however, over 20 times higher in the hospital than in health centres (US\$0.45 in health centres and

Although the DMO had official authority over all health services in the prefecture, the hospital and the health centres were managed separately. Each health facility had financial autonomy and aimed at full cost recovery for its own recurrent costs.²¹ This resulted in high user fees in many hospitals: for example, in N'Zérékoré hospital fees for inpatients ranged from FG6,000 (US\$6) for paediatric hospitalisation to FG36,000 (US\$36) for a surgical intervention (Table 3). For outpatients, fees were usually between FG3,000 and FG10,000 (US\$3-10). These hospital fees undoubtedly constituted an important financial barrier for many patients.

<i>Type of hospitalisation</i>	<i>Child fee</i>	<i>Adult fee</i>
Hospitalisation in surgery, internal medicine or paediatrics		
without surgical intervention	FG6,000	FG12,000
with surgical intervention	FG18,000	FG36,000
Hospitalisation in obstetrics		
without surgical intervention	-	FG6,000
with surgical intervention (caesarean section)	-	FG12,000

Table 3: Hospitalisation fees in N'Zérékoré hospital, 1992-96

The utilisation of hospitals in Guinea was very low. In 1994, the national average for Guinea was 9 hospitalisations per 1,000 population per year.¹⁰ Despite some increase from 1990 to 1994 in the Forest Region, it remained well below 10 hospitalisations per 1,000 population per year (Figure 8),^{10,22} much lower than the median of 29 per 1,000 population documented in a mail survey of 88 mainly mission-supported hospitals throughout sub-Saharan Africa.²³ For children between 0 and 14 years, hospitalisation rates were even lower, with 8 hospitalisations per 1,000 children per year in N'Zérékoré, and 4 per 1,000 only in Yomou, in Lola and in Guéckédou.* For rural areas, hospitalisation rates must have been still

US\$9.7 in hospitals).

* The 'under-five hospitalisation / mortality ratio' (<5H/M-ratio) can further illustrate that these hospitalisation rates for children were indeed very low, while the needs were high. One can estimate that in 1995, in N'Zérékoré prefecture 3,253 Guinean under-fives died. (There were 293,000 inhabitants, excluding refugees, 17.4% were under-fives. The under-five mortality rate was estimated at 319.0‰.³² This results in $293,000 * 0.174 * 0.319 / 5 = 3,253$ under-five deaths per year.) During 1995, only 1,496 children (0-14 years) were hospitalised in N'Zérékoré hos-

lower, as most inpatients resided in the city where the hospital was located. Despite the small number of hospital beds, but given the very low hospitalisation rates, average bed occupancy rate was below 85% in all hospitals in the Forest Region. Nation-wide, it was only 53% in 1994.

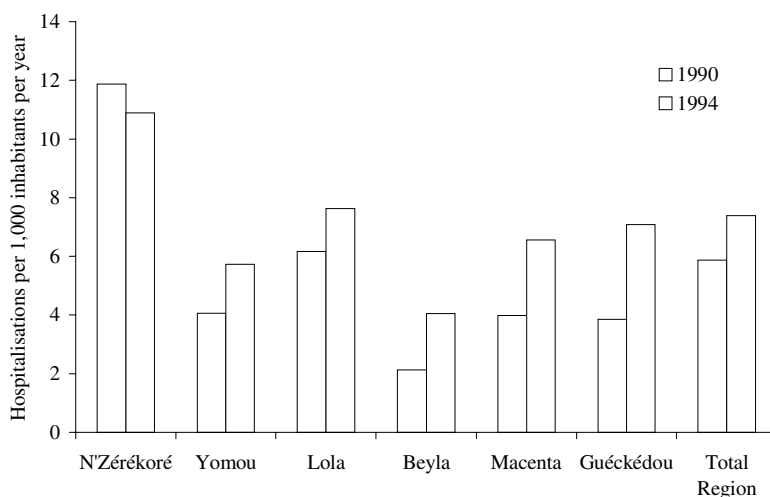


Figure 8: Hospitalisation rates, Guineans and refugees combined, Forest Region, 1990-94

The administrative structure of the health system

In Guinea, the health system was structured along the same lines as the State's administration (Table 4). The basic unit of organisation was the prefecture, which coincided geographically with the health district. Each prefecture had a hospital, led by a hospital director. The hospital director was theoretically under the authority of the district medical officer (DMO), but usually managed the hospital quite independently. The DMO had di-

pital, an estimated 898 were Guinean under-fives. (Approximately 20% of children hospitalised were older than 5 years, and 25% of hospitalised children were refugees.) The corresponding <5H/M-ratio was 0.28 (898 / 3,253). In 1991, the <5H/M-ratio was 0.21 in N'Zérékoré. In Guéckédou, <5H/M-ratio was 0.07 in 1991 and 0.22 in 1995. In Lola, the <5H/M-ratio was 0.09 in 1991, and 0.20 in 1995. This shows that the majority of disease episodes in children leading to death were not hospitalised in the Forest Region of Guinea.

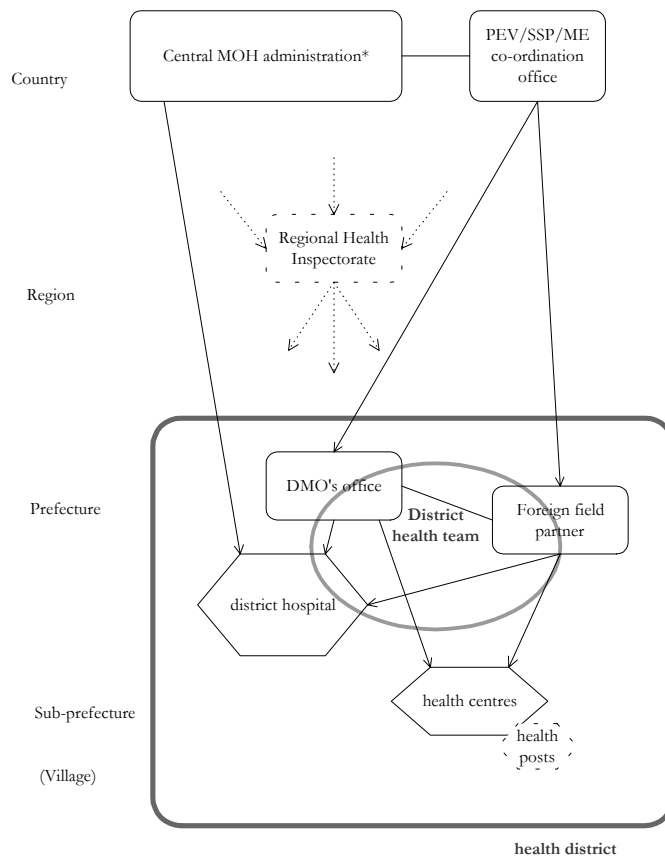
rect responsibility over the health centres and health posts, and concentrated mostly on these peripheral health services. Since 1991, district health teams (Figure 9). These teams included the DMO, the hospital director, an administrative officer of the prefecture, and staff of the foreign field partners. The functioning of the district health teams depended strongly on the personality and capacities of the DMO, and on the foreign field partner. For instance, *Gesellschaft für Technische Zusammenarbeit* (GTZ) invested strongly in capacity and institution building, while NGOs often did not consider this as a part of their mission.

<i>Territorial division</i>	<i>Health authority</i>	<i>Health structure</i>	<i>Number^a</i>
Region	Regional Health Inspectorate (<i>Inspection Régionale de la Santé</i>), headed by the regional health inspector (<i>Inspecteur Régional de la Santé</i>)		4, later 8
Prefecture	District Medical Office (<i>Direction Préfectorale de la Santé</i>), headed by the district medical officer (<i>Directeur Préfectoral de la Santé</i>), presiding over a district health team (<i>Equipe de la Direction Préfectorale de la Santé</i>)	District hospital ^b	33
Sub-prefecture	Head of health centre (<i>Chef du Centre de Santé</i>)	Health centre	346

^a Excluding Conakry. ^b Officially, the hospital in a regional capital was a regional hospital, but functionally, it was mainly the district hospital for its own prefecture.

Table 4: Territorial organisation of the State and Ministry of Health

NGOs employed young European doctors and nurses. These were supposed to assist the DMO. Most NGOs operated, however, with a high degree of autonomy, for instance in the management of their budget. There were frequent informal and formal co-ordination meetings between MOH officials and agency staff, both at regional and national levels. The aims were: (1) to ensure that foreign aid was in line with national health policy, and (2) to share experience and make sure that successful field experience was introduced in the national health policy.



Central administration MOH*: no attempt was made to show in detail the organisation of central MOH. It changed several times, without important implications for programmes in the periphery.

Figure 9: Administrative organisation of MOH

The central MOH administration in Conakry was responsible for the formulation and implementation of national health policy and for overall administration, co-ordination and management of the country's health system. PEV/SSP/ME national co-ordination office had close links with the central administration of MOH, but maintained a strong own logistic and administrative structure. The official policy of MOH, and of the Guinean government in general, was one of decentralisation. In practice, however, power and resources remained highly centralised. All health staff was ap-

pointed to the prefecture by the central level. Central MOH decided even practical matters such as working hours for staff and opening hours of health facilities. Especially PEV/SSP/ME had a strong central direction and control. The hospital division of MOH had no strong policy, and *de facto* left more freedom of decision to the hospitals, for instance about incentives to staff and drug lists. The National Health Information System (*Système National d'Information Sanitaire*) was also centrally managed. All health facilities had to file monthly reports, and send them to the central *Bureau des Etudes, Planification et Recherche* (BEPR) for processing.²⁴ In theory the role of the regional health inspector was very limited,* but a lot depended on personalities

Most health centres received supplies from the medical store of PEV/SSP/ME in Conakry. The hospitals received mainly supplies from their respective foreign field partners, and only small amounts from the central medical store in Conakry.† In the Forest Region, MSF and MOH set up a regional medical store in N'Zérékoré (*Centrale d'Achat*) which imported drugs in bulk from non-profit suppliers abroad. The hospitals and health centres of N'Zérékoré, Yomou, Lola, Beyla and Macenta purchased their supplies from this *Centrale d'Achat* with their funds collected through user fees. GTZ organised a similar system in Kissidougou and Guéckédou. These decentralised supply systems guaranteed all health facilities in the Forest Region a reliable drug supply, while the health facilities in other regions faced recurrent drug shortages. The medical store of PEV/SSP/ME supplied all vaccines nation-wide.

Human resources in the health sector

As a positive legacy of the former socialist regime, Guinea had numerous trained health staff, most working as civil servants. In 1994, 6,286 health workers were on MOH's pay-roll: 915 medical doctors (15%),‡ 1,269 quali-

* There was also a regional TB and leprosy officer, but he was not clearly under the regional health inspector's authority. Over 1993-95, a regional pharmacy inspector, a deputy regional health inspector and administrative support staff were appointed and regrouped, together with the regional TB and leprosy officer, under the regional health inspector's authority.

† The central medical store was called *Pharmaguinée*, and renamed *Pharmacie Centrale de Guinée*, in 1992.

‡ In 1994, Guinea had 0.14 doctors per 1,000 population in the public service. For 1988-92, according to the World Development Report,²⁵ the weighted average for sub-Saharan Africa was 0.12 doctors per 1,000 population, with 0.07 per 1,000 for Sierra Leone, 0.05 per 1,000 for Senegal, and 0.06 per 1,000 for Côte d'Ivoire. These data should, however, be treated with caution. The report mentions a ratio

fies nurses (20%), 362 midwives (6%) and 2,463 auxiliary nurses (39%). The remaining 1,277 (20%) belonged to various categories, such as laboratory assistants and administrative staff. The local prefectures and sub-prefectures hired the technical and cleaning staff in hospitals and health centres.¹⁰

Most medical doctors were graduates from Conakry University, but some 10 to 15% had trained abroad. Some 40 had obtained a Master's in Public Health degree overseas. With very few exceptions, all fully qualified specialist doctors worked in the University Teaching Hospitals in Conakry. Qualified nurses and midwives got three years of post-secondary training. Auxiliary nurses followed three years of nursing training after at least three years of secondary education. Nurses were mainly trained to diagnose and treat diseases, nursing care being poorly taught.

Conakry, with 18% of the population, had 49% of medical doctors and 61% of midwives.¹⁰ Apart from this, human resources were rather equally distributed over the rest of the country. The Forest Region (N'Zérékoré in Figure 10)* had less medical doctors than other regions, but had its fair share of other staff. Almost all doctors were working in the district and regional capitals, most of them in the hospitals, some others as DMO or as TB and leprosy officers. Each district had between 7 and 34 medical doctors. Even the smallest 30 bed-hospitals had 4 medical doctors. In most health centres at least one qualified nurse was working. Some health centres and all health posts were run by auxiliary nurses.

This fairly uniform distribution per region, however, hid local differences in staff distribution. Within the Forest Region, Guéckédou and N'Zérékoré had many more health staff relative to their population, than the frankly understaffed Beyla and Yomou. This unequal distribution was more pronounced for nurses and midwives than for doctors. In 1995, N'Zérékoré and Beyla prefectures† had 133 staff in 20 first line health serv-

of 0.02 doctors per 1,000 population for Guinea, which would mean 130 doctors for the whole country, which is thus clearly a mistake.

* Till 1992, Guinea was divided in 4 natural regions (Forest Region, Coastal Region, Middle Guinea and Upper Guinea). In 1993, it was divided in 8 administrative regions (Conakry, Kindia, Boke, Faranah, Mamou, Labe, Kankan and N'Zérékoré). Forest Region and N'Zérékoré Region coincide, with the exception of Kissidougou prefecture. To avoid confusion, in this document, Forest Region is used throughout, even if in certain instances N'Zérékoré Region would be more correct.

† Between 1990 and 1995, staffing levels in N'Zérékoré and Beyla underwent little changes, and were not influenced by PARLS. In 1995 in Guéckédou, on the other hand, approximately 60 out of the 144 health workers posted in the rural health

ices (FLHS)* and 33 staff in 12 FLHS respectively (6.65 and 2.75 staff per FLHS respectively). These differences were compounded by a strong urban-rural imbalance within districts. Five urban FLHS serving the 100,000 inhabitants of N'Zérékoré city had 76 staff members (15.20 staff per FLHS, 0.76 staff per 1,000 population), while 15 rural FLHS, serving 250,000 people had only 57 staff (3.80 staff per FLHS, 0.23 staff per 1,000 population). A similar situation existed in Guéckédou.

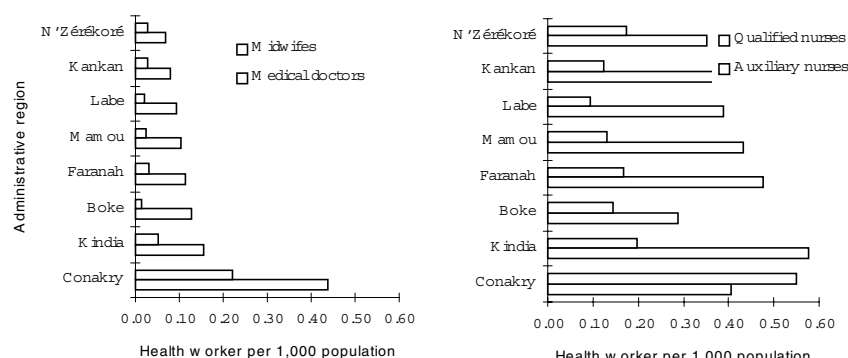


Figure 10: Health workers per region, 1994
(refugees and refugee health workers excluded)

The Guinean government regularly paid all salaries of civil servants. In 1994, monthly salaries ranged from FG70,000 (US\$70) for a newly recruited auxiliary nurse to FG220,000 (US\$220) for an experienced medical doctor. Health workers also received part of the fees generated at their health facility as incentives. Incentives were higher in hospitals than in FLHS. In FLHS, incentives were FG7,500 (US\$7.5) per month for the head nurse and FG5,000 (US\$5) per month for other staff.[†] In hospitals, incentives ranged from FG20,000 to FG100,000 per month (US\$20-100) per staff member, depending on the position of the staff member and the financial results of the hospital.

facilities were PARLS staff.

* First line health services (FLHS) includes health centres and health posts.

[†] Between 1988 and 1991, in N'Zérékoré incentives were linked to the financial results of the health centre. Incentives were then somewhat higher, between FG8,000 and FG12,000 per staff per month (US\$8-12). For the sake of uniformity, MOH abolished this in 1992.

Cost and funding of the health system

In 1990 Guinea spent US\$19 per capita on health, somewhat less than the average for sub-Saharan Africa (Figure 11). This corresponds to around 4% of its gross domestic product (GDP), which was in the same range as its neighbours. Around 40% of this was private expenditure (US\$8 per capita), and around 60% was public (US\$11 per capita). Roughly half of public sector health expenditure corresponded to the MOH budget and foreign aid to MOH. The other half was provided by other government institutions, such as the *Caisse Nationale de Sécurité Sociale*, and the Ministry of Defence. In 1990, foreign aid in the health sector amounted to US\$3.5 per capita.²⁵ The main donors in the health sector were the European Union, the German government, UNICEF and the World Bank.

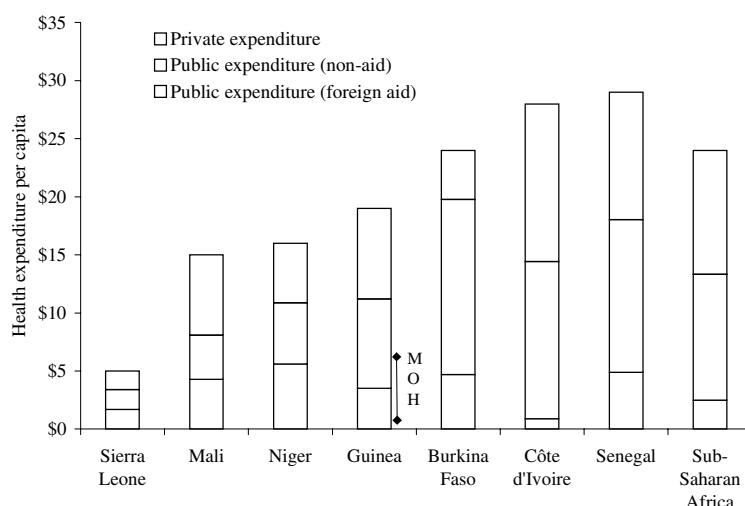


Figure 11: Health expenditure in selected West African countries, 1990

In the national health system in Guinea, there was *de facto* cost-sharing between the government, foreign aid and the users.¹⁰ In 1993, a total of FG36.70 billion (US\$36.70 million) was disbursed in the national health system, which corresponded to US\$5.65 per capita. MOH budget paid mainly staff salaries, and some operational costs for a total of FG13.80 billion (38% of total budget). Foreign aid totalling FG20.90 billion (57% of total budget), paid mainly for capital investment and initial stocks to start cost-recovery schemes. Users paid a fee-for-service for all services, aiming at

covering all recurrent costs, except salaries, but including incentives for staff. User fees totalled an estimated FG2.00 billion (5% of total budget).*

Between 1990 and 1994, the MOH budget increased three-fold, from FG4.60 billion (US\$4.60 million) to FG13.80 billion (US\$13.80 million). Most of the increase went to pay for the doubling of government salaries in mid-1991. Between 1977 and 1989, the share of MOH in the overall government budget had decreased gradually. In 1991 and 1992 it increased sharply, but has decreased again since (Figure 12).^{4,10,26}

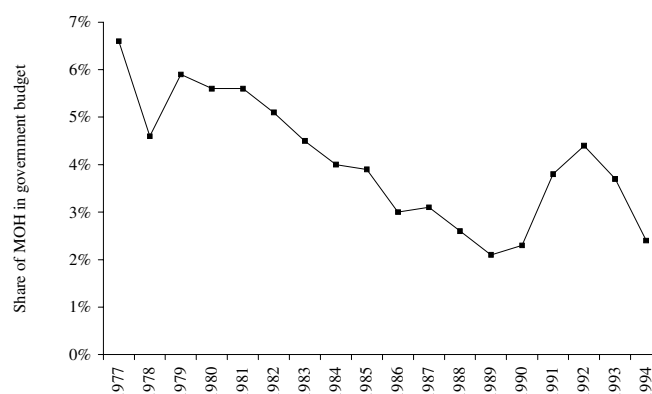


Figure 12: Share of MOH in overall government budget, Guinea, 1977-94

THE RUNNING COSTS OF A HEALTH DISTRICT IN THE FOREST REGION can be estimated by triangulation of data from different sources.^{4,10,15,16,26-30} In 1991-95 in the Forest Region, the running costs of a health district with a fully developed network of first line health services (FLHS) were around US\$3 per capita per year (Table 5). One third (US\$1) of this went to the hospital, half (US\$1.50) was needed for the FLHS and the remainder (US\$0.50) for the DMO's office. These were the estimated actual costs of a health district, with all health centres functioning, and an average user rate

* These FG2.00 billion (approximately US\$0.3 per capita per year) were the user fees officially accounted for in MOH facilities. In 1990, this was US\$0.8 per capita per year in N'Zérékoré prefecture. Patients paid also in private pharmacies,³ in formal and informal private practices and unofficial fees in MOH facilities.^{8,33} In Guinea, total private health expenditure was estimated at US\$8 per capita per year.²⁵ In 1990, a survey in rural areas in Guinea found that on average households spent US\$4 per capita per year on health care.³³

(including very low hospitalisation rates, leaving many needs uncovered).

Over half of the total running costs (58%) were borne by the government; this covered almost exclusively staff salaries. Foreign aid covered 15% of recurrent costs: the cost of vaccines for the health centres (5%), and the functioning of the DMO's office, including workshops and seminars (10%). User fees covered 27% of total recurrent costs, but this was as high as 50% in the hospitals, and only 20% in FLHS. The population contributed US\$0.50 per capita per year to the functioning costs of the hospitals, and US\$0.30 to FLHS. These estimates exclude investment, such as construction works and initial drug stocks for cost recovery, and operating costs of foreign field partners, such as expatriate salaries, and vehicles used by expatriate staff. Although the financial sustainability of the different health facilities was very uneven,* there were no financial flows between health facilities. This created important inequalities.

<i>Source of funding</i>	<i>Hospital (%)</i>	<i>FLHS (%)</i>	<i>DMO's office (%)</i>	<i>Total (%)</i>
Government	US\$0.50 (17)	US\$1.05 (35)	US\$0.20 (7)	US\$1.75 (58)
Foreign aid	0	US\$0.15 (5)	US\$0.30 (10)	US\$0.45 (15)
User fees	US\$0.50 (17)	US\$0.30 (10)	0	US\$0.80 (27)
Total (%)	US\$1.00 (33)	US\$1.50 (50)	US\$0.50 (17)	US\$3.00 (100)

Table 5: Recurrent costs per capita per year for a health district in the Forest Region, 1991-95

The Guinean health care system and PARLS

In early 1990, when the first refugees began to arrive in the Forest Region, the Guinean health system was in its early stages of a nation-wide transition and expansion. PEV/SSP/ME had trained and equipped the DMOs, and prepared many health staff to work in health centres, but geographical coverage with health centres was still poor. In each prefecture, a foreign field partner was established and assisting MOH. Decentralised drug supply was functioning and cost-recovery systems were elaborated.

* A rural health centre with 2,000 people within a radius of 5 kilometres has more difficulties to cover its fixed costs than an urban health centre with 20,000 people in its catchment area. The same applies to a hospital in a city with 10,000 inhabitants vs. one in a city with 100,000 inhabitants.

This state of affairs allowed for the *Programme d'Assistance aux Réfugiés Libériens et Sierra-Léonais* (PARLS) to be developed as an extension of, and an annex to, the national Guinean health system. PARLS initially largely 'piggybacked' on the logistics, the managerial capacities and the manpower of the Guinean health care system. But PARLS also brought considerable resources that helped to consolidate and rapidly expand the network of health facilities in the Forest Region (Chapter 6, page 143).

3. *The refugee-crisis: between self-reliance and pragmatic assistance*

Wave 1: rural refugees from Nimba county, January-March, 1990

On 12 December 1989, Charles Taylor and his National Patriotic Front of Liberia (NPFL), who were based in Côte d'Ivoire, attacked and took over Butuo in the Nimba county of Liberia. Samuel Doe, Liberia's president, declared that "*he would transform Nimba county in an empty land, where even ants would not live*". This threat, and the subsequent persecution by the Liberian Armed Forces, forced many inhabitants of Nimba county to flee. In the beginning of January 1990 some 10,000 refugees of the Mano tribe crossed the border with Guinea and arrived in the Diecké area in Yomou (Figure 4, page 14).

These refugees were destitute but in a good health; they had not suffered hardship before arriving in Guinea. They settled in the Guinean Mano villages, where they often stayed with relatives. They shared houses with Guineans or lived in public buildings such as schools. Soon the refugees started building their own houses on sites indicated by the host community. This resulted in the expansion of existing villages or the creation of twin-villages with one single name for the two adjacent villages. The size of the refugee villages was often equal or even larger than the older ones. Both communities kept their separate identity, the Guineans as 'citizens' and the Liberians as 'refugees', each with their own traditional chiefs.

Such paired villages resulted from the interaction between refugees and local communities. The Guinean government, foreign agencies, or other outside actors did not influence this process. Everything indicated that the spontaneously developing coping mechanisms were adequate. The influx of refugees was gradual and relatively small in scale. No areas were overwhelmed by the number of refugees and no serious epidemics occurred. As a result, there was no feeling of real emergency.

THE INITIAL ASSISTANCE

The regional medical inspector of MOH and his MSF counterpart were already working together in the primary health care (PHC) programme. Only days after the arrival of the refugees they made a joint first needs assessment. This consisted of field visits to evaluate the refugees' living condi-

tions and to discuss with community leaders. They concluded that refugees had a fair access to food and shelter, but that basic curative care, measles vaccination and sanitation were the first priorities to be tackled. Since they considered the refugees unable to pay for health care, they decided to offer free access to the health centre in Diecké. They also decided to open additional smaller provisional health facilities, health posts, in those refugee-affected areas that were more than 10 kilometres away from the existing health centres.¹ These health posts were to offer free services to refugees and Guineans alike. They would refer patients to the health centre, from where further referral to the hospital of N'Zérékoré, some 80 kilometres away, could be arranged.

Apart from these health posts three specific interventions were immediately organised. First, two mobile vaccination teams started measles vaccination of children between 6 months and 5 years living in the refugee-affected areas, and this independently from vaccination status or nationality. Second, MSF recruited logistics officers to protect water sources and to dig latrines: most refugees and locals used water directly from swamps,* and the use of latrines was almost non-existent. The rapid increase in population was considered a serious danger for the contamination of sources of drinking water. Third, a system of nutritional and disease surveillance was started in the newly created health posts. Each week, the nurse of each health post completed an epidemiological report, to detect epidemics of communicable diseases at an early stage, and to know the most important causes of morbidity and mortality. They also measured weight-for-height of all children between 6 months and 5 years of age consulting at the clinic. The proportion of malnourished children at the curative clinic was then used as an indicator of the nutritional situation of the population as a whole.²

Medical doctors of MOH and MSF installed the health posts and supplied and supervised them on a weekly basis. An ad hoc working party was set up by the Governor of the Forest Region for the co-ordination of the refugee-assistance programme, by then commonly called PARL (*Programme d'Assistance aux Réfugiés Libériens*). MSF agreed to work in close collaboration with, and under the authority of MOH, as they already did for the PHC programme.

At that moment MOH and MSF were the only actors actively managing the situation. In their view it was important to leave as much freedom as possible to refugees, and to support the generous reception of the refugees

* Prior to 1989, there were only 70 wells in the whole of Yomou prefecture.¹⁹

by the host population. Self-settlement of refugees among their kin seemed the best solution, and assistance supported this process. Decision-makers in MOH and MSF considered everything under control from the medical point of view. Their only worry was that food scarcity would soon become a major problem, and they insisted that food be supplied soon to prevent disaster.

The assessment missions from United Nations agencies, mainly UNICEF and UNHCR, and from the central government that visited the region regularly, never fundamentally challenged this analysis nor the decisions made by the local actors, whom they seemed to trust. The reputation of MSF as a well-known medical relief agency seems to have played an important role in this attitude. Moreover, the Forest Region was very far from Conakry. The refugee influx was largely beyond media attention and the central government did not perceive it as a threat.

MORE REFUGEES

During February and March 1990 the fighting in Nimba county intensified. More rural Mano refugees arrived, but this time in the border areas of N'Zérékoré and Lola prefectures (Wave 1 in Figure 5, page 17). Like the earlier refugees they settled among their kinsmen. By the end of March 1990 the United Nations estimated the total number of arrivals at 97,000.*

In N'Zérékoré and Lola prefectures, MOH and MSF extended the same assistance programme as in Yomou. In Lola, MSF was not yet active, but had been preparing to start working the next year. Implementation was brought forward, and MSF started with the PHC programme and PARL at the same time. By the end of March 1990, these 97,000 refugees had access to free medical care in 18 newly created health posts, 4 health centres and 3 hospitals. MOH had recruited extra Guinean auxiliary nurses among staff available in the region, as well as qualified nurses and doctors in Conakry. This recruitment was easy, as many recent medical graduates were unemployed.

Although most of the refugees were farmers and settled in the rural areas, there was one important exception. Thuo was host to some 10,000 refugees from Yekepa, a mining town just 3 kilometres across the border in Liberia. Yekepa was the base of the Liberian Mining Company (LIMCO) that extracted the iron ore of the Nimba mountain. LIMCO employed in-

* During the same period, similar numbers of refugees, most of them Gio and Mano, fled to Côte d'Ivoire where they were also allowed to settle freely among their fellow tribesmen just across the border.

dustrial workers from all over Liberia. Many of them fled to Thuo and settled just across the border, near the customs post, where a *de facto* refugee camp sprung up almost overnight. The refugees in Thuo were ethnically and socially different from the other refugees and from the host population. Many brought cars, personal belongings and even heavy mining machinery. They went back and forth between Yekepa and Thuo to bring belongings, but most spent the night in Thuo. Others went on to Côte d'Ivoire or N'Zérékoré city. For some time, LIMCO continued to pay their salaries to protect the machinery and equipment.

During the initial 4 to 5 months, assistance to the refugees was limited to basic curative care and measles vaccination. Efforts to improve the water supply and dig latrines consumed many resources, but were largely unsuccessful. There were some donations of relief food, but the quantities involved were merely symbolic. Despite this, there were no signs of food scarcity. Food prices in the local markets remained stable and malnutrition did not increase. Refugees were not registered: local authorities merely estimated their total number. Throughout the first months, everyone involved – the refugees, the local population, the host government, MOH, MSF, UNHCR & the donors – remained convinced that this was a temporary problem, and that the refugees would soon return home. *A posteriori* it is clear that this was a case of 'collective wishful thinking'.

Wave 2: urban refugees or returnees? May-June, 1990

Between May and June 1990 the NPFL advanced through Liberia and progressively took over the cities. Large numbers of Mandingo people had to flee. Contrary to the rural refugees of the first wave, they were not on the run for the Liberian army but for the NPFL. The NPFL considered them as enemies, since they had supported the late President Samuel Doe.*

The Mandingo have their roots in Guinea, where they are called *Coni-anke* or *Malenke*. Many had moved to Liberia during the 1960s and 1970s to trade. They fled back to Guinea† by road, carrying considerable amounts of belongings. The Mandingo moved to the towns, mainly N'Zérékoré and Macenta. These two towns already had large Mandingo communities, mainly traders. Others went on to Beyla and Upper Guinea, from where

* On 5 January 1990, at the very start of the war, in an attempt to broaden his popular base, Samuel Doe had declared that "*all those Mandingo residing in Liberia would be considered to be Liberian citizens*".

† During the same period, many Mandingo and Krahn found refuge in Sierra Leone.⁶

they originated (Wave 2 in Figure 5, page 17).

From the beginning, there was discussion about their actual refugee status and about their need for assistance, as compared to the first wave of refugees, or even to the host population. UNHCR wanted to classify them as returnees rather than as refugees.* MSF proposed to consider the urban refugees on the same footing as the Guinean population and not to offer free medical care. The Government of Guinea, however, considered it unacceptable to make a distinction between rural and urban refugees. In their view this amounted to a choice based on ethnic criteria rather than on needs. That the urban Mandingo were very vocal and had many kinsmen in the Guinean administration probably influenced the government's judgement. The Government of Guinea felt very strongly about this, and MSF and UNHCR staff were threatened with expulsion from the country if they maintained these 'ethnically'-inspired distinctions.

THE SAME ASSISTANCE

Just before this second wave of refugees started to arrive, in April 1990, refugee registration and food distribution by the Guinean Red Cross had begun.³ This was timely, as the yearly period of food scarcity (the 'famine-season') runs from June till August. Given the Government's reluctance to distinguish between 'rural' and 'urban' refugees, it was decided that all would benefit from the same medical and food-assistance. Refugees had to constitute groups of 50 beneficiaries. These were registered as refugees and issued with ration cards. They also became entitled to free medical care. In the urban areas, the existing government health facilities, often with a plethora of staff, could easily cope with the additional burden of caring for the refugees. They received additional quantities of drugs and medical equipment. At several occasions, the refugees made requests to organise additional clinics especially for them. But MOH and MSF rejected this, as they did not want to start a parallel refugee health care system. Refugees got free care in the existing government health facilities, and these received a fee-for-service for care to refugees.

* According to the 1951 Convention²⁰ relating to the Status of Refugees; a refugee is a person who "[...] owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country [...]". A returnee is a person who returns to his country of origin, after having been a refugee.

... BUT NOT FOR EVERYBODY

There were limitations, though. The Government of Guinea and UNHCR decided that refugee assistance would be limited to the Forest Region. They considered that if 'refugees' moved far from the border, this was actually proof that they were 'returnees'. Refugees moving outside the Forest Region would receive no help except for assistance with transport. The consequence was that most refugees remained in the Forest Region. The actual number of refugees outside this region was difficult to estimate, as they were never registered.*

Limiting refugee assistance to the Forest Region, was one of the few decisions the central government ever took regarding refugees. The official reason was that the refugee system established in the Forest Region was able to register and assist the refugees, and that there was thus no need to extend it to other regions. Consequently, all refugees arriving by boat in the capital, Conakry, were transported to the Forest Region. That refugees were confined to one remote region of the country was a welcome consequence, or, according to some, the main reason for this political decision.

Beyla prefecture was a borderline case. Beyla has no border with Liberia, but is administratively part of the Forest Region and some 30,000 Mandingo refugees had settled there. Although most of them were Guineans by origin, and had only stayed in Liberia for a few decades at most, they were registered as refugees in Beyla and received food aid. For MSF, however, a medical refugee-assistance programme in Beyla was not a priority and difficult to organise: few medical facilities in this prefecture were functional, and the refugees spread over the whole prefecture.† Rather than set up a medical refugee assistance programme an overall plan for extending the medical services in Beyla prefecture was implemented.

Wave 3: rural refugees from Loffa county, June-August, 1990

In June 1990 fighting spread all over Liberia and in particular to Bong and Loffa counties. Some 20,000 refugees fled to west Yomou, some 13,000 to Macenta and some 16,000 to east Guéckédou (Wave 3 in Figure 5, page 17). These refugees were mainly Kpellé, Loma and Kissi. Most of the

* Only 700 refugees were registered in Conakry.

† In 1990, the health system in Beyla prefecture was still very underdeveloped. For a population of 160,000 inhabitants, scattered over a large savannah area, there were only one 30-bed hospital and 5 health centres.

Gbande from Loffa county fled to the Mende areas of Sierra Leone (Figure 4, page 14). Kinship relations with the host population continued to determine where refugees settled. PARL was extended to cover these new areas. In Macenta, MOH, MSF and *Mission Philafricaine* organised medical assistance, while in Guéckédou, MOH did this alone, funded by UNHCR.

By July 1990 the take-over of Monrovia by NPFL looked imminent. This prospect worried the governments of several West African countries. The United States of America and the United Nations were reluctant to intervene. In August 1990, member states of the Economic Community of West African States (ECOWAS) set up a Nigeria-led, multinational peacekeeping force named ECOMOG (ECOWAS-Monitoring Group). ECOWAS also installed an Interim Government in Monrovia, led by Amos Sawyer. ECOMOG prevented NPFL from taking over Monrovia, but had little impact on the war outside the capital: NPFL controlled over 95% of Liberia. Apart from Monrovia, ECOMOG controlled a corridor along the coast, between Monrovia and Sierra Leone. The inhabitants from Monrovia could flee to Sierra Leone through this corridor, but as the security situation inside Liberia deteriorated, many refugees, both rural and urban, continued to arrive in Guinea. They joined the ranks and settlement-areas of the previous waves.

In the meanwhile, NPFL split in a mainstream NPFL, headed by Charles Taylor, and a faction led by Prince Johnson: the Independent National Patriotic Front of Liberia (INPFL). In September 1990 Prince Johnson would abduct President Samuel Doe from the ECOMOG compound and kill him.⁴

During this period, several humanitarian agencies provided aid in the territory controlled by NPFL, as well as in Monrovia itself. These efforts helped to keep a large proportion of the population inside Liberia, in their own homes or as internally displaced people. Without this assistance inside Liberia the number of refugees in Guinea would probably have been bigger.

Wave 4: refugees from Sierra Leone, March-April, 1991

In early 1991 the Liberian conflict spilled over into Sierra Leone. El Hadj Kouroumah, a Liberian Mandingo opposed to NPFL, organised Liberian refugees in Sierra Leone, including remnants of the Armed Forces of Liberia, into a new Liberian guerrilla, the United Liberation Movement (ULIMO). Thomas Sankoh, a Sierra Leonean opposition leader and an ally of the NPFL, had created the Revolutionary United Front (RUF). In March 1991, NPFL and RUF launched an offensive against ULIMO, well into Si-

erra Leone. The whole border area between Liberia and Sierra Leone became a battle zone for Liberian factions (ULIMO and NPFL), and Sierra Leoneans (RUF and the Sierra Leonean army), fighting each other in unstable alliances.^{5,6}

The consequence for Guinea was another massive influx of some 100,000 refugees (Wave 4 in Figure 5, page 17), mainly Sierra Leoneans from the Kissi and Mende groups. Most arrived in Guéckédou prefecture in March and April 1991. Among them were also Liberian Gbande who had first found refuge in Sierra Leone. When their hosts had to flee, they joined them in their flight to Guinea.

The Mende and Gbande do not have kinsmen in Guinea. They settled in Guéckédou prefecture, where they largely outnumbered their hosts (Fangamadou & Ouendé-Kenema in Figure 13 & Figure 14, page 56). The Kissi settled mainly among their kinsmen in Guéckédou. Some 20,000 Mende refugees first settled in the Kelema isthmus of Guinea that is penetrating into Sierra Leone (Figure 13). They could only be reached by foot along a 18-kilometre trail and were the target of guerrilla raids from Sierra Leone. The Guinean authorities decided that these refugees should move out of the isthmus. As a result, an estimated 26,000 refugees congregated at Kou-loumba, a place with a resident population of not more than one thousand, creating a *de facto* refugee camp. The refugee-affected areas in Guéckédou were more remote than those in other prefectures: a 5 to 6 hours drive from Guéckédou city, over a bad dirt road.

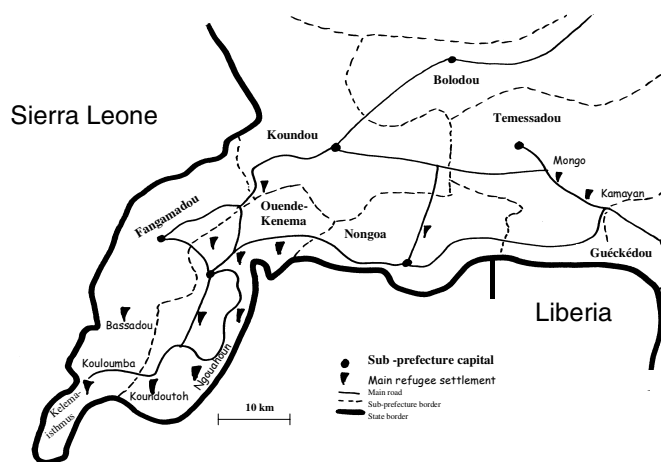


Figure 13: Refugee-affected areas in Guéckédou

MORE ACTIVE INTERVENTIONS

This influx over a short period was massive. Although still far from dramatic, the nutritional and health status of the new refugees was worse than in previous waves. Spontaneous coping mechanisms were less efficient than before. At the same time the reaction of authorities was more pro-active than before. Both the central Government of Guinea and UNHCR were much more present in PARL. They were involved in deciding where groups of refugees could settle. For part of these refugees, the mode of settling in could be described as 'guided self-settlement': the refugees cleared the bush; UNHCR made a grid outline for the settlement and supplied plastic sheeting for roofing. Other agencies were also operational by then. UNICEF tackled water supply and sanitation more efficiently. Refugee registration and food aid started from the first weeks of arrival with help from the World Food Programme, the Red Cross & the Adventist Relief and Development Agency.

The DMO's office of Guéckédou had proven capable of managing PARL for the 16,000 refugees who arrived in Guéckédou in 1990. The needs of the 100,000 new refugees were so overwhelming, that UNHCR and MOH requested MSF to extend its assistance to Guéckédou, where the *Gesellschaft für Technische Zusammenarbeit* (GTZ) was assisting MOH for the PHC programme. MSF reluctantly agreed, insisting that GTZ should get more involved. GTZ, however, argued that development aid and relief assistance should be clearly distinguished, and that it was preferable these were implemented by different agencies, i.e. GTZ and MSF respectively.

Eventually, the DMO in Guéckédou continued the management of PARLS* with technical and logistical assistance from MSF. As the road conditions made it difficult to refer malnourished children to the hospital, peripheral feeding centres were set up. In 1992, and for the same reason, MOH would create a rural hospital with a full-time Guinean doctor in charge in Koundoutoh, in the heart of the refugee-affected area (Figure 13). This would make it possible to hospitalise medical and paediatric cases, while surgical cases still had to be referred to Guéckédou. As soon as an ambulance was stationed in Koundoutoh in mid-1992, referrals stopped being a logistic nightmare.

* By then the name of the refugee assistance programme was extended to PARLS: *Programme d'Assistance aux Réfugiés Libériens et Sierra-Léonais*.

A period of relative tranquillity: the refugees remain and PARLS is consolidated

POPULATION MOVEMENTS. From mid-1991 till mid-1992, there was a relative status quo inside Liberia and Sierra Leone. There were no major military movements and tension eased in most areas. Peace talks went on in both countries. Humanitarian aid could reach large areas. Consequently, there was no important influx of new refugees in Guinea.

<i>Origin</i>	<i>Estimated numbers and status at arrival</i>	<i>Settlement area in Guinea (Figure 5, page 17)</i>	<i>Mode of settling</i>
Wave 1 or Nimba wave, January-March, 1990			
Rural Mano from Nimba county	Approx. 100,000; poor and destitute, in good general condition	Rural border areas of Yomou, N'Zérékoré and Lola	Self-settlement among kinsmen; <i>de facto</i> camp in Thuo (10,000)
Wave 2 or urban wave, May-August, 1990			
Urban Mandingo from cities throughout Liberia	Approx. 100,000; carrying many belongings, in good general condition	Macenta city and N'Zérékoré city. Many migrated to Beyla and Upper Guinea, where they had their roots	Self-settlement among kinsmen
Wave 3 or Loffa wave, June-August, 1990			
Rural Kpellé, Loma and Kissi from Loffa and Bong counties	Approx. 50,000; poor and destitute, in good general condition	Rural areas of Yomou (Kpellé), Macenta (Loma) and Guéckédou (Kissi)	Self-settlement among kinsmen
Wave 4 or Sierra Leone wave, March-April, 1991			
Rural Kissi and Mende from Sierra Leone, and rural Gbande from Liberia	Approx. 100,000; poor and destitute, more malnourished, but still in fairly good general condition	Rural areas of Guéckédou	Kissi: self-settlement among kinsmen. Mende and Gbande: 'guided self-settlement' in rural areas, <i>de facto</i> camp at Kou-loumba (26,000)

Table 6: Overview of refugees arriving in Guinea in 1990-91

This did not, however, preclude considerable population movements both inside and between the countries. These movements depended mainly on the security situation and the agricultural season. Whenever the security situation allowed it, refugees returned to their area of origin: they were afraid that prolonged absence might jeopardise their claims on land and property. Often the men went first, leaving women and children in Guinea, where they lived in security and had access to relief aid. During the planting season, people tried to farm their land. At the same time, others, who had stayed inside their country, judged that the situation had become too difficult, and moved to Guinea. In the balance, the number of refugees in Guinea remained rather stable, or decreased slightly.

The majority of refugees had settled among the host population. Only in Thuo and Kouloumba *de facto* refugee camps of respectively 10,000 and 26,000 refugees had been created. This was not decided or organised by any government body or agency. It resulted from local circumstances, in particular the absence of close kinship relations between refugees and hosts, and the very high concentration of refugees at those places. Most other refugees, however, had settled among Guineans and were integrated in the local economy.

The dispersed settlement pattern and the refugee movements made accurate refugee registration virtually impossible. In the absence of an official repatriation programme, refugees who returned to their country of origin did not notify UNHCR. New refugees tried to get registered, but were often – and sometimes correctly – suspected of trying to register for a second time.

During this relatively stable period, hope existed for definitive peace-agreements for Liberia and Sierra Leone and the possible repatriation of the refugees.⁷ Nevertheless, everybody started acknowledging that longer-term assistance approaches should be adopted, including more support for economic self-sufficiency.⁸ Finally, after two years, the collective wishful thinking waned, and a more realistic time-perspective was adopted.

MEDICAL ASSISTANCE. During this period the medical assistance programme was consolidated and developed.⁹ Activities that were less of a priority during the first months – e.g. antenatal care and family planning – got more attention. The negative effects of PARLS on the Guinean health system also became more apparent.

In certain areas, Guineans preferred walking five or ten kilometres to get free care at newly created health posts, rather than consulting their health centres, where they had to pay. In areas with a high concentration of

refugees, health centres often served three or four times more refugees than Guineans, who lost the sense of ownership of their own health centres. For the Guinean health centre and hospital staff the presence of the refugees constituted an extra workload for which they got very little extra pay. The refugees, on the other hand, were not satisfied with the health services in Guinea. In their perception, it was not only different from, but also inferior to, what they were used to in Liberia. Moreover, the refugees often considered the Guinean staff less qualified than many refugee health workers who were living among them, most of whom did not find employment in the formal health services. Lengthy negotiations took place as MSF and *Mission Philafricaine* insisted that refugees should start to contribute financially to the cost of medical care: free service for refugees and a fee-for-service for Guineans was perceived as an injustice. But UNHCR and MOH feared a backlash and repeatedly postponed any decision on this matter.

FOOD AID – rice and oil, rarely beans or lentils – arrived as scheduled. Refugee registration had, however, been quite fraudulent, and local officials and merchants misappropriated an important share of the food aid. This food found its way to the local markets, where rice prices dropped to an all-time low, far below the prices that prevailed before the arrival of the refugees.*

EDUCATION for refugee children was provided by doubling-up classes in existing school buildings, and by constructing many new schools. Education for refugees was in English, and operated separately from the French-based Guinean education system. Teachers and headmasters were refugees. International Rescue Committee (IRC) did the co-ordination and supervision.

SOCIAL SUPPORT. Although most refugees fared relatively well with the limited aid, there were also single parent families, unaccompanied minors and elderly without their normal social support networks. For these ‘*vulnérables*’, UNHCR tried to organise a social service through the Catholic Church and the refugee committees. Neither managed to develop consistent programmes. It took several years before finally *Eglise Protestante Evangélique* and Jesuit Refugee Service organised reliable counselling and assistance services for vulnerable persons. ‘Support for self-sufficiency’ became a buzzword, but little was done, beyond carrying out several studies examining the resource basis of the refugees.¹⁰

* For several months 50 kg of imported white rice was traded at FG5,000 (US\$5) at N’Zérékoré market; this was less than half the price before refugees arrived.

Late arrivals: the subsequent minor waves, 1992-95

CROSS-BORDER MOVEMENTS IN BOTH DIRECTIONS

Towards the end of 1992, there was still no progress in the peace process in Liberia. Internal strife within NPFL and ULIMO resulted in their further splitting up in different factions and new upsurges of fighting between them. In September 1994, this culminated in a ULIMO assault on the headquarters of NPFL in Gbarnga, and its subsequent recapture by NPFL, followed by a major offensive of NPFL in ULIMO-controlled territory. In Sierra Leone, the situation was hardly any better. The conflict spread over large areas, and forced many people to leave their homes, and either concentrate around cities, or flee to Guinea.

During this period, the level of violence was increasing, giving rise to some of the most horrifying human rights violations documented in recent history,^{4,11} during which, for example, whole groups of peasant women had both hands cut off.^{5,12} All factions widely practised a scorched earth strategy. This disrupted food security inside Liberia and Sierra Leone. At the same time, humanitarian agencies faced serious difficulties bringing relief and there were places with real famine.

The refugees who had arrived in Guinea in 1990-91 fared relatively well. There were no 'lacrimogenic' situations of extreme destitution nor famine. Whenever the situation allowed, refugees returned to their country of origin – temporarily or permanently. When the security situation improved, the movement went mainly towards the country of origin. When insecurity increased, it was the other way round. The feeling was that 'refugees were integrated'. There was little media presence and donors became less interested in these refugees. Moreover, lack of reliable refugee registration and fraud with food aid were perceived as major problems. Therefore, donors were pushing UNHCR and World Food Programme (WFP) to improve control mechanisms and to reduce food aid.

A SERIES OF MINOR WAVES. As the situation inside Liberia and Sierra Leone deteriorated, new refugees started trickling into Guinea.* The pattern was different from the previous waves of refugees. Now refugees arrived in smaller groups, as a series of minor waves. For those arriving at this late

* This document is focusing on refugee movements across international borders, but for the people involved in this conflict, these borders constituted only part of the picture. Each time one of the factions gained or lost control over a territory, the areas where people could reside in relative security changed. Invariably this resulted in within-country population movements.

moment, fleeing to Guinea was not a first choice. They had tried to hang on as long as possible. When asked why they had not left their country earlier, they often answered that they lived far from the border, and first had tried to cope somewhere closer to home; that they had never been to and did not know anybody in Guinea, or that they did not know where to go in Guinea. Others stressed that fleeing outside the country would jeopardise their future inside their home country once the problems would be solved. The result was that they first tried to continue living in their villages, facing hardship, or moved around inside Liberia or Sierra Leone. It was only when these options became really impossible that they decided to flee to Guinea.

Most refugees arriving in 1992-95 had thus already been internally displaced. Some had moved several times. Most had suffered extreme hardship, close to forced labour or even slavery, inside their country. Consequently, more and more refugees were malnourished and sick upon arrival, without belongings, or even clothing. Family units were often split, with many families headed by women. Many of the refugees had no place to go to in Guinea, were exhausted on arrival and had little energy left to develop creative coping mechanisms. This fundamental difference between early and late arrivals is a clear illustration of Kunz' variety of 'refugee waves and vintages',^{13,14} and has also been documented in South Sudan¹⁵ and in East Sudan.^{16,17}

One can distinguish more than ten different waves with some 150,000 new refugees during 1992-95 (Figure 6, page 18). Most arrived in the prefectures of Yomou, Macenta and Guéckédou, which already hosted the highest number of refugees. When the conflict spread over larger areas of Sierra Leone in 1995, refugees also arrived in new areas in Guinea; some 9,000 refugees settled in Kissidougou and another 24,000 settled in Forécariah, along the coast. The most important of these minor waves were those in Guéckédou (June 1993), in Yomou (September 1994) and in Forécariah (January 1995). These illustrate the changing nature of the refugee population, as well as the changing response of the relief system (Table 9).

New refugees in Guéckédou, June 1993

In June 1993, several groups of refugees arrived in Guéckédou prefecture and settled down just across the border. They were in a bad shape, destitute and without any belongings. Soon after arrival, they received emergency food and medical care. UNHCR established several small camps, for between 1,000 and 3,000 people each, far away from the border (e.g. at Nyae-

dou, Fandouyema and Boodou*). UNHCR negotiated access to land for the refugees in Nyaedou and Boodou and assisted them with its exploitation. UNHCR made settlement in the new camps a condition for registration and further assistance. Despite this, many refugees preferred self-settlement without assistance, joining the ranks of previous refugees among who they judged having better chances of coping. Moreover, many refugees who officially registered in camps did not permanently reside there, but moved out in search of employment.

From Gbarnga to Noonah, Yomou, September - December 1994

After the assault by ULIMO on the headquarters of NPFL at Gbarnga, some 27,000 new refugees arrived in Yomou prefecture in September 1994. Many, including adults, were severely malnourished. They constituted a very diverse group of former urban dwellers from different ethnic groups. At short notice, UNHCR and WFP made emergency food supplies available and constructed transit camps in Diecké, Bignamou and Betha. These transit camps consisted of communal shelters of 15 by 7 metres to house up to 200 persons each, and were designed to be temporary. It was difficult to maintain an acceptable level of hygiene in such environment and soon a severe cholera epidemic broke out in the Diecké transit camp.

In November 1994, UNHCR tried to find a more suitable solution and designed a new camp in Noonah. A typical grid camp was laid out and men from the transit camps were moved by trucks to Noonah to clear the bush and to construct houses with local materials and plastic sheeting. The new camp remained almost empty until UNHCR made living there a precondition for registration. Nevertheless, many refugees refused to move (Box 1). This opting out from the relief system has also been observed in other refugee situations.¹⁵

From Kambia to Forécariah, January 1995

In January 1995, an attack by the Revolutionary United Front (RUF) on Kambia forced some 24,000 Sierra Leoneans to flee to Forécariah, near Conakry. Although most of the refugees were in good health, few carried any provisions. The refugees settled in areas inhabited by their kinsmen, with whom they had maintained close relations. This influx closely resembled the first and third waves of 1990, with rural refugees in good health and coping relatively well.

* Boodou camp was created to settle former guerrilla fighters turned refugees, far from the border and isolated from the rest of the refugees, who were often hostile against them. Later, also 'civilian' refugees were settled in Boodou.

In June 1995 UNHCR encouraged these refugees in Forécariah to move to camps. The refugees were told that food and medical assistance would only be provided there. By November 1995, most refugees had moved, although they had previously lived among the Guineans without major problems. This policy was thus in line with the more interventionist relief approach in the Forest Region, although the needs of these refugees did not require it.

<i>Provoking event</i>	<i>Estimated number and/or status at arrival</i>	<i>Settlement area in Guinea and mode of settling in</i>
New refugees in Guéckédou, June 1993		
Fighting in Kailahun area (Sierra Leone) & Loffa county (Liberia)	In very poor condition, with many malnourished	Arrived in border areas of Guéckédou; soon moved by UNHCR to small camps (e.g. Nyaedou and Fandouyema) with good access to land
From Gbarnga to Noonah, Yomou, September-December 1994		
Attack by ULIMO on NPFL head-quarters at Gbarnga	27,000 refugees, generally in poor condition	First in transit camps: Diecké, Bignamou and Betha (Yomou); in January 1995, moved by UNHCR to Noonah with poor access to land (only some 8,000 accepted, rest self-settled, but unassisted)
From Kambia to Forécariah, January 1995		
Attack on Kambia by RUF	24,000 refugees, in good health	Forécariah, self-settlement among kinsmen, later 'encouraged' by UNHCR to move to camps

Table 7: Overview of three minor waves of late arrivals, 1992-95

EARLY VERSUS LATE ARRIVALS

The refugees who arrived in 1990-91 were fundamentally different from those who came in 1992-95. The needs of the late arrivals were more important while the efficiency of their own coping mechanisms decreased. Table 6 compares the main characteristics of the early and the late arrivals.

Box 1: Noonah refugee camp & informed consent to non-assistance

Noonah is a small Guinean village. Most of the forest around is part of the Sacred Forest, where only people initiated through local rites may enter. UNHCR established Noonah camp to resettle the new refugees. Only 8,000 refugees accepted the move, as the camp offered hardly any access to farmland or labour opportunities. The remainder, some 19,000, refused to move to Noonah, in full knowledge of the fact that by doing so they would not be entitled to free food or free medical care. They became officially unregistered refugees.

This is a case of 'informed consent to non-assistance' because the pre-conditions unilaterally imposed by UNHCR were not acceptable to the refugees. This refusal was partly due to the bad track record the relief system had in the eyes of many refugees. The refugees did not trust UNHCR and its implementing agencies when they promised that refugees would get full relief rations in Noonah camp. Previously, they had indeed not been capable to supply food as scheduled. Many refugees judged rightly that their chances to develop economic self-sufficiency in Noonah camp were slim, and preferred to opt out and rely on themselves rather than on the relief system.

UNHCR was so strict because it could not distinguish between 'real new refugees' and 'false new refugees' ('older' refugees trying to register twice or Guineans trying to get registered as refugees). The physical separation of the new refugees from the old ones was indeed a solution to this problem, as very few 'false new refugees' would ever accept to move to Noonah camp. However, it also excluded a large number of 'real new refugees' from registration.

The refugees who opted out were probably those who had better chances of coping and becoming self-sufficient. Many who settled in Noonah camp moved back to where they had first settled, or into the Guinean villages around Noonah; they would only return to the camp on the days of food distribution.

During 1995, the refugees who refused to move to Noonah camp were proved right. Although Noonah camp was prioritised for food distributions, these were insufficient and malnutrition became highly prevalent. In 1995, the situation deteriorated in many areas, but in Noonah camp the situation was worse than elsewhere, and took longer to redress.

<i>Early arrivals, 1990-91 Four major waves</i>	<i>Late arrivals, 1992-95 Subsequent minor waves</i>
Nature of the refugees	
When hostilities reached their area of residence, people fled to Guinea as a first choice. They lived close to the border and had ethnic links, often family, in Guinea.	When hostilities reached their area of residence, people first struggled to remain within their country. Only when this became impossible, they fled to Guinea (internally displaced, then refugees). Sometimes they included refugees who had returned to their country but had to flee again (refugees, returnees, and then re-refugees).
General condition of the refugees	
Refugees were generally in good condition. Refugees arrived in relatively homogeneous groups of people of the same ethnic group.	Many refugees arrived malnourished, and in poor health. Many families were split before arrival. Refugees arrived in heterogeneous groups of mixed ethnicity that did not originally live together.
Characteristics of the reception in the host area	
The refugees arrived in areas inhabited by relatives and where no refugees had yet arrived. The reception of the refugees by the host population was in general very generous. The aid system was not yet in place in the area of arrival and no registration of refugees had taken place previously. Most refugees did not expect relief, nor did their hosts.	The host population was already supporting large numbers of refugees. Kinship relations between newly arrived refugees and their hosts were weak or non-existent. The hosts often considered areas of arrival 'saturated' with refugees. The relief system was already in place and earlier arrivals had been registered. 'Registration = food aid' - logic was already installed. As internally displaced, some refugees had already received food aid. On arrival in Guinea they expected the 'international community' to take care of them. The local population and the refugees already present counted on aid from the relief system for the new refugees.
Mode of settlement in the host area	
Self-settlement among host population: refugees mixed with existing population in the border areas. After some weeks or months, they constructed their own houses, often spatially integrated in existing villages, or in paired villages.	UNHCR tried to keep old and new refugees separate. It prepared camp sites at a distance from the border, and new refugees had to settle there to be registered. The populations of these camps were mixed and were supported by the relief system. After some time, these camps often became 'ghost camps'. Vulnerable refugees and dependants often remained in the camps. When food distributions took place, refugees returned to the camps.

Table 8: Characteristics of the refugees and their reception, 1990-95

NEW AGENCIES AND CHANGES IN PARLS

The three examples described above show that the results of the 'new relief approach' were quite different from one place to another. In Guéckédou, the new relief approach was reasonably effective, though undoubtedly more expensive than the previous one. In Noonah in Yomou, it was a complete failure (Box 1, page 51). In Forécariah, resettling refugees in camps was unnecessary and costly.

But most of the new refugees needed more assistance and the relief system was ready to deliver it. Food aid and medical care quickly became available. All children were vaccinated against measles, anthropometric surveys were conducted and, when indicated, feeding centres were started. Clean water was also made available in all new settlement sites. During 1995, however, the relief system failed overall to supply reasonable quantities of food.¹⁸ Consequently, food insecurity increased and malnutrition among the refugees rose considerably. As an answer to this problem, UNHCR reinforced programmes for vulnerable refugees. Malnourished children were relatively easy to identify, but this was more difficult for female-headed families and unaccompanied elders within a highly mobile population. In an attempt to decrease irregularities during food distribution, food basket monitoring was started. At every distribution, checks were made to determine what were the real quantities of food received by the refugees. It soon became clear that even at the end of the distribution channel problems existed. UNHCR and WFP decided to change the 50-beneficiaries-ration-card system to a distribution at household level. This increased the reliability of the distributions for the refugees. Also, support for income-generating activities, mainly rice production, was stepped up. In previous years, this had consisted of distribution of agricultural tools and seeds. Later, improving access to land, mainly through exploitation of new swamps became the target, with better results.

This more interventionist relief approach also brought new actors on the scene. Up to 1993 PARLS was carried by UNHCR, WFP and NGOs already working in the Forest Region in the context of development programmes. Only the Red Cross, the Adventist Development and Relief Agency (ADRA) and the International Rescue Committee (IRC) had joined PARLS as new NGOs. During 1993-95, however, additional NGOs started operating, such as *Action Contre la Faim*, Jesuit Refugee Service and *Eglise Protestante Evangélique*. Early 1996, GTZ took over PARLS from MSF in Guéckédou, and from Oxfam in Forécariah. GTZ later also replaced ADRA to transport food aid. In less than two years, GTZ became one of the main actors of PARLS.

Not only did the nature of the refugees evolve over time, so did the attitude of the hosts and the preparedness of the relief system. The role of the relief system increased. In terms of refugee livelihood, there was a shift from self-supporting to relying on assistance from outsiders. To a certain extent, this change in approach was an understandable response to the changing conditions of the refugees. But the change in policy was not necessarily appropriate, as illustrated earlier. Table 9 compares the response of the hosts and the relief system to the early and late arrivals.

<i>Early arrivals, 1990-91 Four major waves</i>	<i>Late arrivals, 1992-95 Subsequent minor waves</i>
Attitude of the hosts and the relief system towards the refugees	
Collective wishful thinking and generosity. Most people thought: 'This is a short-term problem, we have to help these refugees through this difficult period of a few months, after which they will return home'. Resources were pouring in from the donors to help the refugees.	Management approach. Many people thought: 'This problem is lasting longer than anyone could have expected', and 'Many refugees are misusing the aid system'. Donors started imposing conditions on better use of food aid. 'Old' refugees who had arrived in 1990-93 were assumed integrated and self-sufficient.
General approach of the relief system	
Low-key approach: a limited relief system that followed the refugees. During the first wave, UNHCR was not yet present in Guinea. MOH and MSF took the lead with a low-key approach. UNHCR became fully operational only after 4 to 5 months.	The existing relief system led by UNHCR took the initiative, as the main actor. The relief system was already fully operational upon arrival of the refugees.
The registration system was lax during the first and second waves; and still quite liberal during the third and fourth waves. Distributions, once started, were poorly targeted. Large quantities of food were misappropriated. Food prices on the local market plummeted to an 'all-time low'.	Different actors had highlighted adverse effects of food aid. Consequently, UNHCR started control on registration and fraud. Food aid was decreased for old refugees. When new refugees arrived in the same areas, they seriously interfered with control and verification.

Table 9: Response to the refugee waves, 1990-95

Not only the general attitude and approach to refugee assistance changed, also the technical content of the assistance evolved over time. Where the early arrivals had received a low-key slimmed assistance package, the late arrivals received a more comprehensive package (Table 10).

<i>Early arrivals, 1990-91 Four major waves</i>	<i>Late arrivals, 1992-95 Subsequent minor waves</i>
Medical relief	
At the onset basic curative care, measles vaccination, disease surveillance and nutritional monitoring were considered to be an appropriate package of relief activities.	Therapeutic feeding centres, a supplementary feeding programme and services by health animators were added to the package of relief activities.
Food aid	
Refugees lived several weeks, even months without food aid, without serious consequences on their health.	Refugees received food aid rations from the first days or weeks on.
Water Supply	
Improvements in village water supply (e.g. protection of existing shallow wells) were first attempted. New wells and boreholes with hand pumps were installed months later.	New wells and boreholes were dug very early in the camps.
Shelter	
Initially no assistance was given for the construction of shelter. Months later some plastic sheeting was distributed.	Assistance in the lay-out of camps and the construction of shelter was given from the onset.

Table 10: Content of PARLS, 1990-95

Settlement patterns of refugees

THE NUMBER AND DISTRIBUTION OF REFUGEES*

UNHCR made a distinction between refugees registered in 1990-93 and those registered in 1994-95, the former being identified as the 'old' refugees, the latter as the 'new' refugees. This distinction did not coincide entirely with the distinction between early arrivals (1990-91) and late arrivals (1992-95). Old and new refugees were entitled to different quantities of food, the assumption being that the old refugees were self-sufficient by

* All population data should be treated with caution, as they are quite unreliable.

1996, but that new refugees were not. This distinction was maintained despite studies showing that food insecurity was not linked to time of arrival but to area of residence.¹⁸

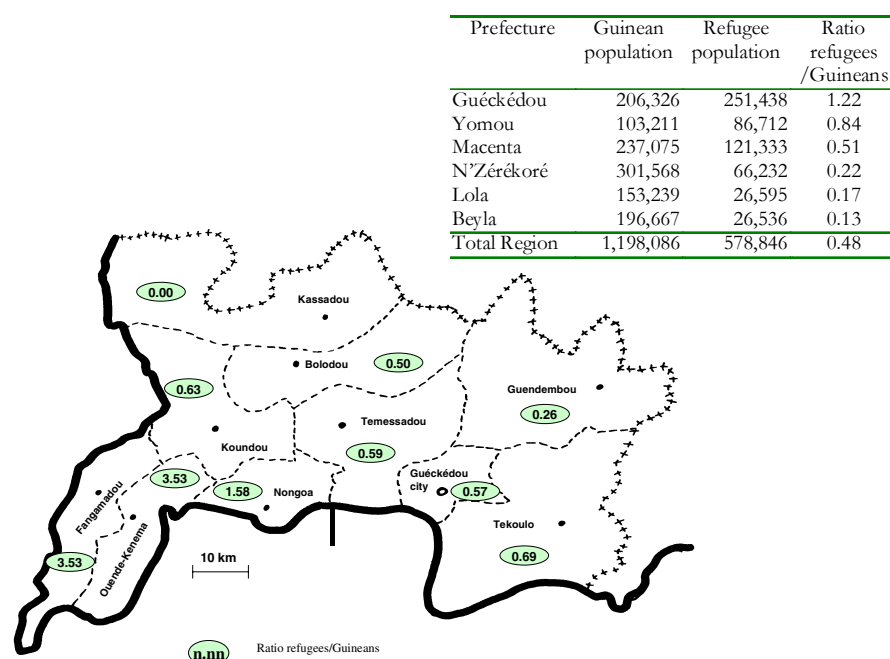


Figure 14: The concentration of refugees, Forest Region, mid-1995

The concentration of refugees was different from one prefecture to another (Figure 14). In Guéckédou in mid-1995, there were more refugees than Guineans. The concentrations were also very high in Yomou and Macenta. Within the prefectures refugee concentrations also varied. This variation is shown for Guéckédou prefecture.

The Mano, Kpellé, Loma and Kissi refugees lived mainly in the rural areas among their kinsmen. The Mandingo lived mostly in the cities. The Mende and Gbande who had no kinsmen in Guinea settled in the south-west of Guéckédou where refugee concentrations were highest (Figure 14). The place where refugees settled was determined mainly by ethnic origin and established cross-border contacts, and by their rural or urban origin.

'INTEGRATION' OF URBAN REFUGEES

One third of the refugees, mainly Mandingo, settled in the major urban centres: N'Zérékoré, Guéckédou and Macenta. The Mandingo, whether 'refugees', 'returnees' or 'citizens', dominated trade in the cities. Their arrival from Liberia transformed the cities of the Forest Region. Since 1990, the number of cars in the cities at least tripled or quadrupled. The refugees brought many of these cars, but often had to sell them when their resource basis dwindled.

These refugees were integrated in the economic life of the cities. The sudden increase of Mandingo further marginalised the forest tribes – Mano, Kpellé, Loma and Kissi – economically. It also exacerbated pre-existing ethnic tensions. The forest tribes were loyal to NPFL that had persecuted the Mandingo in Liberia. In June 1991, ethnic tensions between Kpellé and Mandingo escalated in N'Zérékoré and resulted in clashes which caused some 200 deaths. Also in Macenta, tensions between the Mandingo, locally known as Tomamania, and the Loma increased. Several hundreds of people were killed. At the same time, political liberalisation made the forest tribes more vocal and their domination of certain city councils, namely in N'Zérékoré, strengthened their political position.

In the cities, there were serious problems with over-registration of refugees. Many merchants and local authorities acquired ration cards, in certain cases for many groups of 50 beneficiaries. The urban Mandingo refugees were the most outspoken and politically aware section of the refugee population. When food distributions became irregular, the urban refugees staged protests at the UNHCR offices. When food aid only trickled in, as was the case throughout 1995, there was political pressure to favour distributions to the urban refugees to avoid tensions in the cities. Most urban refugees managed relatively well, at least economically. Still, they lost a lot through their forced migration to Guinea. Many Mandingo were killed in Liberia, and part of their property was looted or destroyed. Some became destitute, lost their social network and became pauperised urban dwellers.

RURAL REFUGEES: BETWEEN 'INTEGRATION' AND 'SEGREGATION'

SETTLEMENT PATTERNS AND SELF-SUFFICIENCY. In the rural areas, different settlement patterns can be distinguished (Figure 15). Many refugees lived within Guinean villages. For an outsider it was very difficult to distinguish them from Guineans. This pattern can be called 'spatial integration'. Other refugees lived in 'paired villages': the refugees created a settlement close to an existing village with which they enjoyed good relations. This can

be called 'peaceful cohabitation'. Other refugees lived in 'new villages', situated rather close to an existing village with the possibility of social and economic relations, but with a distinct identity ('spatial separation'). At the extreme of the spectrum, some refugees were living in 'real camps'. Although not intended as such, this situation could be qualified as 'spatial segregation'.*

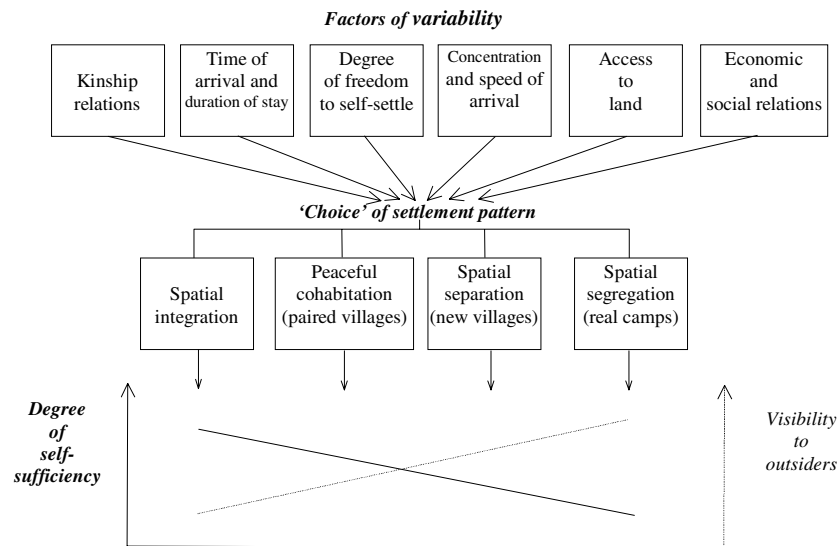


Figure 15: Settlement pattern and self-sufficiency of the rural refugees, Guinea, 1990-95

RELATIVE IMPORTANCE OF THE DIFFERENT SETTLEMENT PATTERNS. Guéckédou was the prefecture with the highest density of refugees, and the highest number of real camps. A detailed analysis of the situation in Guéckédou at the end of 1995 clarified the quantitative importance of the different settlement patterns.

According to the data of the health animators[†] 90,790 (33%) of the

* In the particular case of Kouloumba, the camp came into existence due to 'take-over': the concentration of refugees was so high – 26,000 refugees for some 1,000 Guineans – that the local village was almost absorbed in the refugee settlement.

† One of the roles of the health animators was to estimate the number of people effectively living in the refugee settlement in which they worked (as this was often

273,388 refugees officially registered in Guéckédou at the end of 1995 were living in 45 'camps'. In the nine largest camps 60,647 refugees were living, 24,434 in Kouloumba camp alone. The remaining 30,143 refugees were registered in 36 camps with a population ranging between 2,788 and 273. However, many of these 'camps' were rather new or paired villages. This means that in Guéckédou prefecture two-thirds of the refugees were not living in camps, but among the local population or in settlements with less than 300 inhabitants. In other prefectures, the proportion of refugees living in camps was even lower.

Moreover, refugees officially registered in camps were often not residing there, but settled among the Guineans. They returned to the camp when food distributions took place. This phenomenon was especially important during the rainy season, when agricultural labour was in high demand. Camps were then often largely abandoned with only few people present, the remainder having settled on a semi-permanent basis in villages outside the camp. With many houses closed or collapsing, and vegetation growing wildly, these camps were called 'ghost camps'.

One can roughly estimate that less than 20% of the refugees of the Forest Region were living in real camps, some 25% in new or paired villages, and over half were fully integrated in Guinean villages and towns. The degree of homogeneity of the refugees within these different situations varied considerably. 'Spatial integration' and 'peaceful cohabitation' were usually rather homogeneous situations: refugees with close kinship relations to the Guineans settled freely among their kin. 'Spatial separation' and 'spatial segregation' situations were often more heterogeneous, constituted of a mix of different ethnic groups distinct from the host population.

DETERMINANTS OF SETTLEMENT PATTERN. The different settlement patterns resulted from the interaction of factors such as (1) ethnic and kinship relations between the refugees and the ethnically diverse host population; (2) the time of arrival and duration of stay of the refugees in Guinea; (3) the degree of *laissez-faire* or steering of the situation by UNHCR, and the degree of freedom the refugees had to self-settle; (4) the concentration of refugees and speed of arrival; (5) the pattern of land use and possibilities of access to land for the refugees; and (6) the intensity of social and economic relations between the refugees and the host population (Figure 15).

very different from the number of refugees registered there). This was done by visual inspection of the houses. If a house was inhabited or maintained normally, it was considered that all members of the family registered there were effectively residing in it. This was probably a very sensitive criterion.

CONSEQUENCES FOR SELF-SUFFICIENCY. Most rural refugees were farmers. In Guinea, most became landless. The local communities own the land, even if it is not in use. Not only for land, but also for common property resources, such as wood or even thatch for their houses, the refugees needed permission from the Guineans. The refugees depended thus to a large degree on good relations with the host communities. The refugees were often employed on a daily basis by the Guineans to work as agricultural labourers. Others got access to land that normally would have been left fallow. Initially the refugees were allowed to use such land for one year, as an exceptional measure. The Guineans perceived the presence of refugees as a temporary phenomenon. Only few refugees got the permission to clear forest and cultivate new land.

The main untapped economic resource in the Forest Region was, however, its swamps. They were fertile and well suited for lowland rice. Few Guineans, with the exception of the Kissi, ever used them. But, many refugees had experience growing swamp rice in Liberia and Sierra Leone, and some got access to these swamps in Guinea. However, to lay out unused swamps is hard labour. Removing trees, digging canals and constructing dikes is an important investment, which is not worthwhile for one single harvest. Since 1995, UNHCR negotiated with local communities access to unused swamps for the refugees communities. UNHCR paid refugee labour and technical assistance for the initial works, and the local communities allowed refugees to use the land for five years. This approach marked an important shift in perspective for UNHCR, the refugees and the local communities.

The self-sufficiency of the refugees depended thus not only on the agricultural resources available in the area, but also on the access granted by the Guineans. This depended strongly on the settlement pattern (Figure 15). The refugees who could integrate in local communities enjoyed a higher degree of self-sufficiency. Their means of livelihood were intertwined with these of the host community. They shared the lives of the Guineans, worked on their farms and participated fully in the rural subsistence economy. The refugees living in peaceful cohabitation in paired villages or separated in the new villages over time also developed a high degree of economic self-sufficiency. As they settled freely, they usually spread themselves well enough to have access to economic opportunities. Those living segregated in camps faced the most serious problems. Both their density and their isolation from the host society made their economic integration difficult. They often moved out of the camps to live in a more integrated way.

'REFUGEES LIVE IN CAMPS'

Contrary to the diverse realities described above, staff of aid agencies and government bodies tended to speak of 'the refugees' without making any distinction. The name given to a refugee settlement, was invariably the name of a Guinean village with the suffix 'camp'. For example, Noonah is a small Guinean village, and the refugee camp was called Noonah camp. But also in Badou, where one hundred refugees lived in huts on one side of the village, the refugee quarter was called Badou camp. All refugee settlements, paired villages, new villages or real camps were invariably referred to as 'camps'. To some extent this was a way to distinguish the host population from the refugees, but the visibility of the relatively small proportion of refugees living in camps strongly shaped the image aid workers and government officials had of all the refugees. 'Putting all refugees in the same bag' obscured the fact that the coping mechanisms of the refugees and the degree of self-sufficiency achieved differed strongly between refugee communities.

The medical part of PARLS in Guinea concentrated on giving refugees access to health services and control of epidemics in the refugee-affected areas. Also food aid was a major aspect of PARLS, although only the assessment of the nutritional situation was carried out by the medical actors. The following chapters cover medical assistance for refugees. They describe in more detail food aid (Chapter 4, page 63), control of epidemics (Chapter 5, page 101) and health services for refugees (Chapter 6, page 143). Other aspects of PARLS, such as provision of shelter and drinking water, organisation of basic education, and assistance for income-generating activities, will not be covered.

4. Food aid

Neither food output, nor prices, nor any other variable like that can be taken to be an invariable clue to famine anticipation, and once again there is no substitute for doing a serious economic analysis of the entitlements of all the vulnerable groups.¹

Amartya Sen

In unstable situations, morbidity and mortality often increase considerably.²⁻
⁶ Whether and to what extent food shortage, malnutrition and increased mortality are causally linked remains a matter of debate,⁷⁻¹² but the importance of food goes far beyond physical survival, even in emergencies. Although during the emergency phase water and shelter may be more important for short-time survival,¹³ food is indeed one of the priorities. Food shortage and access to food are invariably important issues in unstable situations.^{9,14,15} Aid agencies often consider food aid as the most urgent need of refugees.

Food aid in times of food scarcity intends to reach those without the means to obtain it. Food aid does not, however, take place in a vacuum, but in a social context, even if society is in disarray.^{16,17} Food is one of the main economic assets in countries in crisis. It is not because food aid is supplied free (*'not to be sold or exchanged'*), that it loses its economic value. The poorer and the more disrupted the society, the higher the relative value of food. Not surprisingly, some may try to misappropriate food aid, not only to feed themselves or their community, but also to gain economic benefit. Food aid also influences local offer-and-demand balances. Food scarcity raises food prices, to the benefit of those offering food on the markets, mainly merchants, but sometimes producers too. These are potential losers if food aid effectively reaches those in need.

During armed conflicts, poorly supplied fighting forces may claim a share of the food intended for civilians. Food aid distributed to refugees may be transported across borders to supply guerrillas, or the civilian populations that remained behind. Food may even be used as a weapon of war.¹⁸ Armies may try to starve certain areas for military purposes, destroy or loot food stocks and crops, and hinder food aid.

Within such contexts, all aspects of food aid are highly problematic.¹⁹ First, the quantity of food aid is always a balancing act between supplying enough to feed those in need, and limiting supplies so as not to disrupt the local markets. Second, if it is still relatively easy to decide when food aid

should start, or when it is insufficient, it is considerably more difficult to know when food aid should decrease or stop altogether.²⁰ Third, the identification of beneficiaries is another major problem. Registration is often incomplete and fraught with difficulties. Distinguishing those in need of food aid from those not in need is always somehow arbitrary. Distinctions are often based on value judgements that may not be the same for those delivering and those receiving assistance.^{21,22} Fourth, logistic constraints often hamper transport and distribution. Lastly, appropriate distribution channels are difficult to design and control.

Because of these difficulties, food aid is more often than not contentious,²³ it is the most visible benefit granted to refugees, and conflicts may erupt or crystallise around it. It is a source of conflicts between humanitarian agencies and refugees, among humanitarian agencies and among refugees, between refugees and hosts, between humanitarian agencies and merchants, between humanitarian agencies and donors, between donors and host governments.^{17,24,25}

Humanitarian agencies have gained considerable experience with food aid to refugees. Manuals describe how to organise refugee registration, anthropometric surveys, food distribution, food basket monitoring, as well as supplementary and therapeutic feeding programmes.^{19,26,27} This know-how is, however, largely based on experience within relatively closed systems, such as refugee camps, where beneficiaries are entirely dependent on food aid. Strategies used are not necessarily appropriate for open refugee situations, where beneficiaries of food aid (the refugees) live integrated, both spatially and economically, with non-beneficiaries (the hosts). This makes selection and registration of beneficiaries considerably more difficult. Some refugees may be self-sufficient, while some hosts may not. In open situations, nutritional programmes invariably induce system effects in the wider society, and affect local balances.²⁸

Throughout PARLS, food aid was contentious and fraught with difficulties. At no point in time, satisfactory solutions were found. This chapter analyses decision making in food aid, and reviews the experience in Guinea with refugee registration, with assessment of the nutritional situation, and with food aid.

A rational basis for deciding on food aid?

THE DECISION-MAKING PROCESS. Figure 16 represents the essential ingredients and the logical sequence of what would be a rational basis for decision making in food aid. Assessing the number of refugees usually requires

refugee registration through an exhaustive census, but is often based on guesstimates. Humanitarian agencies usually carry out anthropometric surveys to know the nutritional status of the refugees. Information on the number of refugees and their nutritional status, together with expertise in food aid, yields an estimate of the food needs of the refugees. Based on this knowledge decisions on food aid are taken (quantity and quality of food needed, modes of purchase, transport and storage, distribution channels and control methods). When implemented, these decisions result in distribution of food aid to refugees to improve or maintain their nutritional status. Periodic anthropometric surveys and checks on refugee numbers allow for monitoring feedback of the situation, and adjustment of decisions.

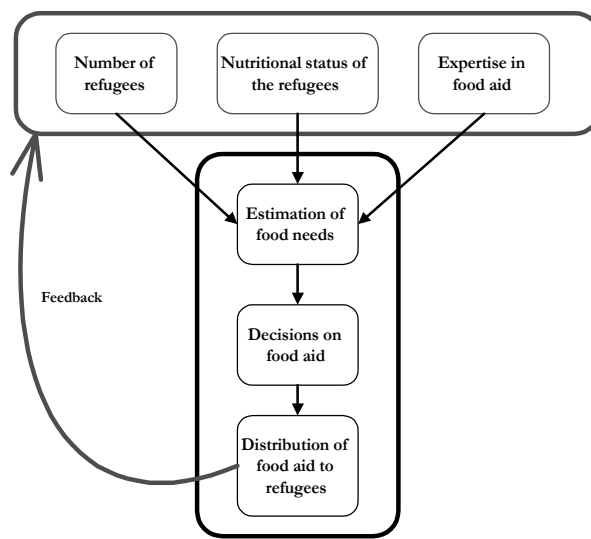


Figure 16: Decision making in food aid for refugees

CLOSED VS. OPEN SYSTEMS. For food aid to refugees, or to 'beneficiaries' more in general, there are two possible situations. The beneficiaries may be considered living in a closed system, cut off from the rest of society, entirely dependent on food aid and in need of full rations. This is the case in isolated refugee camps, where refugees have no access to land or labour opportunities. Alternatively, the beneficiaries may be considered living in an open system, partially self-sufficient, and thus only partially dependent on food aid.

In the situation of complete dependence, decisions on the quantity of food aid needed are relatively straightforward. All beneficiaries need a 'full ration' of 2,100 kcal per person per day, with a minimum of 10% of calories supplied by protein, and the essential micronutrients. The need for food aid does not decrease with time, and does not depend on the season or on good or bad harvests. The only important variable is the number of refugees, which may change with new arrivals or departures. Refugee registration has thus to be updated regularly. If food aid is delayed or insufficient, in quantity or in quality, nutritional problems, particularly micronutrient deficiencies,²⁹ soon appear.^{30,31}

When refugees are only partially dependent on food aid, as was the case in Guinea, decisions are more difficult. Insights in the availability of food in the society at large, and in the degree of self-reliance of the refugees, are needed to estimate the quantity of food aid needed, and the groups in need. The general refugee population and those identified as being vulnerable, often receive different rations. Coping mechanisms and needs of refugees evolve over time. Knowledge on local food production and local markets should play a role in decisions on food aid. If, however, the food distributed lacks essential micronutrients, this rarely causes problems. If food aid is delayed, this does not immediately lead to widespread malnutrition, as refugees have other coping mechanisms.

DEVELOPMENT ACTORS & RELIEF ACTORS. In comparison with most other refugee situations the number of different actors involved in the relief system in Guinea was fairly limited. During the first months of the refugee influx, the role of central government, UNHCR and WFP was minimal. UNHCR and WFP, who have an international mandate in refugee situations (Box 2), progressively played a more prominent role.

Medical aid to the refugees was mainly developed and carried out by the regional office of MOH and those agencies that were already assisting MOH before the refugee crisis: MSF, *Mission Philafricaine* and GTZ. The situation as regards food aid was more complex. Specialised agencies started operations in the Forest Region to implement food aid for the refugees. UNHCR and WFP took the lead. Also Red Cross,* the refugee committees,[†] and several NGOs intervened at various steps in the process (Figure

* The Guinean Red Cross was not active in the Forest Region before the arrival of the refugees. In 1990, it recruited volunteers, and started operations assisted by the Federation of Red Cross Societies. In the text, 'Red Cross' means 'Guinean Red Cross, assisted by the Federation'.

[†] Throughout the refugee-affected areas, UNHCR set up elected refugee commit-

17). UNHCR, Red Cross and the government were involved in the registration of the refugees. MOH and the medical agencies assessed the nutritional situation. With this information, and using their expertise, UNHCR, WFP and the government estimated the food needs. These same actors, together with the donors, decided on food aid. The different implementing agencies influenced decisions on practical modalities in their respective fields. WFP imported and transported food aid to regional stores. Adventist Development and Relief Agency (ADRA), and later GTZ, managed regional stores and transported food to local stores and distribution points. The Red Cross, in collaboration with local refugee committees, distributed the general food rations to the refugees. *Eglise Protestante Evangélique* and Jesuit Refugee Service targeted unregistered and vulnerable refugees. MOH and the medical agencies organised feeding programmes for malnourished children. Logistic constraints and lack of commitment of donors often prevented that decisions were effectively materialised.

MOH and its field partners were already operational in the Forest Region before the arrival of the refugees, but had to expand considerably their staff and logistic means for PARLS. All other agencies came to Guinea, especially to assist the refugees. This influenced their attitude, judgements, priorities and time-perspective. The agencies already present had development of the Forest Region as primary objective. They can be called 'development actors'. These agencies perceived the refugees first as an unplanned interference with their development activities. For the other agencies, the 'relief actors', refugee relief was their prime objective. For them, relief aid had, somehow, to be inserted in the host society. Even within agencies, especially MSF, these two types of logic co-existed, and sometimes conflicted

tees as representatives for the refugees. But the election process was not clear to most refugees, and many thought that the members of the refugee committees had been appointed by UNHCR and were receiving benefits from UNHCR for sitting on the committee. Many refugees felt that the refugee committees were part of an alien bureaucracy ('the refugee system') and did not serve the interests of the refugees.⁵³

Box 2: UNHCR's central position in the refugee system

After the first World War, with the construction of strong nation states in East Europe and the large flow of refugees this caused, an international refugee regime was created in Europe.³² Since then, international conventions have consolidated this regime, and UNHCR has been created. It received an international mandate to protect and assist refugees worldwide.³³ UNHCR works in close collaboration with host governments, who remain sovereign on their own territory. For food aid, UNHCR collaborates with WFP. WFP is responsible for purchasing and transporting food, while UNHCR is responsible for food distribution and assessment of the needs. UNHCR and WFP usually establish contracts with implementing partners. In refugee situations in sub-Saharan Africa, international humanitarian organisations (e.g. Oxfam, MSF, Caritas, Red Cross associations, &c) and NGOs of the host country play an increasingly important role, at the expense of national governments. In some refugee situations, there are tens of NGOs, many of them active in a limited sector (e.g. health, education, care for unaccompanied minors, &c.). UNHCR and the host government co-ordinate activities, but each NGO has somehow its own motives, agenda, institutional logic and timeframe.

CO-ORDINATION. UNHCR established an office in the capital, Conakry, to co-ordinate its activities in Guinea, and to consult the central government. In Conakry, a national refugee co-ordination committee was established, representing different ministries and law enforcement agencies. This committee decided to limit refugee assistance to the Forest Region. Beyond that, its role remained limited. The regional government and UNHCR assumed overall responsibility for PARLS in the Forest Region. UNHCR established sub-offices in N'Zérékoré and Guéckédou, and held regular co-ordination meetings with relevant government bodies and implementing partners. These meetings served mainly to inform the Guinean authorities on developments within PARLS. In each prefecture, the prefect was theoretically responsible for PARLS. However, in practice, the foreign agencies often called the shots.

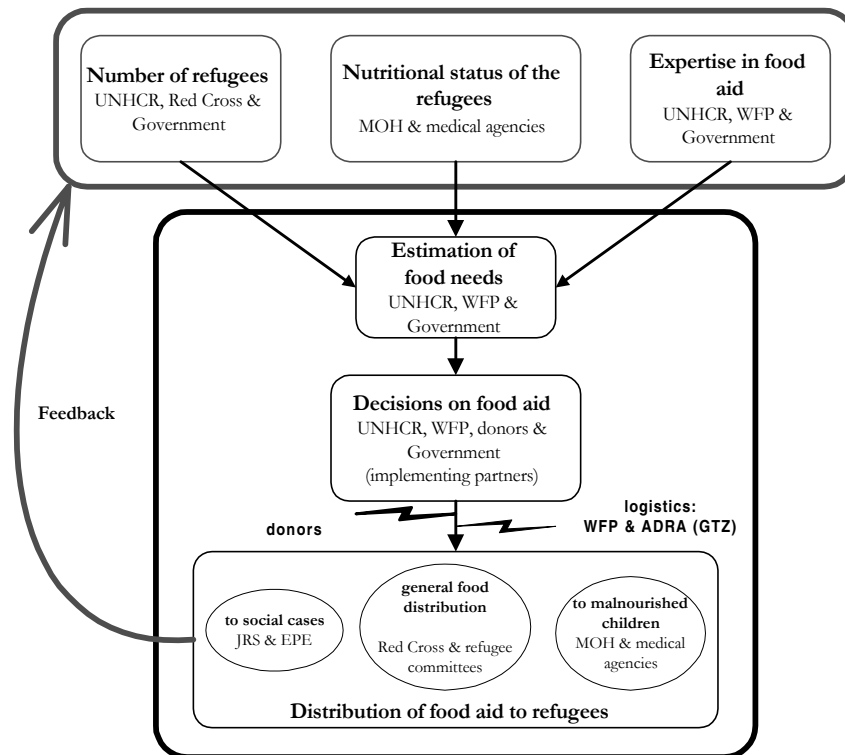


Figure 17: Actors in food aid in Guinea

Refugee registration

Although this has been challenged²¹ refugees are commonly counted registered, both for identification and protection, and for material assistance. For humanitarian agencies, counting the refugees and establishing the 'refugee caseload' is central in planning and fundraising, and for their accountability.³⁴ UNHCR has a mandate to protect and assist refugees, and systematically distinguishes between refugees and hosts. Also in Guinea, registration and ration cards were central to the refugee system. However, the fact that most refugees self-settled among the host population, spread over a large area and were very mobile, both within and across state borders, complicated registration considerably. The registration process evolved over time (Figure 18).

LOCAL COUNCILS. In early 1990, local councils counted the number of refugees arriving in their administrative territory. During the first months, there was probably no deliberate exaggeration of actual refugee numbers, only a lot of confusion. When refugees passed through one village and settled in the next, they were often registered twice. When the local councils forwarded new data, it was often unclear whether this concerned new arrivals or updated totals, whether it was the total number of refugees, or the number of households. Later, when UNHCR announced that quantity of food aid would depend on the number of refugees, numbers were inflated, sometimes openly increased during meetings. At that time, the UNHCR official leading the assessment mission tolerated, if not encouraged this. Early 1990, the refugee-influx in Guinea was occurring without media attention and without interest of the international community. UNHCR had to find arguments to make a case for the Guinean refugee crisis. In the absence of any dramatic emergency, only numbers could convince.

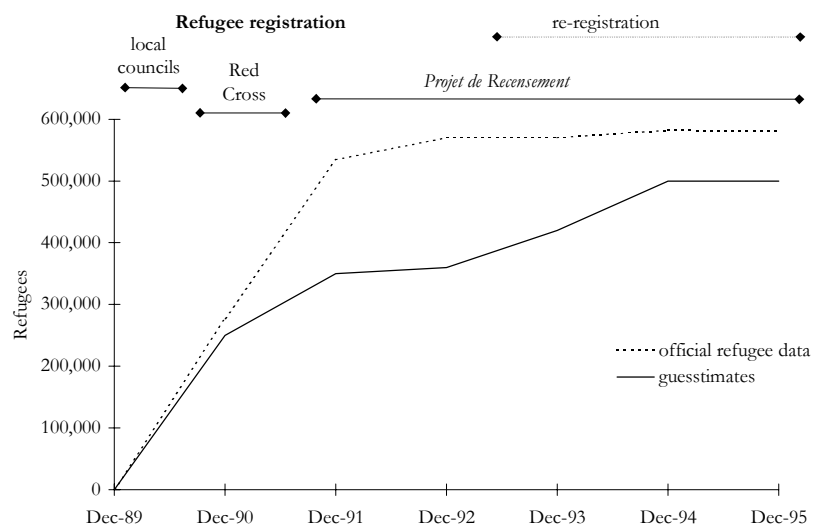


Figure 18: Refugee registration: official data vs. guesstimates, 1990-95

RED CROSS. In April-May 1990, UNHCR needed a more reliable refugee registration for distribution of food aid, and asked the Red Cross to register refugees, and deliver ration cards. In the Red Cross registration system, refugees had to constitute groups of 50, which were then registered as a

group. Each head of household within the group of 50 received one ration card. These ration cards – commonly called rice tickets – served mainly to verify the authenticity of refugees' identity during food distributions, and to obtain free medical care.

PROJET DE RECENSEMENT. In 1991, UNHCR and the Ministry of Planning established the *Projet de Recensement* to improve refugee registration. Despite the recognition of structural problems in the Red Cross system, the *Projet de Recensement* largely adopted the Red Cross data and continued to implement their registration system with little modification.

FALSE POSITIVES. Since the start of food distribution, refugee registration had entitled all refugees to food rations, without any assessment of need. Part of the problem with registration was that there was only one system, combining identification, registration and entitlement to benefits in one process and on one card. As registration was mainly a means to get access to food aid, there were incentives to register multiple times. This has also been observed elsewhere.^{17,34} In 1991, a report highlighted major problems with the registration system. There were duplicate registration numbers, altered cards, cards with no names and forged cards.³⁵ * Heads of families registered multiple times, married women registered as heads of households and English-speaking Guineans registered as refugees. The registration teams were also under pressure from local influential Guineans to register Guinean families. Refugees deciding to return to their country, often left their ration card with their hosts or fellow refugees, or sold it. At certain moments, there was a real market in ration cards. Such individual abuses were, however, insignificant compared with the massive fraud committed by merchants and government officials. Some owned dozens of ration cards for 50 beneficiaries each. It was rumoured that they were registered for FG5,000 (US\$5) per card.³⁶

FALSE NEGATIVES. Despite these false positives some *bona fide* refugees were not registered. In 1995, one NGO conducted a house-to-house survey and found that about 15 per cent of the total refugee population was unregistered and did not receive food assistance.³⁷ Some refugees claimed that officials had removed them from assistance lists without explanation or had refused to register them, unless they paid a bribe.³⁶ Officials asserted that such claims were a method refugees used to register multiple times. Regis-

* UNHCR found many cards with identical lists, figuring the 50 same names, others were composed of fictive names (e.g. 50 jazz musicians).

tration of new arrivals was also problematic. To reduce the possibility for families to register multiple times, refugee registration was often stopped and periodically resumed to register large influxes of new refugees. Small groups of new arrivals could not get registered. Later, UNHCR even decided not to register new arrivals unless they agreed to relocate in refugee camps (Box 1, page 51).

RE-REGISTRATIONS. From late 1993 on, UNHCR decided to proceed to re-registrations. Registration officers went on very short notice to refugee settlements, called all heads of households and verified registration.* After each re-registration, however, there were many complaints from genuine refugees that they had been barred on arbitrary criteria. Most notably, refugees registered in certain settlements, but not physically present during re-registration, were barred from the lists. The result of these re-registrations was a decrease in the overall number of beneficiaries, mainly in the cities. However, many false refugees continued to have ration cards, as they bribed the registration officers to remain registered.

OFFICIAL REFUGEE DATA VS. GUESSTIMATES. The official refugee data suffered from these shortcomings in refugee registration. During 1991 official numbers of refugees in N'Zérékoré city increased considerably, although no new refugees had arrived. Between 1992 and 1995, the official number of refugees remained stable around 570,000 - 580,000 (Figure 18), although 150,000 new refugees arrived during this period, and there were only few official repatriations. During 1996, considerable numbers of refugees returned to Liberia. Official refugee data did not adequately reflect this either. Figure 18 compares official refugee data with guesstimates, based on observed refugee influxes and discrepancies between registration data and survey data. During 1991-93, it was estimated that up to one-third of all registrations were false, in the cities this was close to 50%.

FOOD FRAUD. The false registrations resulted in massive misappropriation of food aid by Guinean merchants.† This food was sold on the markets and

* This verification was done in different ways. Sometimes the head of household was requested to name all dependants, and this was checked-off against the initial registration data. At other occasions, the groups of 50 beneficiaries had to be present physically.

† Some Guineans also used refugee rations cards to obtain free medical care in health centres and hospitals, where they had to pay. However, reports on such abuses remained anecdotal. Health care can indeed only be consumed by one individual at a time. Moreover, in the process one gets registered and is observed by

depreciated the rice price. Misappropriation of food aid discredited PARLS in the eyes of donors, relief agencies, and even the refugees. This bad reputation was probably the main cause for the reductions in food aid imposed during 1994-95, which resulted in real famine in certain rural areas in 1995. By 1995, re-registration and a stricter registration system had corrected much of the false registrations, but by then PARLS had acquired its bad reputation. This bad reputation probably created the mind-set for UNHCR officials to impose new arrivals to settle in camps, so as to separate them from the old refugees.

Assessing the nutritional situation

Next to counting and registering refugees, the other classical ingredient of decision making in food aid is the assessment of the nutritional situation. This is generally considered a priority in unstable situations.^{38,39} In refugee camps, humanitarian agencies routinely perform standardised anthropometric surveys to assess the prevalence of malnutrition among the refugees.²⁶ In more open refugee situations anthropometric surveys are not considered sufficient, and availability of food should also be evaluated to get insight in the overall nutritional situation.¹⁹ Assessing the nutritional situation is supposed to help decision-makers to estimate food needs, and thus make appropriate decisions on how much food should be provided, to whom and through what channels.

ASSUMPTIONS. Figure 19 shows how the information gathered was to inform decision making. The underlying assumptions were: (1) that anthropometric methods would produce valid indicators of the extent and trend of malnutrition in the community, and (2) that together with the data from the refugee registration, and insight in the local food economy ('expertise in food aid') this would lead to correct estimation of food needs and good decisions on food aid for the refugees. These assumptions were rarely made explicit, and their validity can be questioned.

health workers and other patients, who are not part of the refugee system, and often disapprove abuses. Anyhow, no actor in the refugee system ever considered that misuse of ration cards to obtain free medical care constituted a serious problem.

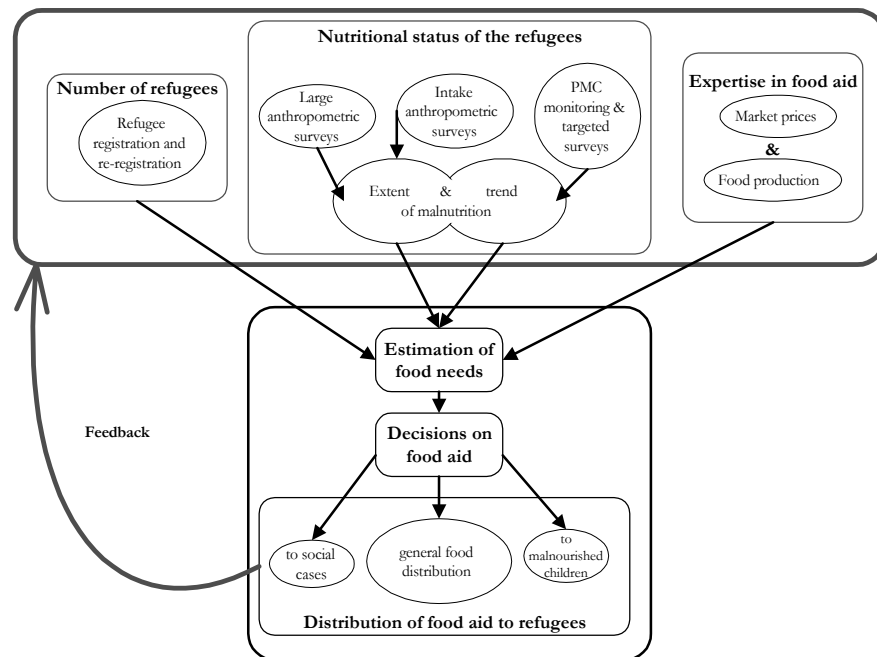
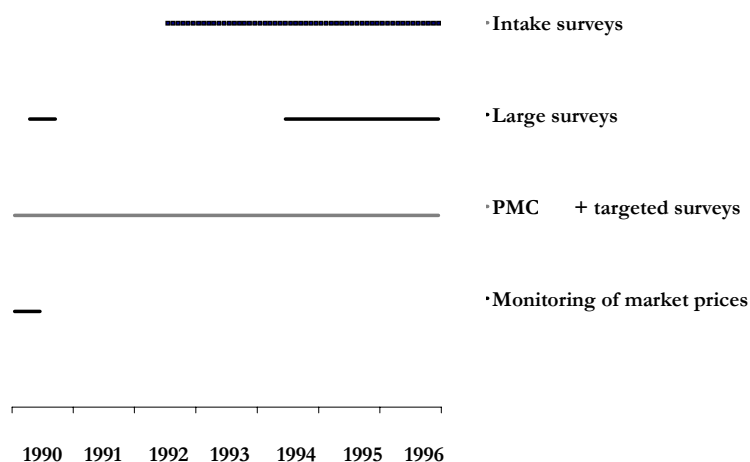


Figure 19: Presumed relations between nutritional assessment and food aid in PARLS

THE SEARCH FOR APPROPRIATE APPROACHES. The approaches used evolved over time (Figure 20). Throughout 1990-96, MOH, MSF and the other actors have been trying to find the best approach for measuring the extent and trend of malnutrition, and the availability of food. In the beginning of PARLS, market prices of food commodities were monitored as an indicator of the evolution of food availability in the community. The collection and interpretation of data met with serious difficulties, and was abandoned after a few months.

In terms of anthropometry, three approaches were used to gather relevant information: (1) large cross-sectional anthropometric surveys, (2) intake anthropometric surveys of new refugees, and (3) monitoring of the proportion of malnourished children at the curative clinic (PMC monitoring) followed by small targeted anthropometric surveys. Table 11 summarises the anthropometric methods used. At no point in time, the 'relief actors', be they UNHCR, WFP or NGO field staff, nor the 'development actors' were fully satisfied with the approach used.



PMC = monitoring of the proportion of malnourished children at the curative clinic

Figure 20: Methods used to assess the nutritional situation, 1990-96

The use of different anthropometric methods and indicators over the years illustrates the continuous search for the best approach to nutritional assessment. It is also an illustration of the conceptual and practical difficulties that arise when 'development actors' and 'relief actors' work together, and have to find compromises between their different types of logic. The nutritional information gathered through considerable efforts rarely supported decision making, and mainly served as a *post hoc* justification of decisions already made. The following section will describe and discuss the different assessment methods used and the results this yielded.

MONITORING OF MARKET PRICES

In early 1990, shortly after the arrival of the first refugees, MOH and MSF feared an imminent food shortage. Since prevalence of malnutrition is only a late indicator of a deteriorating nutritional situation, they tried to monitor market prices for the most common food commodities: rice and palm oil. This was in line with the Famine Early Warning Systems in use in drought-prone Sahel countries. In the Sahel, the ratio of grain price over cattle price – e.g. the price of 50 kg of millet over the price of a goat – has proven a useful indicator of food shortage. When food becomes scarce, cattle-owners

start selling livestock and get decreasing quantities of grain in exchange.^{8,40} Inspired by this experience, MSF tried to monitor retail prices of rice and palm oil.

<i>Objective</i>	<i>Method</i>	<i>Criterion for malnutrition in a child^a</i>	<i>Indicator for prevalence of malnutrition</i>
Assess the extent of malnutrition in the community	Anthropometric surveys of children between 6 and 59 months; ^b cluster sampling or exhaustive surveys	Four different criteria have been used: <80% median W/H, or oedema <-2 z-score median W/H, or oedema MUAC <12.5 cm, or oedema 2-stage MUAC-W/H: first, MUAC for all children, followed by W/H for those <13.5 cm, or oedema	Proportion of children in sample fitting criterion for malnutrition
Monitor the trend of malnutrition in the community	PMC monitoring: W/H of children between 6 and 59 months, consulting at curative clinic	<80% median W/H, or oedema, using the W/H chart	Proportion of malnourished children at curative clinic (PMC)

W/H = weight-for-height; MUAC = mid-upper arm circumference. ^a The pros and cons of W/H vs. MUAC, nor the merits and disadvantages of the W/H chart will be discussed in this text. ^b If age was not known exactly, as was often the case, children between 65 and 110 cm of height were included. Wherever is stated in the text 'children between 6 and 59 months' it means, in practice 'children between 65 and 110 cm'.

Table 11: Anthropometric methods used for nutritional assessment in PARLS, 1990-96

MSF officers visited the local markets in the refugee-affected areas on a weekly basis, but faced many practical difficulties to collect market prices that could be compared over time and between markets. Receptacles of different sizes and shapes were used as measuring units. The price might remain the same, but the size of one unit ('a cup') changed. The data showed a hectic evolution of prices. On a single day, for instance, palm oil could cost twice as much at one village market than at another; or prices could rise by 50% one week and drop again the next week. To what extent

this instability of prices was real, or only reflected the practical difficulties faced by the officers who collected the data remains unclear. Despite the difficulties faced, it was clear that no systematic and sustained increase of food prices took place between January and May 1990, and this despite the fact that over 100,000 refugees had settled and no food had been distributed.

This stability of market prices was in sharp contrast with expectations. All remained convinced that a serious food crisis was forthcoming. The discrepancy between the perceived severity of the situation, and the apparent insensitivity of the market prices was explained as follows. Some thought that refugees did not purchase any food, but consumed exclusively food from Guinean household stocks. This would result in accelerated depletion of household stocks, but without increased demand on the market. It would then only be a question of time for major problems to arise. Others thought that the refugees actually faced food scarcity, but as they had neither cash nor livestock to exchange for food, there was, in economical terms, no demand.

SUBSISTENCE VS. MARKET ECONOMY. In actual fact, monitoring of market prices of commodities such as rice was probably not an appropriate tool in the Forest Region, which apparently has two parallel food economies: a subsistence food economy and a market food economy. This was definitely so for rice, maybe less for palm oil. Guinean subsistence farmers grow, store and consume their own rice, and have almost no livestock, or other marketable commodities that can be sold or exchanged in times of food shortage. When faced with a food shortage, people either limit food intake or borrow food, having then to reimburse 2 or 3 times the quantity after the next harvest.* Thus food shortage in families does not necessarily cause price increases on the markets. Rice markets in towns concern mainly imported polished rice sold by merchants to urban dwellers who do not farm. As soon as food aid was started in Guinea, market prices for rice collapsed, as part of the food aid was misappropriated and sold on the markets in the cities.

Rural refugees integrated in the rural economy. Most took part in the subsistence farming system, somehow 'subsidised' by food aid, once this became available. Urban refugees, on the other hand, linked up predomi-

* Food borrowing also became a common coping mechanism for refugees later, when food distributions were delayed. When finally food aid arrived, the indebted refugees had to hand over a large share of it to 'food lenders' and entered a vicious circle of indebtedness and impoverishment.

nantly with the market economy, where prices were very sensitive to food aid. Monitoring of market prices was thus not only practically difficult, but it also revealed only part of the reality and was not very relevant for the rural refugees. In the political discourse of UN agencies and donors, the low rice price on the market was considered as clear evidence for the harmful effects of food aid for local farmers. However, in the Forest Region, most farmers do not sell rice, but rely for cash on coffee and kola nuts.* Low prices for rice were seen as harmful for local farmers, while this was never substantiated; it was more an indicator of the quantities that were misappropriated. The bottom line was that low market prices were a setback for those who misappropriated food aid and a welcome feature for those living in the towns, Guineans and refugees alike.

The scarce data on market prices that were collected in Guinea showed that to interpret them several conditions have to be met. First, one needs a good understanding of the local economy, including knowledge of who is producing, importing, selling and purchasing which food commodities. Without these insights one falls quickly in the oversimplification that high prices for basic food commodities means difficult access to food for the poor, and that low prices mean a drawback for the farmers. Second, it is necessary to interpret market prices in the frame of the agricultural calendar of the area. Third, a simple indicator, similar to the one used during droughts in the Sahel (price of staple food / price of livestock) is not available (yet?) for a forest economy. In this context, it is not surprising that the monitoring of the prices of food commodities yielded inconclusive results, and the decision to stop it was probably correct.

PMC MONITORING

WEIGHT-FOR-HEIGHT SCREENING. From the very onset of PARLS, weight-for-height (W/H) screening, using the Nabarro thinness chart, was introduced for children between 6 and 59 months consulting at the curative clinic.^{41,42} The nurse in charge of the curative clinic referred severely malnourished children (<70% median W/H, or oedema) for enrolment in a therapeutic feeding programme. Moderately malnourished children (70-

* Prices for the prime cash crops, kola nuts and coffee, were never monitored, as they were not considered essential commodities. Kola nuts in the Forest Region are purchased by Mandingo merchants and transported to Upper Guinea, Mali, Senegal, and further north and east. It is likely that over 1990-96, due to the instability in the other production areas in Liberia and Sierra Leone, prices went up in Guinea. This possibly had a greater impact on farmers' income than the price of rice.

79% median W/H) entered a supplementary feeding programme, and received a weekly take-home supplementary food ration.

MONITORING. MOH and MSF thought that the proportion of malnourished children at the curative clinic (PMC) could also serve as an indicator of the nutritional situation of the population in the catchment area of the health facility. They thought that using anthropometric surveys sparingly, guided by the results of routinely collected health service data (PMC) was a more cost-effective approach to nutritional monitoring than relying heavily on periodic anthropometric surveys.⁴³ W/H of each child was thus registered on a tally sheet. At the end of each month, the proportion of malnourished children (<80% median W/H; brown or red on the Nabarro chart) among all children weighed was calculated. This yielded the PMC of the health facility. At the PARLS co-ordination offices, the PMC of all health facilities in one prefecture were pooled to calculate the PMC of the prefecture. The basic idea of PMC monitoring was that its trend would follow the trend of the nutritional situation of the community, even if it would overestimate the prevalence because of the 'vicious circle infectious diseases-malnutrition'.⁴⁴⁻⁴⁶

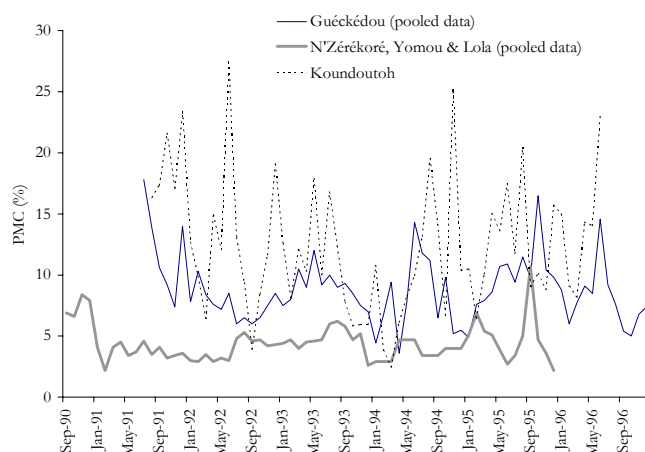


Figure 21: PMC monitoring, 1990-96

RESULTS. In some health facilities, the PMC remained stable over long periods. In many health facilities, however, monthly PMC followed a hectic course: e.g. Koundoutoh health post in Figure 21. Targeted anthropometric

surveys in the catchment area of the health facilities showed that most steep increases in PMC were false alerts. These false alerts were due to chance occurrence, periodic active screening of thin children by the health animators, negligence during W/H measurements and calculation and transcription mistakes. PMC with pooled data were more consistent (Figure 21). PMC for N'Zérékoré, Yomou & Lola remained stable between 2.2% and 6.2% for almost 5 years. In Guéckédou, PMC was always higher, and rose steeply during June and July in the 'famine season'.

USEFULNESS. PMC with pooled data yielded monthly information on the trend of malnutrition in the community. Such information could not be obtained through anthropometric surveys, as these were too resource consuming to be done at monthly intervals. It was necessary, however, to strictly standardise the data collection in the health facilities. Instructions to weigh all children consulting, even those visually well-nourished, and to weigh but not register for PMC monitoring thin children attending a vaccination session, did not easily fit in the patient-care logic of clinic staff. As PMC was the only indicator available monthly, it was sometimes used as 'the malnutrition rate'. This was clearly wrong. Moreover, PMC was not always higher than prevalence of malnutrition assessed by anthropometric surveys, as would be expected. It was sometimes considerably lower. Registration of the absolute number of malnourished children consulting health facilities yielded similar information (Figure 22) and was less prone to errors.

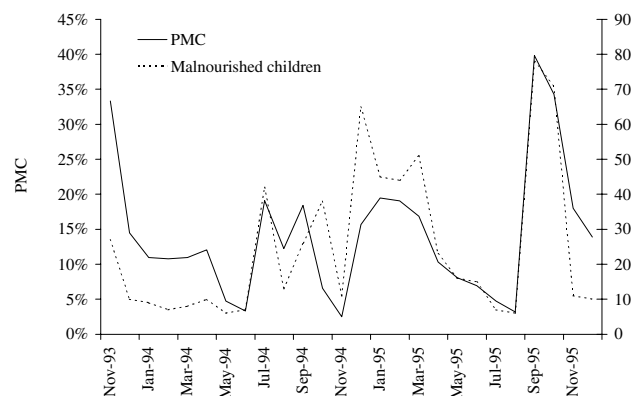


Figure 22: Malnutrition at the curative clinic, Diecké health centre, 1993-95

PMC monitoring made it possible to avoid a number of anthropometric surveys during 1990-94, when the situation was relatively stable. It did, however, not fully satisfy decision-makers who continued to request state-of-the-art anthropometric surveys.

ANTHROPOMETRIC SURVEYS

PARLS conducted many anthropometric surveys, with different sampling methods, anthropometric indicators, cut-off points (Table 11, page 76), and overall inconclusive results. The use of anthropometric surveys in PARLS changed over time.

1990: INITIAL ANTHROPOMETRIC SURVEYS. In early 1990, when despite repeated appeals the start of food aid was delayed, MOH and MSF thought food shortage was imminent. Although market prices and PMC monitoring did not show any worrying trends, these data could not calm the fears. MOH and MSF remained convinced that refugees were facing acute food stress and thought the monitoring systems were inadequate.

In March 1990, they therefore decided to carry out anthropometric surveys in the refugee-affected areas. They chose a cluster-sample method similar to the EPI survey method.⁴⁷ 90 clusters of 7 children each – 30 in each of the three sub-prefectures hosting refugees at that time – were surveyed, including refugees and Guineans. Weight and height were measured⁴¹ and the percentage of the median W/H of the NCHS/CDC/WHO reference population calculated for each child.²⁶ The results showed that prevalence of malnutrition was 3.1% (95% CI: 1.4-4.8), without significant differences between the three areas surveyed, or between refugees and Guineans. All parties involved were surprised by this unexpectedly low prevalence.* MOH and MSF concluded that malnutrition had not yet increased, and that there definitely was no need for a supplementary feeding programme. Despite these findings, they remained convinced that family food stocks were decreasing, and that the nutritional situation would soon deteriorate.

In May 1990, a CDC officer carried out a new anthropometric survey with 30 clusters of 30 children.⁴⁸⁻⁵⁰ This survey yielded a prevalence of malnutrition of 8.0% (95% CI: 5.5-10.5), again with no significant difference

* In 1991, a nation-wide anthropometric survey found 4.7% of children <80% median W/H in the Forest Region, compared to 11.5% for the whole of Guinea. Stunting instead was relatively more frequent in the Forest Region (41.6% compared to 31.6% for the whole country).

between refugees and Guineans. These results were interpreted as clear indication that the expected food shortage had finally started. MOH and MSF lobbied the different UN agencies to speed up their food aid. At that time, neither market prices nor PMC indicated a deterioration of the situation. The fact that CDC had calculated prevalence of malnutrition using <-2 z-score median W/H as cut-off point, whereas the previous prevalence was based on $<80\%$ median W/H, went unnoticed. The rates were not comparable. Re-analysis of the CDC data using $<80\%$ median W/H as cut-off point, gives a prevalence of only 5.3 % (95% CI: 3.2-7.4), which is not significantly different from the results of March 1990 (Table 12).

By July 1990, refugees received food aid on a regular basis. When WFP supplies food to refugees, they request implementing agencies to conduct three-monthly anthropometric surveys according to standard guidelines.^{26,51} EPINUT software⁵² is designed to analyse the survey data. In July 1990, MSF thus conducted a new survey in the same refugee-affected rural areas. It showed that prevalence of malnutrition was 5.3% (95% CI: 3.2-7.3), which was again not significantly different from the previous surveys (Table 12).

Date	Sampling method	Criterion for malnutrition	N	Prevalence of malnutrition	
				%	95% CI
March 1990	90 clusters of 7 children	$<80\%$ median W/H	795	3.1	1.4-4.8
May 1990	30 clusters of 30 children	$<80\%$ median W/H	906	5.3 ^a	3.2-7.4
July 1990	30 clusters of 30 children	$<80\%$ median W/H	900	5.3	3.2-7.3

^a If calculated for <-2 z-score median W/H, the result is 8.0 % (95% CI: 5.5-10.5)

Table 12: Anthropometric surveys, March – July 1990

1990-92: RELIANCE ON PMC MONITORING RATHER THAN ON SURVEYS. After these surveys, MOH and MSF realised that anthropometric surveys consumed a lot of time and energy, without yielding conclusive evidence. When WFP and UNHCR again requested anthropometric surveys to provide them with ‘the malnutrition rate of the refugees’, MSF considered this inappropriate. Both MSF and MOH argued that one large anthropometric survey was useless as it would mask differences between the different types of refugees, rural and urban, and would be difficult to interpret. They resisted the pressure of WFP and UNHCR, but decided to continue PMC monitoring to detect trouble spots. They intended to perform surveys only when and where PMC would increase significantly. However, WFP and UNHCR did not easily accept this since they needed survey re-

sults for accountability reasons.

1992-95: INTAKE ANTHROPOMETRIC SURVEYS. During 1992-95, the small waves of late refugees arrived, and those were often in a poor general condition. Upon arrival, an exhaustive anthropometric survey was performed as part of the initial assessment. In the beginning, this was done using W/H, but as of 1995, surveys would use mid-up arm circumference (MUAC) as anthropometric indicator, with 12.5 cm as cut-off point. This faster method made it easier to include all children in a particular refugee group in a single day. Such surveys were often subject to selection bias, since parents often started bringing more children as soon as they noticed the survey activities.* Bias, accuracy and confidence intervals were considered to be of little importance, as prevalence of malnutrition was often very high indeed (Table 13), and food was urgently needed anyhow. What the NGOs and MOH wanted was an 'objective' criterion to be able to report statements such as 'malnutrition rate is over 20%', to convince decision-makers in WFP and UNHCR of the need to assist the new refugees as a matter of urgency. After such results, usually a first distribution of food could take place within only days.

* Maybe they hoped that registration of their child on the health workers' list would entitle it to food rations. Community leaders maybe thought that a high prevalence of malnutrition in the community would encourage relief agencies to favour their community in any future distributions. *Action Contre la Faim*, however, used MUAC in a more systematic way, insisting to assess all children, and returning on the following day to measure children absent during the survey.

Place	Date	Sampling method	Criterion for malnutrition	N	Prevalence of malnutrition	
					%	95% CI ^a
Nyaedou	Aug 1993	Exhaustive	<80% med W/H	143	18.9	13.8-25.3
Koyamah	Nov 1993	NA	<80% med W/H	185	20.0	15.9-24.8
Brebezou	Nov 1993	NA	<80% med W/H	121	18.2	11.9-26.6
Nyaedou	June 1994	NA	<80% med W/H	299	24.4	19.7-29.9
Betha	Febr 1995	Exhaustive	<80% med W/H	NA	14.7	--
Boodou	Febr 1995	NA	NA	NA	13.9	9.9-19.2
Bheta	Aug 1995	Exhaustive	<80% med W/H	NA	16.4	--
Bassedou	Aug 1995	Exhaustive	<12.5 cm MUAC	160	23.1	--
Sowatou	Aug 1995	Exhaustive	<12.5 cm MUAC	135	16.3	--

NA = not available; W/H = weight-for-height; MUAC = mid-upper arm circumference. ^a As original data were not always available, confidence intervals were not recalculated to verify accuracy. Confidence intervals were sometimes calculated, despite the fact that the survey was exhaustive.

Table 13: Examples of small anthropometric surveys in newly arrived refugees, 1993-95

1994-96: REVIVAL AND FALL OF LARGE ANTHROPOMETRIC SURVEYS. In 1994, pressure from WFP and UNHCR led MSF, *Action Contre la Faim* and MOH to conduct again a series of large cluster-sample surveys. WFP and UNHCR said they needed survey data to plan food aid for the following year. MSF agreed, because they had doubts about the basic assumption of WFP and UNHCR that refugees registered in 1990-93 ('old' refugees) were less in need of food aid than those registered in 1994-95 ('new' refugees). The planning for future food aid needs was based on this assumption. Aid to 'old' refugees would be rapidly phased out, providing only food assistance to the vulnerable ones among them, while 'new' refugees would continue receiving food aid. In February 1995, anthropometric surveys showed that within geographical areas, no significant differences in nutritional status between 'new' and 'old' refugees existed.⁵³ Beyond the initial period of a few months, time of arrival was not an important determinant of degree of self-sufficiency.^{54,55} Instead, prevalence of malnutrition among refugees living in real camps was considerably higher than among those not living in camps, and this independently from year of arrival.^{56,57} In Yomou prefecture, for instance, prevalence of malnutrition in Noonah camp was 14.4%, and in Bheta camp 14.7%, while in the rest of the prefecture it was only 4.3%. These results, however, did not influence the decision to distribute differential rations, based on year of registration: 'old' and 'new' refugees.

During 1995, quantities of food distributed were very low. This resulted in increasing PMC in the health facilities and a growing number of malnourished children in feeding programmes. UNHCR and WFP claimed to be in need of more objective information, meaning real surveys taking clusters over the whole refugee-affected area. MOH and MSF thus had to perform them. The results of some of these large surveys are shown in Table 14.

Place	Date	Sampling method	Criterion for malnutrition	N	Prevalence of malnutrition % 95% CI	
Macenta	Nov 1995	cluster	<-2 z-score med W/H	935	6.0	4.0-8.7
Macenta	July 1996	cluster	<-2 z-score med W/H	890	4.8	3.1-7.4
Guéckédou	July 1996	cluster	<-2 z-score med W/H	1,722	8.4 ^a	6.6-10.3

^a Prevalence of malnutrition was 10.6% (95% CI: 7.9-14.0) among refugees and 6.1% (95% CI: 4.1-9.0) among Guineans.

Table 14: Large anthropometric surveys, 1994-96 (not exhaustive)

Not surprisingly, the overall prevalence of malnutrition was not particularly worrying. It was obvious that the problems were concentrated in the small number of real refugee camps, and in areas with a very high concentration of refugees. The large anthropometric surveys could not easily detect this, as they resulted in an average prevalence of malnutrition for larger areas. Smaller, targeted surveys were carried out in the problem areas and these confirmed the existence of pockets with high prevalence of malnutrition (e.g. Fangamadou 12.6% and Koundoutoh 15.7%).

1996: PERIODIC EXHAUSTIVE ANTHROPOMETRIC SURVEYS IN SENTINEL SITES. When *Action Contre la Faim*, a specialised nutrition NGO, took over the nutritional programme from *Mission Philafricaine* in Macenta prefecture, they were not satisfied with the anthropometric data available. In 1996, they chose a few refugee settlements as sentinel sites and conducted bi-monthly exhaustive 2-stage MUAC – W/H surveys of children between 6 and 59 months. This method yielded a precise prevalence of malnutrition in the sentinel sites. Soon, however, a bias was introduced. In the sentinel sites all malnourished children were identified, and were then, of course, included in feeding programmes. After two rounds, prevalence of malnutrition (<-2 z-score median W/H) in the sentinel sites fell below 2%. The sentinel sites were no longer representative of the rest of the prefecture.

This method was resource-intensive, and did not yield the information it was set up for.

THE LIMITATIONS OF ANTHROPOMETRIC SURVEYS

LARGE CROSS-SECTIONAL VS. SMALL TARGETED SURVEYS. The large anthropometric surveys were resource consuming, but rarely informative. One of the reasons was that most refugees could cope relatively well, even when food aid was delayed. Problems were concentrated in a few pockets. During large anthropometric surveys, these smaller problem areas were hidden in the overall picture. Smaller anthropometric surveys among newly arrived refugees, or in places where PMC monitoring had alerted to a possible problem were more informative. They often confirmed that prevalence of malnutrition was indeed high. Sometimes, however, they showed that PMC had given a false alarm.

SAMPLING PROBLEMS AND REPRESENTATIVENESS. In a complex and unstable situation, such as Guinea, it was difficult to determine the survey area. Which area was a refugee-affected one? One with at least 25% of refugees? Or should that proportion be higher? When the area had been defined, and all the villages and settlements in the area listed, determining the population of each of them was again problematic. Most often, the official registration data of UNHCR were used. But these were often over-estimations, and often refugees did not reside where they had registered. This was most pronounced in the refugee camps. Therefore, many children officially residing in these camps were not present during the survey, and were thus under-represented. Moreover, it seems unlikely that those present were representative. It could be that the poorest, and most malnourished remained in the camp. But it is equally possible that those facing acute food shortage and thus most malnourished moved out.

TECHNICAL PROBLEMS. In field situations, it is difficult to obtain reliable anthropometric measurements.* A more important problem, however, is that it is difficult to interpret results obtained with various indicators (W/H or MUAC) and cut-off points (<80% median W/H, and <-2 z-score median W/H). The so-called 'universal standard' for W/H is the

* Weighing and measuring children seems simple, but in field circumstances, it is difficult to do it with the rigour required for reliable results. A particular problem was the determination of oedema. Pitting oedema is not easily standardised, and the inter-observer reproducibility was low.

NCHS/CDC/WHO reference population. In this reference population 2.5% of children are <-2 z-score median W/H, and these are defined as malnourished. There are, however, no universally accepted criteria for a cut-off prevalence of malnutrition in the community. The pros and cons of the different anthropometric indicators will probably remain a subject of debate over the decades to come.⁵⁸⁻⁶¹ However, the use of both $<80\%$ median W/H and <-2 z-score median W/H as a cut-off for malnutrition is merely a matter of convention. The Nabarro chart, used at the curative clinic, is based on % median W/H. Z-score median W/H is more sound, as it is less dependent on age. The difference between both cut-offs depends on the age distribution of the children in the sample.⁶² In Guinea, <-2 z-score median W/H yielded prevalence rates some 50% higher than those calculated with $<80\%$ median W/H as cut-off (Table 15).

Area & date	N	Prevalence of malnutrition		
		<-2 z-score % (95% CI)	$<80\%$ median % (95% CI)	Difference z-score vs. %
Yomou, N'Zérékoré & Lola, May 1990	906	8.0 (5.5-10.5)	5.3 (3.2-7.4)	+51%
Macenta, July 1996	890	4.8 (3.1-7.4)	3.3 (1.9-5.5)	+45%

Table 15: Use of different cut-offs for W/H during anthropometric surveys

INTERPRETATION OF RESULTS. The confusion between indicators and cut-off points, added to the sampling biases and measurement errors, made it very difficult to interpret survey results, not least because of the difficulties to handle confidence intervals. Which is the indicated course of action if there is a large, but non-significant, increase in prevalence of malnutrition, from 5.2% (95% CI: 3.5-6.9) to 8.3% (95% CI: 6.6-10.0) over 3 months time? And what if, 3 months later it is reduced to 8.2% (95% CI: 6.5-9.9), although more refugees were absent during the survey, because it was performed during a period of intensive agricultural labour, which coincides with the famine season? If one considers moreover that many cross-border migrations in both directions continued over the years, results were truly very difficult to interpret.

PREVALENCE OF MALNUTRITION VS. FOOD SHORTAGE. Furthermore, a given prevalence of malnutrition – or an increase in the prevalence – is difficult to interpret in terms of food shortage. First, there is usually a time lag between food shortage and the occurrence of malnutrition in young children. Second, within a family younger children may, or may not, get a

higher share of the food available.⁶³ Third, when food intake is limited during a longer period, it will result in stunting, and W/H or MUAC will not adequately reflect this. Fourth, when under-fives get supplementary food items, their nutritional status does not necessarily reflect the overall food availability anymore.

ANTHROPOMETRIC DATA AND DECISIONS ON FOOD AID. Finally, there existed serious doubts whether decisions on food aid actually considered the available anthropometric information. In mid-1990, WFP forced MOH and MSF to start a supplementary feeding programme (Box 4, page 174), despite the fact that the threshold of 10% prevalence of malnutrition was not reached, and that MOH, MSF, and even CDC had clearly advised to the contrary.* In 1995, UNHCR decided to phase out food aid for 'old' refugees and continue to supply 'new' refugees, despite anthropometric surveys showing that not time of arrival but settlement pattern and concentration of refugees were the principal determinants of high prevalence of malnutrition in certain communities. Most surveys did not show a significant difference in malnutrition between refugees and their hosts, but food aid was always exclusively for refugees.†

* In practice, if prevalence of malnutrition among young children is below 10%, it is often considered that there is no need for supplementary feeding programmes.^{6,26,48} It is unclear on which basis this cut-off point was defined. In Guinea, according to this criterion, a supplementary feeding programme was only warranted for some groups of late arrivals or in the camps (Table 13), but never for the general population (Table 12 & Table 14).

† One could argue that precisely thanks to the food aid for refugees, the nutritional status of refugee children was similar to the nutritional status of Guinean children. However, even before food aid was distributed in mid-1990, no difference between refugees and Guineans was observed.

Delivering food aid

A MAJOR ISSUE RIGHT FROM THE START

FOOD AID STARTED LATE. During the first months of 1990, food aid remained very limited. The French military flew some planeloads of food to N'Zérékoré, and the Sierra Leonean government sent a few army trucks with rice. MSF obtained a budget from the European Union for local purchase of food to distribute to the refugees. When MSF tendered locally, the prices forwarded were considerably higher than current local market rates. MSF decided to withdraw from further involvement in food aid and the European Union decided to cancel local purchase of food for the refugees. UNHCR and WFP started the first significant food distributions in May 1990. Between 1990 and 1994 registration entitled refugees automatically to general food rations. From 1995 on, different rations were distributed to 'new' and 'old' refugees. Throughout PARLS, food aid to the refugees has always been the real stake. Medical care, water and education were much less important for the refugees, and for the Guinean authorities as well.

THE PROCESS. Food distributions were planned to take place every two months. Distributions were organised in dozens of distribution points within one or two days per prefecture. Refugees got a few days of advance warning through the refugee committees. ADRA transported the food from the warehouses to the distribution points, where the Red Cross, in collaboration with the refugee committees, distributed it. The military maintained order. The process of distribution involved calling a group of 50 refugees together in a fenced compound and collecting their cards. Officials of the Red Cross and the refugee committee took the cards, and checked them against the distribution lists. The members of the group then received their food, and took it out of the compound to divide it among them. UNHCR and WFP were supposed to monitor and control the operations, but the distribution system was left largely unmonitored for several years. Only from 1995 on, food basket monitoring teams* attempted to record fraud at the distribution sites. But refugee committees and the military sometimes refused them access to distributions.

* Food basket monitoring consists of selecting a representative sample of the beneficiaries, and weighing, immediately after food distribution, the exact quantities of different food commodities received.²⁶

PROBLEMS WITH FOOD DISTRIBUTION. First, the refugees were generally not well informed about food distributions. Often, they were not given sufficient warning about the date of the next distribution. Refugees questioned in December 1995 often had no idea why 'old' and 'new' refugees received different quantities of food, what the plans were for future distributions and whether they would still receive food in the future. Second, the process of distribution was open to abuse. Members of agencies involved in food aid were aware of corruption, but felt incapable of addressing this. They also thought that levels of corruption were increasing over time. Eyewitness accounts of fraudulent events (Table 16) were widely discussed in the field and were consistently documented in all distribution sites.^{36,53} Fraud seemed well developed and institutionalised. Lastly, logistic capacity was a major constraint for efficient food distribution. Large quantities of food had to be moved within a very short space of time. ADRA had to rely on commercial vehicles, but there were no four-wheel drive commercial trucks available, so distribution was severely constrained during the rainy season, which coincides with the hunger season.

Some cards were served multiple times for a fee.
Some merchants held multiple cards and paid false beneficiaries to collect food.
Remaining stocks at the end of the day were reportedly distributed to the vulnerable, but in fact sold to merchants.
Oil tins were partially emptied and filled with water and distributed.
Food sacks were partially emptied and filled with stones and distributed.
The military forcibly took rations from some refugees.
Some refugees were refused food aid as refugee committees considered them to be 'rebels'.
Some refugee cards were 'blocked' and the ration was sold.

Table 16: Fraudulent events observed during food distributions

ON COUNTING CALORIES (1991-95)*

QUALITY OF FOOD RATIONS. In 1990, the original food basket aimed to provide rice, oil, beans and dried fish. This was rapidly restricted to rice and oil only. In 1995, maize replaced rice as staple food. Over the years, roughly 90% of the quantity of food distributed was cereals, and 10% oil. Other items were much less important. Food aid distributed thus never supplied enough micronutrients. In 1990, this resulted in a small beriberi epidemic in

* Data for 1990 could not be retraced, but were definitely lower than for 1991.

the *de facto* refugee camp of Thuo in Lola prefecture (page 38). However, most refugees complemented relief food with vegetables and fruits, and did not face any vitamin deficiency.

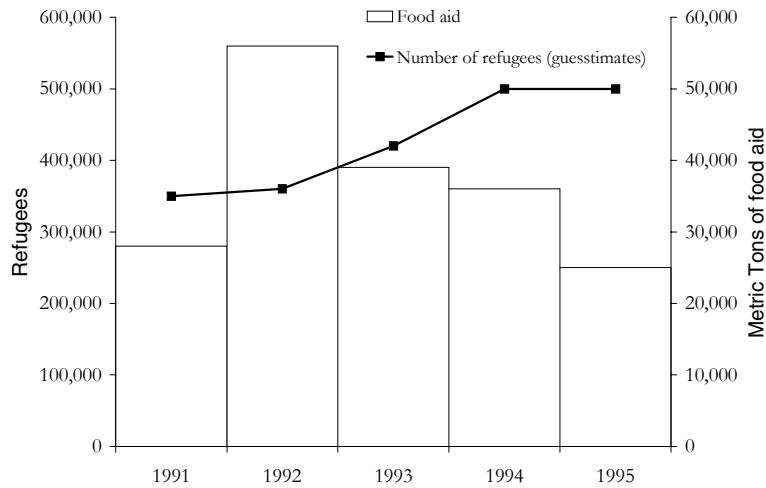


Figure 23: Total food aid distributed, 1991-95

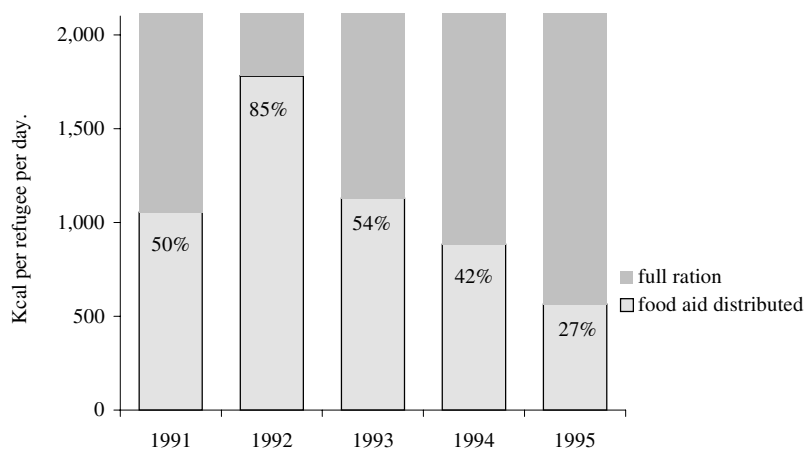


Figure 24: Kcal of food aid distributed per refugee, 1991-95

TOTAL QUANTITY OF FOOD AID. Figure 23 shows that the quantity of food aid increased considerably from 1991 to 1992. Food aid distributed in 1992 was calculated on inflated refugee numbers (the official data), and Guinean merchants misappropriated large quantities. After 1992, the total amount of food fell each year, despite an increase in the actual number of refugees (guesstimates). Therefore, between 1992 and 1995, the average quantity of food per refugee, based on the refugee guesstimates, decreased three-fold, and fell from 85% to 27% of the need of 2,100 kcal per day (Figure 24). UNHCR and WFP believed that the majority of refugees were self-sufficient and did not need food assistance.

1995: THE FAMINE YEAR. In 1995, operational agencies recognised a major increase in acute food stress and malnutrition.⁵³ Between October 1994 and May 1995 no general food distributions took place. By May 1995, most refugees were in food debt and rations were often used to pay off debts. No further food distributions were made throughout the hunger season (May - September), contributing to acute food stress for many refugees. WFP blamed UNHCR for not having developed a better refugee registration, and WFP had major problems with the food pipeline.

FOOD NEED VS. PLANNED RATION. The official food basket for refugees in Guinea always provided less than the daily food requirements of 2,100 kcal per person per day. For 1995, the officially planned quantities of food provided 45% of caloric needs for 'old' refugees, and 85% for the 'new' refugees (Table 17). The planned ration thus clearly took into account that the refugees were partially food self-sufficient.

PLANNED RATION VS. DISTRIBUTED RATION. Because stocks were often not sufficient to distribute food as officially planned, WFP had to reduce the rations for distribution, and many distributions were cancelled or postponed. Only approximately one-third of planned quantities were effectively distributed, and this yielded only 16% of caloric needs for 'old' refugees and 28% for 'new' refugees (Table 17).

DISTRIBUTED RATION VS. ACTUAL RATION RECEIVED. During the food distributions of September and December 1995, MSF performed food basket monitoring at the distribution sites.⁵³ They showed that fraudulent practices reduced actual rations by on average 19% (range from 5 to 35%). The refugees thus actually received only 81% of quantities distributed.

Commodity	Planned daily ration		Distributed daily ration	
	'old' refugees grams (kcal)	'new' refugees grams (kcal)	'old' refugees grams (kcal)	'new' refugees grams (kcal)
Cereals	200 (720)	300 (1,080)	71 (254)	135 (486)
Oil	25 (221)	25 (221)	9 (76)	11 (99)
Corn Soya Blend	0	125 (475)	0	0
Total	225 (941)	450 (1,776)	80 (330)	146 (585)
% of caloric need	45%	85%	16%	28%

Table 17: Planned ration vs. distributed ration, 1995

Figure 25 illustrates the differences between daily food needs, planned rations, distributed rations and actual rations received by the refugees. 'Old' refugees received only 13% of daily subsistence requirements and new refugees 23%. Only some 40% of what was planned was indeed imported and distributed. Fraud during distribution accounted for a further 19% reduction in rations received. The caloric loss for 'old' refugees was 63 kcal per day due to fraud at distribution points and 611 kcal per day due to discrepancy between planned and distributed ration. For 'new' refugees it was respectively 111 kcal per day and 1,191 kcal per day. Although fraud accounted only for a minor part of the caloric deficit, it retained the attention of relief workers and donors, and influenced their attitude towards refugees and food distribution.

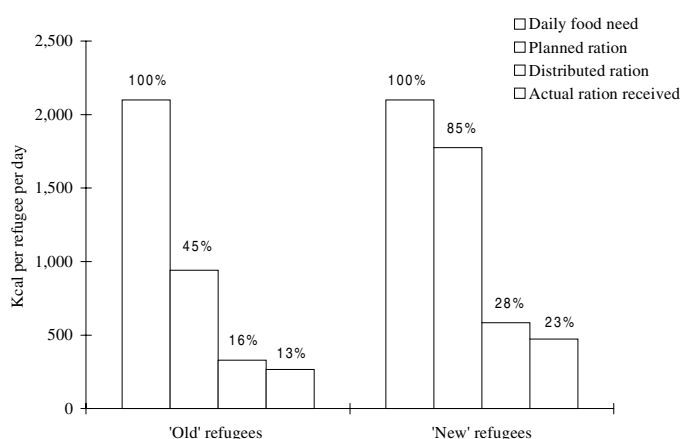


Figure 25: Food needs vs. food income from general food distribution, 1995

These data estimate the average quantity of food aid a registered refugee received during general food distributions. This average number of kcal per refugee still hides other problems. First, the amount received was probably even less for the weakest, as food was distributed to groups of 50, who then had to divide the rations between households. In practice, division between group members often resulted in fighting, and the most vulnerable being deprived of their share. Second, food borrowing was a common practice. After food distribution, families often had to give a large share of their food to people from whom they had borrowed food previously, often with 100% interest. Third, in 1995, WFP switched from distributing rice to maize flour. Refugees were not used to maize flour and did not like it. Consequently, many refugees sold the maize flour, on average at approximately FG100 a kilogram. Rice cost then between FG250 and FG500 per kilogram on the local markets. Therefore, 5 kilogram of maize flour was effectively traded for between 1 and 2 kilogram of rice.* The effective ration after sale of maize for rice left the refugees with a very small food income from food aid. Lastly, the unregistered refugees did not receive any food at the general food distribution. Fortunately, by 1995, alternative circuits for vulnerable refugees were starting up, where destitute refugees, particularly the unregistered, could obtain some food and cash.†

1996: BETTER SUPPLY AND LESS FRAUD

In December 1995, a review of food aid in the Forest Region made all these problems explicit.⁵³ According to UNHCR, the report increased pressure by donors to further decrease food aid to refugees in Guinea. In 1996, however, higher amounts of food were effectively distributed, mainly through less discrepancy between planned and distributed rations, but also because the 50-beneficiaries-group system was abolished and refugees received food per household. Food supply was thus more reliable in 1996 than in 1995.

* In 1995, rice was more expensive on the international market, roughly twice the price of maize. However, the terms of trade for rice and maize flour at the local markets, and the refugees' preference for rice meant that the donors transferred less kcal to refugees, even if they had supplied only half the quantity of rice. If choice of the staple was purely a question of price, it would have been more cost-effective to supply rice.

† These alternative circuits explain also the apparent contradiction between the 1995 data on food distributed of Figure 24 and Figure 25. The 27% in Figure 24 includes all food distributed. The 16% and 28% (weighed average 18%) in Figure 25 only include food distributed during the general food distribution.

Food basket monitoring was performed systematically during all distributions, and results openly discussed at meetings with implementing agencies, UNHCR and WFP. According to the refugees, these measures considerably reduced problems and fraud during distributions. *Eglise Protestante Evangélique* further developed its network of counselling centres and distributed food and cash to social cases. By mid-1996, they were distributing daily rations of 300 grams of cereals, 25 grams of oil and 50 grams of lentils (1,469 kcal per day) to 65,000 beneficiaries.

Other factors also converged to improve the situation. The political situation in Liberia had improved enough to enable again cross-border travel and farming in the home country. The 1995 famine had taught refugees that they could only count on themselves and they further engaged in farming in Guinea. UNHCR facilitated this, by establishing tripartite agreements between UNHCR, local communities and the refugees, to grow rice in the fertile but largely unused valley swamps. These improvements in 1996 were less pronounced in rural Guéckédou, with its very high concentration of refugees, which reduced agricultural possibilities for them. Moreover, as Guéckédou hosted mainly Sierra Leonean refugees, they could not re-establish links with their home country, where the political situation remained bleak.

Although there was a clear improvement in 1996 compared to 1995, the situation was still not satisfactory. For 1997, UNHCR made plans for more selective general food distribution. Only 'new' refugees and those considered vulnerable would still get food aid. A number of categories were proposed. These included: single parent households; unaccompanied minors, and families taking care of unaccompanied minors; families with a malnourished child; unaccompanied elderly and people with handicaps or special needs. There were, however, serious problems with the identification of refugees belonging to these categories. When refugees perceived additional benefits, they might simulate belonging to such categories. For instance, in a situation where family splitting was very common, it was easy for women to pretend to be the head of a family. Despite these anticipated difficulties, provisions were made for up to 30% vulnerable refugees among the total caseload: these would benefit from 300 grams of maize and 25 grams of oil per day (1301 kcal per day). Others proposed to limit food distribution in the rural areas to the traditional 'hunger season' during May-September. As a compensation for decreased food aid, investment in swamp farming would be increased, as well as school meals and food-for-work programmes.

Of evidence and pressure

EXPERT OPINION VERSUS ANTHROPOMETRY

In Guinea, rational decisions would have required a correct understanding of very different phenomena at various points in time. Such understanding appears to be a matter of 'expert opinion' rather than of 'hard anthropometric evidence'. Expert opinion should be understood as 'relevant qualitative information, which could be obtained through good field knowledge'. An analysis of eight key situations of relevance to decisions on food aid (Figure 26) shows the relative usefulness of various types of information for assessing the situation.

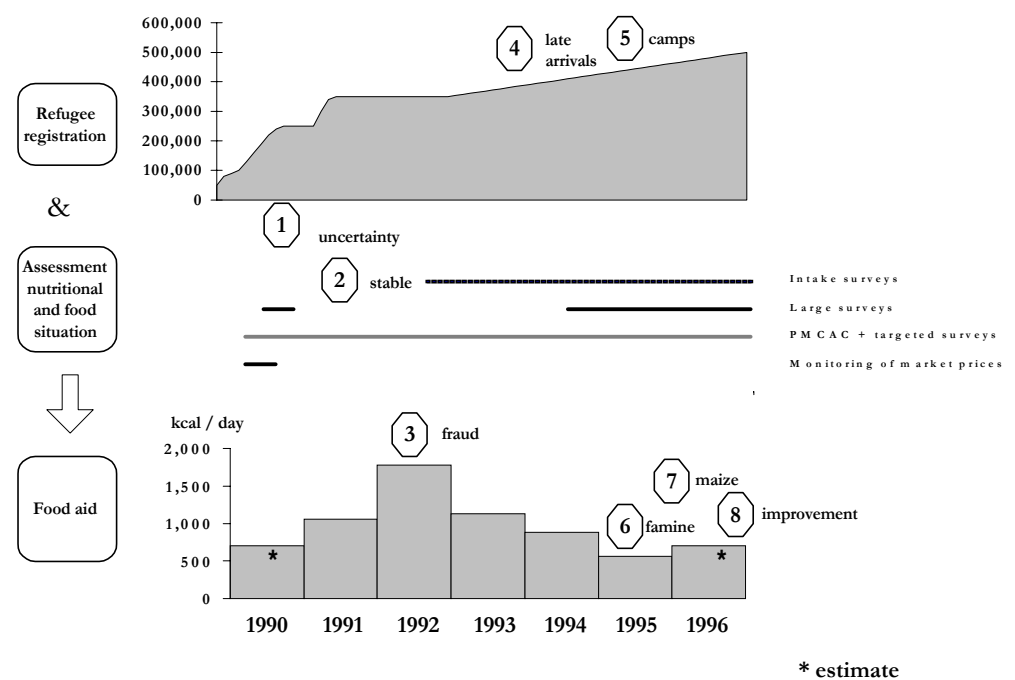


Figure 26: Insights in nutritional and food situation, 1990-96. Code: see next page.

Code Fig 26	Description of the situation	Marginal usefulness of surveys as compared to expert opinion
1. Uncertainty	During 1990, MOH and MSF feared serious problems, but despite important delays in food aid, they did not occur. No objective assessment method indicated problems, but the conviction that trouble was soon to come remained predominant till food aid actually started. It is impossible to know whether this fear was justified – i.e. whether a famine would really have occurred without food aid.	None.
2. Stable	Between 1990 and 1994, the overall nutritional situation remained stable. The number of malnourished children at clinics and hospitals, and PMC monitoring easily and convincingly indicated this.	None.
3. Fraud	Between 1990 and 1994, serious problems with over-registration and misappropriation of food aid occurred. Details on quantities misappropriated and places where food was stored, individuals involved and bribes paid, were widely known and commented upon. Huge piles of donated food (<i>'not to be sold or exchanged'</i>) were visible to everyone visiting the markets. The supplies depreciated the market price.	None.
4. Late arrivals	The smaller waves of late arrivals often arrived in poor general condition. This was obvious during field visits, and small anthropometric surveys, whatever the criterion for malnutrition used, easily confirmed this.	Confirmation and advocacy.
5. Camps	The refugees who had to settle in camps remained very dependent on food aid. Numbers of malnourished children in these camps, PMC, complaints by refugees and their tendency to move out of the camps, clearly illustrated the problematic situation. Small anthropometric surveys in the camps could only confirm the obvious.	Confirmation.
6. Famine	The 'story of an announced famine in Guinea, 1995' started with many clear qualitative signs of an impending problem, before the indicators started revealing it. Repeated alarms were given, but 'pipeline problems' and 'lack of commitment of the donors' prevented WFP from reacting adequately. Soon, all indicators – PMC, number of malnourished children, or anthropometric surveys – confirmed the existence of a famine in the relatively small proportion of refugees fully dependent on food aid. This famine could, however, not be tackled in time for the same reasons that impeded its prevention.	Late confirmation.
7. Maize	When in 1995, maize flour was distributed to the refugees, it was massively sold at a low price. Anyone present at a food distribution, visiting a market or travelling in the region could easily observe this. Many refugees sold the maize flour to traders immediately after the food distribution. Commercial trucks transported back the maize along the same dust roads over which relief trucks had brought it in the morning. No 'objective indicators' revealed this tragicomedy.	None.
8. Improvement	In 1996, despite limited food aid, the situation remained satisfactory in most areas. These improvements in 1996 were less pronounced in rural Guéckédou, with its very high concentration of refugees, and less cross-border movements. The number of malnourished children and PMC monitoring easily revealed this. Surveys confirmed it.	Confirmation and reassurance of relief workers.

Sound knowledge of the field situation in the Forest Region, through contacts with the various actors, and frequent field visits, was thus more useful than anthropometric indicators to understand the problems with food aid and lack of access to it. If and when useful, a simple indicator – as the number of malnourished children per month in a clinic or a hospital – revealed the problems as well as a more complex indicator such as PMC. Anthropometric surveys in a well-defined group of refugees confirmed the problems better than large surveys throughout the refugee-affected areas. Qualitative information was more useful, but still, lack of insight in the economic and social reality of the refugee-affected area impeded their sound interpretation.

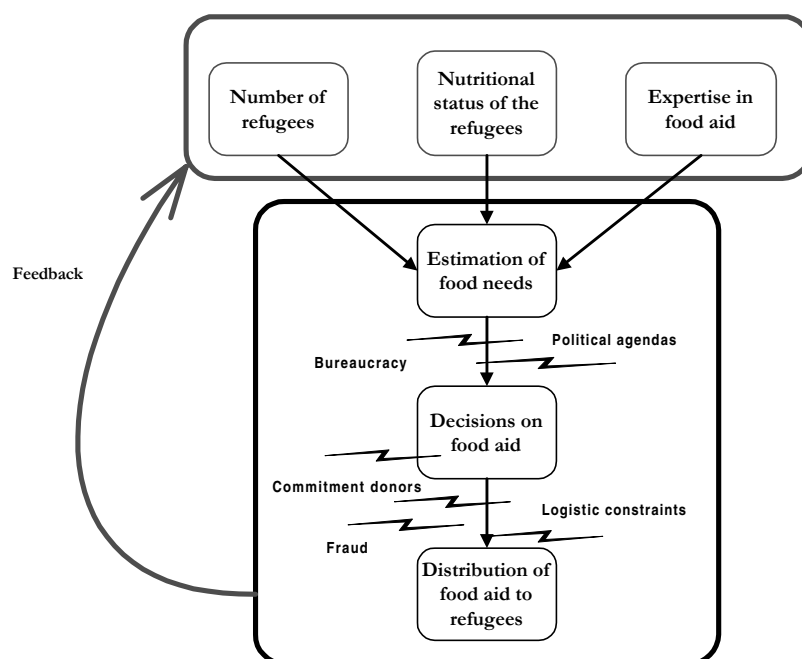


Figure 27: Interference in decision making in food aid

DECISION MAKING IN FOOD AID

It is now clear that Figure 16, page 65, is an oversimplification of decision making in a real-life situation. Figure 27 shows some of the factors that interfere between technical estimation of food needs, however imperfect, and

distribution of food aid to the refugees. Fraud and logistic constraints have already been discussed above. At times, UNHCR and WFP could not convince the donors to allocate funds for food aid already decided, even if the main donors participated in the joint assessment missions, and likely donor commitment was already taken into consideration during planning.

There are also other less visible factors at work that depend more on bureaucratic reflexes than on an analysis of the situation. Blanket food distribution to all refugees, for instance, whatever their situation or need, has remained a general principle for years, despite clear evidence that needs were unequally distributed across groups and over time. Food aid was scaled down after a few years, irrespective of the settlement pattern and the degree of self-reliance the refugees could develop. Hard evidence from surveys or from observation of the field situation apparently had less impact on decisions than the simple logic of the initial unfounded assumption.

These standard reflexes and simplistic assumptions seem part of a bureaucratic logic of large UN organisations. To take decisions that go against standard organisational policy and tradition is difficult in such environment, even more so, if most staff are on short assignments. These decisions are also firmly embedded in the political agendas and institutional interests of these organisations. Implementing NGOs, whose contact with the field might have allowed them to respond in a more flexible way, had little influence on these decisions. Some NGOs actively advocated more flexible approaches, others may have hesitated in going against the mainstream for fear of souring their relations with the government and UNHCR, their main source of funds.

Officially, PARLS approached food aid and malnutrition as technical problems, and did not put it enough in context. By supplying less than full food rations, WFP and UNHCR implicitly acknowledged that refugees in Guinea were integral part of the wider society and were partly self-reliant. However, the assessment of their nutritional situation was not performed with a system's view, but linked too simplistically anthropometric status with quantities of food aid distributed.

As elsewhere,^{25,64,65} political and managerial considerations determined decisions, rather than the technical arguments. The latter rather justified or confirmed the decisions. 'Smarter' relief approaches^{16,20,63} would (1) acknowledge the political nature of decisions on food aid, and (2) find other means than anthropometric surveys to provide a credible basis for rational decision making. This is not merely a question of effectiveness or efficiency of food aid, but also of avoiding negative effects on the host society. Humanitarian agencies should shift from 'distributing food aid to refugees' to

'improving food security for the vulnerable groups in refugee-affected areas'.¹ This needs, of course, a system view, and a longer time perspective.

5. Control of epidemics

Humanity has but three great enemies: fever, famine and war; of these by far the greatest, by far the most terrible, is fever.¹

William Osler, 1896

Epidemics: bio-demographic burden & psychological impact

For Livi-Bacci pre-transition mortality is characterised not only by a short life-span, but also by the “*frequent and irregular occurrence of mortality crises which, stemming from a variety of causes, slashed away sectors of all ages and classes, seriously upsetting the life of a society*”.² These mortality crises include events such as war, famine, and recurring bouts of epidemic diseases. The decline in the incidence of mortality crises in Western Europe took place in the 18th and early 19th centuries. The mortality transition is as much a result of the prolongation of life expectancy through reduction of infant, juvenile and adolescent mortality, as of a control of the havoc wreaked on society by epidemics and other mortality crises. Both for Livi-Bacci and for Helleiner² “*perhaps only a society freed from the fear as well as from the material and spiritual consequences of sudden death*” can create the conditions for the mortality transition and for development.

The word ‘epidemic’ has an ominous connotation,* with images of plague sweeping across continents, leaving death and despair in its wake.³ The prototype of an epidemic is what happens when a new infectious agent is introduced on a ‘virgin’ soil. When, for example, European and African pathogens were introduced in the New World this was a demographic disaster for the Amerindians: the population dropped to 4 or 5% of what it had been in pre-Columbian times. “*Behind such chill statistics lurks enormous and repeated human anguish, as whole societies fell apart, values crumbled, and old ways of life lost all shred of meaning. A few voices recorded what it was like: Great was the stench of death. After our fathers and grandfathers succumbed, half the people fled to the fields. The dogs and vultures devoured the bodies. The mortality was terrible. [...] So it was that we became orphans, oh, my sons! So*

* Therefore, public health officials tend to replace the term ‘epidemic’ with the more neutral term ‘outbreak’,³⁵ or sometimes ‘upsurge’. Upsurge is mainly used for a sudden increase in incidence of an endemic disease (e.g. an upsurge of measles in an urban area with permanent transmission, or a seasonal increase in malaria).

*we became when we were young. [...] We were born to die!"*⁴

Potentially, new pathogens still may take the world by surprise – but not anymore with such disastrous results. Most pathogens have been ‘domesticated’ between 1300 and 1700, as a result of the great transportation revolutions of that age. They cause more global, but locally less acute, demographic damage as they have become more endemic in nature, more a fact of life. That does not diminish their impact on society and on history: “[...] *the ravages of armies [...] probably did not damage Mediterranean populations as much as the recurrent outbreaks of disease, for, as usual, disease found fresh scope in the wake of marching armies and fleeing populations*”.⁴ Military and civilians paid a heavier toll to disease than to bullets or swords.⁴ If one can extrapolate from Iraq⁵⁻⁷ or Sudan⁸⁻¹¹ at the end of this century, this is still valid, at least for the civilian consequences of warfare.

Epidemics have influenced history through their demographic effects – obvious when half of the population dies as during the Black Death of the 14th century in Europe¹² – but also through their effects on the behaviour of societies. The reactions towards a (threatening) epidemic are usually a combination of three elements: fear and flight,¹³ blame and explanation,¹⁴ and appeal to authorities.¹²

Fear and flight have been noted throughout history. Fear of the ‘sweats’ in 1529 led Luther and Zwingli to break off their discussions in Malburg, and thus effectively split the Lutheran and the Swiss Calvinist reform.⁴ Fear of cholera in Tunis made the Bey of Tunis flee to Carthage in 1849.¹⁵ Timely flight had developed into an effective strategy of the military to avoid yellow fever by the 1860s.¹³ Fear and flight were the first reactions in the recent outbreak of Ebola in Zaire¹⁶ and of plague in India.^{17,18}

Fear goes with blame.¹⁴ Popular interpretations of epidemics include divine punishment, or harm introduced by the ‘other’, whether the other are Jews,¹² homosexuals or Haitians.¹⁴ In contrast with this level of explanation, medical interpretations of epidemics are determined by John Snow’s investigation of cholera in London in 1854.¹⁵ This investigation is part of the health professionals’ collective consciousness, and one of the paradigms of their training. An epidemic is frightening if unknown, but manageable through a combination of environmental sanitation, vaccination and case management. An epidemic is the prototype of disease seen as an enemy to be combated.

Populations faced with epidemics also typically turn to religious or administrative authorities, expecting a response to what is considered a threat to society.^{2,4,12,19,20} Along many irrational reactions, epidemics thus led to rational organised responses, such as quarantine, isolation, and public hy-

giene. In the Italy of the renaissance, the plague led to a first organised response of the civil authorities to tackle the public health problem posed: try to stop the epidemic and treat the sick.¹² In sub-Saharan Africa, from the 19th century onwards, colonial medicine has tackled a number of epidemic threats, such as sleeping sickness, meningococcal meningitis, plague and smallpox.²¹ In West Africa this preoccupation was so overruling that it shaped the very organisation of health services, with their focus on hygiene in the cities and military control of '*les grandes endémies*'.²²

If, nowadays, diseases are most often caused by well-known pathogens, still, only some get the label 'epidemic' with all its connotations. What, then, is an epidemic?

Definitions of epidemics of infectious disease* in general dictionaries usually refer to large numbers and rapid spread.^{23,24} Medical definitions contrast epidemic with endemic, where the latter is 'usual' or 'normal' and the former 'unusual';²⁵ they mention: 'numbers clearly in excess of normal expectancy',^{26,27} '*augmentation inhabituelle*',^{28,29} or 'not continuously present and introduced from outside'.³⁰

All these definitions are unsatisfactory. First, they fail to cover all situations where the term epidemic is currently used, both by the general public and by health authorities. Some epidemics affect only a small number of people, or spread slowly. Some epidemics – such as measles – are predictable, and have nothing unexpected or unusual.²⁵ The ongoing AIDS 'epidemic' is quite stable in many countries.

Second, these definitions reduce the significance of epidemics to their bio-demographic dimension; to what can be quantified in terms of caseload and deaths, attack rates and case fatality rates (Box 3).³¹ On top of these epidemiological and demographic considerations, however, and unlike other diseases or health risks, epidemics carry specific value-laden social perceptions.³² The fear – or panic – and the blaming¹⁴ are as much part of what is indicated by the word (Figure 28). All these aspects of an epidemic can be disaggregated, but they are intrinsically linked and constantly interactive. One needs to understand them all, they combine to one phenomenon: the epidemic.³² The suffering caused by epidemics is deeply engraved in collective memory and explains to a certain extent the psychological impact. This psychological dimension is difficult to quantify, but it differs widely between epidemics. It depends only partly on the bio-demographic burden, be it present or potential. It is influenced by the understanding of the disease and its history. The psychological impact may be disproportion-

* By extension, epidemic is now also commonly used for non-infectious phenomena (e.g. an epidemic of road traffic accidents), which poses its own semantic problems.

ate to the bio-demographic dimension.⁴ It seems strongly linked to the perception of risk and the amount of control felt, which in turn are linked to the control measures available and implemented, and the trust of the public in the health leadership.³³

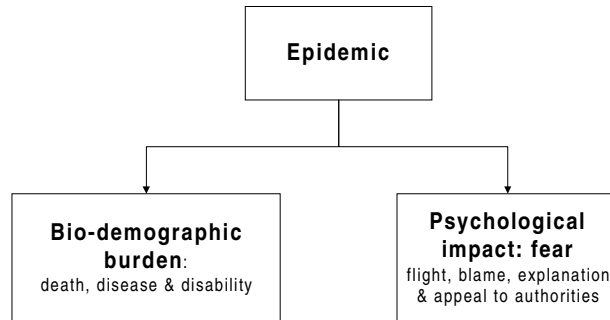


Figure 28: Two dimensions of epidemic

The perception of risk is not always in tune with the actual risk.³⁴ Studies on the appreciation of risk by lay – and professional – people show two key-features that are relevant to the control of epidemics. First, people intuitively overestimate the risk of rare events and underestimate the risk of common events. Especially the risk of events that are potentially catastrophic, of large scale, and beyond personal control is often very much overestimated. Second, perception of risk and control felt are linked. People perceive a risk as more acceptable when they feel they can control it than when they lack any (subjective) personal control (e.g. the relatively high risk of accident when driving one's own car is more readily accepted than the much lower risk of accident when travelling by plane). Consequently, control measures that increase the amount of control felt by members of the population decrease the perception of risk, and reduce the psychological impact of epidemics,³³ even if such measures do not actually reduce the risk. Conversely, measures that reduce the risk, but not the amount of control felt, may not reduce the fear. Consequently, the opinion of experts that risk is low, hardly reduces risk as perceived by the population. On the contrary, experts trying to convince the population that risk is low may increase the awareness and perception of risk.

Box 3: Measuring the burden of epidemics

ATTACK RATE & CASE FATALITY RATE (CFR). Caseload and deaths of an epidemic can be expressed in 'total number of cases' and 'total number of deaths'. However, to compare epidemics in different areas or at different moments, rates are often calculated. To express the caseload as a rate is not straightforward. One could calculate the incidence per week or month. More frequently, the attack rate is used. In its strict sense, attack rate means 'the proportion of those exposed to an infectious agent who become clinically ill, excluding those who were already immune to the disease'.³⁵ However, to measure exposure is problematic in most situations. Other textbooks define attack rate as '*la proportion de sujets atteints au cours d'une période définie et terminée*'^{a,36} or 'a proportion measuring cumulative incidence, observed for a limited period and under special circumstances, as in an epidemic'.³⁷ It is in this sense that attack rate will be used here: the cumulative incidence rate for the period the epidemic lasted. CFR is more unequivocally defined as 'the proportion of people on average who will die of those infected'.³⁵ However, this definition does not distinguish between being infected and getting the disease. It also gives the impression that CFR of a certain disease would be constant, while this is definitely not the case. Even in the absence of any treatment, CFR of a certain disease varies widely between epidemics, and may depend on factors such as age, infectious dose, nutritional status, previous exposure, &c. All diseases discussed here respond to treatment, and adequate treatment lowers CFR dramatically. A more adequate definition of CFR of an epidemic would be: the proportion of people who died of those who responded to the case definition of the epidemic disease.

DALYs. Burden of disease is more relevantly assessed by disability-adjusted life years (DALYs) than by mortality and morbidity.^{31,33,38-42} Available estimates of DALYs for sub-Saharan Africa, however, are based on such weak data that the possibility of using them in a meaningful way has been challenged.⁴³ Moreover, as the three main diseases analysed here – cholera, meningococcal meningitis and measles – cause mainly death, and considerably less disability, one can forego the main advantage of DALYs – taking account of disability.^b

IMPRECISE CASE DEFINITIONS & UNRELIABLE REPORTING. During epidemics of infectious diseases in developing countries the use of a case definition including laboratory confirmation is usually impossible. Therefore, clinical case definitions have to be used. But this poses problems of sensitivity and specificity, and these may change during the course of the epidemic. Operational case definitions often include important considerations such as the cost of false positives and false negatives.^c Sensitive case definitions tend to overestimate the attack rate, and underestimate CFR. In field conditions, a proportion of patients will not reach the health facilities, and recover spontaneously or die. Often, milder cases are less likely to

seek medical care. However, during a cholera epidemic, it might be the most severe cases who do not reach the health facilities in time. Often, attack rate and CFR are calculated from the information available in the health facilities. It would then be more accurate to name them 'reported attack rate' (or 'notification rate') and 'reported CFR'. During most epidemics, 'reported attack rates' tend to be lower than 'real attack rates', while 'reported CFRs' tend to be overestimated,³⁵ but the opposite may also be the case. One should thus consider reported attack rates and CFRs with considerable caution. This chapter intends to demonstrate that such reported rates, in conjunction with sound field knowledge, may nevertheless be useful – moreover, they were the only data available in the Forest Region. Yet, imprecise case definitions and unreliable reporting make comparisons between epidemics in different settings highly hazardous.

^a The proportion of people affected during a defined period when the latter has come to an end. ^b For polio, for instance, this would not be the case. ^c For instance, during an epidemic of meningococcal meningitis, a very sensitive case definition may be preferred. Administering antibiotics to a patient without meningococcal meningitis bears little negative consequences, while missing a case or diagnosing it late, might severely jeopardise the outcome.

Control of epidemics

Epidemics trigger individual and collective responses of the population, the administrative authorities and the medical decision-makers. A rational choice of epidemic control measures – all measures taken to reduce the impact of the epidemic – would have to consider the feasibility of controlling the epidemic and the cost of the control measures. The feasibility of controlling the epidemic depends on (1) the theoretical susceptibility of the disease to preventive and curative control measures; (2) the operational feasibility of control measures, which is compounded by the availability and quality of services to implement the control measures; and (3) the acceptability of the control measures and the health services by the population (Table 21, page 118).

'ROUTINE' VS. 'INTERVENTION'. Certain routine medical activities in health centres and hospitals (e.g. measles vaccination, or case management of patients with diarrhoea, meningitis or measles) contribute to epidemic control. We call such measures 'routine' epidemic control measures. Other measures (e.g. chemoprophylaxis, or reactive vaccination) may be taken as a response to a concrete epidemic or an epidemic threat. In this text, these are called additional epidemic control measures or 'interventions'.

DISEASE-SPECIFIC MEASURES VS. GENERAL MEASURES. A mass vaccination campaign against meningococcal meningitis, the organisation of a cholera treatment centre, chlorination of drinking water during a cholera epidemic, or disease-specific epidemiological surveillance are disease-specific measures. But general measures (e.g. construction of latrines or the improvement of water supply) are not disease-specific, and are not discussed in this text.

PREVENTIVE MEASURES VS. CASE MANAGEMENT. Measures to control epidemics can roughly be divided in two groups: preventive measures and case management. The former are intended to reduce the number, the latter to reduce the CFR. The distinction between preventive and curative measures is not always clear. Certain curative measures may reduce transmission and thus theoretically reduce the caseload (e.g. anti-microbial treatment of cholera cases), and certain preventive measures may not always prevent disease totally, but reduce the severity of disease and thus mortality (e.g. measles vaccine failures). However, such effects are rather marginal, and the distinction between preventive and curative measures broadly applies. Such distinction is operationally useful and has important implications (Table 18). In general, one can say that case management during an epidemic is an imperative, not a choice, while in the field of preventive measures choices have to be made. Still, the balance of efforts to be put in preventive or curative measures should be weighed.

PRE-EMPTIVE VS. REACTIVE VACCINATION. From an operational point of view, one can distinguish between pre-emptive and reactive vaccination.⁴⁴ Pre-emptive vaccination is performed before an epidemic occurs and is usually a 'routine' medical activity (e.g. measles vaccination). Reactive vaccination is intended to control an ongoing epidemic and is thus an 'intervention' (e.g. meningococcal meningitis vaccination). Reactive vaccination is sometimes referred to as 'emergency vaccination'.²⁵ In pre-emptive vaccination the coverage reached is the main determinant of the reduction in attack rate. In reactive vaccination, the exact timing of the vaccination is also crucial.

	<i>Preventive measures</i>	<i>Curative measures (case management)</i>
Applies to	Healthy people at risk of contracting a disease	Sick people at risk of dying of a disease
Scale of application	Measure should be applied to all people at risk, usually a large part of the total population (commonly between 20 and 100%).	Measure should be applied only to the sick, usually a small part of the total population (usually below 1%, sometimes up to 10%, very rarely more).
Demand for and/or compliance with control measures	Strongly depend on the perceived risk, on whether the risk is perceived as being real now or possible in the future, and on the perceived reduction of risk by the preventive measures	Depend on the severity of the disease, and on the adequacy of the services
Individual benefit	To reduce the risk of contracting a disease	To cure from a disease, and thus reduce the risk of dying
Population effect	Reduce caseload (attack rate)	Reduce mortality (case fatality rate)

Table 18: Preventive vs. curative epidemic control measures

Epidemics and forced migration

Forced mass migration and epidemics have close links, both in our collective representation and in reality.^{4,45,46} Epidemics of diarrhoeal disease, measles, malaria and pneumonia are frequent in displaced populations.⁴⁷ Such epidemics are often characterised by a high attack rate over a short period, and a high case fatality rate^{48,49} resulting in high excess mortality.⁵⁰⁻⁵³ In displaced populations, during their flight and during the first months after resettlement, crude mortality rates are usually considerably higher than those of the host population; at times they may be 20 times higher.⁵⁴

WHY DOES FORCED MIGRATION RESULT IN EXCESS MORTALITY?

Displaced people are often said to suffer such high mortality rates because they are undernourished, and hence weakened and more susceptible to disease.⁵⁵ Others stress that forced migration exposes to new disease organisms or to new strains of such organisms.⁵⁶ However, severe epidemics occur also in well-nourished refugee populations, and new disease organisms are

nowadays seldom important.* It has convincingly been demonstrated⁵⁷ that malnutrition and new disease organisms do not consistently explain why mass migration often results in large-scale epidemics. Where refugees have to live through prolonged hardship in their home country, or are weakened during their flight, they may be undernourished and less resistant to infections, which may contribute to high mortality rates.⁵⁸

Still, the main factors (Figure 29) are overcrowding in large settlements, poor access to water and inadequate shelter.^{57,59} Overcrowding is closely linked to severity of measles epidemics.⁶⁰ Measles is most severe, with very high attack and case fatality rates, when previously dispersed populations, such as nomads, gather in crowded camps.^{49,61} Contaminated drinking water causes epidemics of diarrhoeal diseases, both cholera and non-cholera.^{48,57,62} When refugees live under inadequate shelter in harsh weather conditions, pneumonia may become a major threat.⁶³

Diarrhoeal diseases, measles, pneumonia and malaria account for a very large part of the excess mortality registered during acute mass migration. Other epidemic diseases may explain the link between mass migration and excess mortality, but they are less universal, as they depend more on local conditions (Figure 29). When people settle in areas with holo-endemic malaria transmission, the impact of malaria may be dramatic. This is especially the case when migrants originate from an area with low malaria transmission. Epidemics of typhus⁶⁴ and relapsing fever were very important in military history,^{4,65} but have also been documented in refugee populations. In an overcrowded and unhygienic environment dysentery epidemics due to *Shigella dysenteriae* may occur. The impact of such epidemics may be severe, especially when caused by a multi-resistant strain.^{48,49,66,67} Crowded living conditions favour the spread of meningococcal meningitis. Refugee camps are thus considered at particular risk,^{68,69} although the epidemics of meningococcal meningitis in refugee populations that were reported in the literature had low attack rates.^{70 †}

* Historically, the contact with new organisms, especially smallpox and measles viruses, has been extremely important.^{4,119-123} However, since the first decades of this century, the whole globe is one 'disease pool'. Consequently, and despite the current interest in 'new and emerging diseases', it is now relatively rare that new pathogens cause severe epidemics in migrating populations.¹²⁴ However, between 1988 and 1995 an estimated 100,000 Southern Sudanese died of kala-azar when they were forced to migrate to sandfly-infested areas.⁸ The spread of HIV/AIDS has been related to labour migration and tourism,^{125,126} but there is little or no evidence that forced mass migration also contributed considerably to its spread.

† However, when Southern Sudanese fled to Safaha, South-Darfur and Abiyei, South-Kordofan in 1988-89, meningococcal meningitis caused severe epidemics,

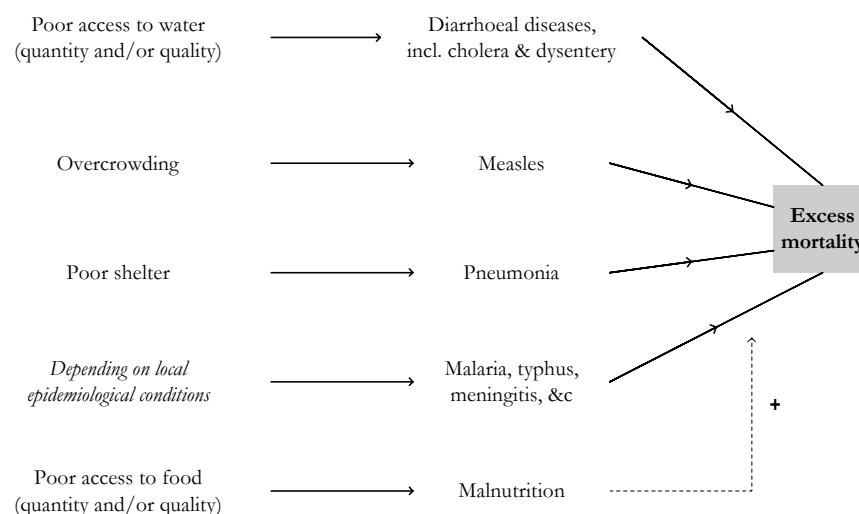


Figure 29: Excess mortality in refugee populations in sub-Saharan Africa

REDUCING EXCESS MORTALITY IN FORCED MIGRATION

In line with this analysis, effective emergency assistance to displaced populations in sub-Saharan Africa concentrates on preventing or mitigating the impact of epidemics of measles, diarrhoeal disease, pneumonia and malaria. Plastic sheeting, water supply, measles vaccination, diarrhoea treatment centres, and basic curative care are indeed the main features of emergency relief aid.^{47,71,72} Food aid is also vital, but contributes less to survival during the first weeks.⁷³ If such emergency assistance can effectively be set up, mortality rates decrease fast to 'normal' levels over two or three months.^{45,52,74}

There are, however, often serious constraints to timely and adequate relief aid,^{48,75} even if large army detachments are mobilised, as was the case in Goma, Somalia and Turkey. During the initial phase chaos may prevail.^{48,49,52} It may be difficult to reach internally displaced populations, who are often tangled up in a civil war,^{11,51,76,77} trapped between fighting factions and beyond reach of humanitarian assistance.⁵⁰ When emergency assistance is not adequate, and refugees continue to live in an overcrowded unhealthy

although attack rates and case fatality rates were not measured (Safaha, personal observation; Abiyei, personal communication Philips & Boelaert, 1998).

environment, high mortality rates may continue for many months.⁷⁸

After the initial mass migration, crude mortality rate among the refugees may remain low, even considerably lower than among the host population.^{78,79} Such result is only possible when medical and nutritional assistance are adequate. This implies a high level of assistance; supplying good quality water and food in adequate amounts and organising good and accessible medical care and a reasonably hygienic environment. Such assistance is expensive, costing often US\$20 per capita per year for medical care alone. A full 'care and maintenance' programme* for refugees in a chronic refugee camp often costs more per refugee than the gross national product per capita of the host country.^{80,81} If such assistance to dependent refugees cannot be maintained, this results typically in inadequate food rations. Epidemics of micronutrient diseases and increased levels of malnutrition soon follow.⁸²⁻⁸⁹

Monitoring the health and nutritional situation of refugees is considered a key feature in all assistance programmes. Surveillance systems are set up to monitor the nutritional and health status of the refugees, and provide early warning of epidemics. The key indicators are (1) crude mortality rate as registered by 'grave watchers',[†] (2) prevalence of malnutrition in children between 6 and 59 months of age obtained through anthropometric surveys, and (3) notification rates of diseases with epidemic potential.

Conventional wisdom on refugee camps stresses the importance of emergency preparedness, especially for crowded refugee camps where epidemics are often short and explosive, leaving little time for the preparation of epidemic control measures. Particularly feared are measles and cholera. No respectable relief agency would nowadays neglect the threat of these epidemics. Contingency plans would be ready, stocks pre-positioned, the apparatus for mass vaccination and active case-finding prepared.

* A full 'care and maintenance programme' means that refugees receive through the refugee relief system a complete 'food basket' (delivering some 2,100 kcal per person per day with adequate quantities of protein and micronutrients, including salt), have access to at least 10 litre of clean water, fuel, soap and cooking utensils, as well as access to preventive and curative health care, feeding programmes for malnourished children, primary education, and a range of social services. Moreover, in crowded camps, environmental hygiene has to be strictly organised.^{63,127} Most refugees in chronic refugee camps have little or no access to land or labour opportunities, and depend fully on this assistance. Refugees often sell part of these relief items to cater for other needs not supplied by the refugee relief system.^{61,128}

[†] Grave watchers are staff assigned to report on the number of burials.¹²⁹

Epidemics in the Forest Region

BEFORE THE REFUGEE INFLUX most health workers seemed to consider the recurring measles epidemics as a fact of life. Health authorities considered them a symptom of the underdevelopment of the health system. MOH and its field partners were convinced that expanding the network of health centres as scheduled under the PHC programme was the top-priority, and the best way to tackle the burden of disease, including epidemics. When an epidemic occurred, the health services did not have the means nor the experience to react adequately, and therefore additional epidemic control measures were rarely taken. Improving the epidemic control capacity of the health system was not seen as a priority, but a possible later sophistication of the health system, once it would be well developed.

REFUGEE INFLUX. When the first refugees arrived and PARLS was launched, epidemics of measles and cholera were anticipated: the health authorities were well aware of the relation between migration and epidemics. PARLS forced MOH to speed up the development of the health system. Not only the schedule for the geographical expansion of the network of health centres had to be revised (Figure 44, page 176), but also the range of activities had to be expanded, to include mobile measles vaccination teams and a disease surveillance system. This meant a shift away from the logic underlying the PHC programme that was being developed before the refugees arrived. Instead of slowly constructing a basic health system, PARLS aimed from its start at setting up a more developed health system.

Between 1990 and 1996, epidemics of cholera, measles, beriberi and meningococcal meningitis occurred in the Forest Region (Figure 30). Health officials were particularly concerned about measles. Although severe overcrowding could largely be avoided, and mobile measles vaccination teams started very early, 3 major measles epidemics occurred in 7 years. The refugee influx caused a change in epidemic pattern of measles. There are, however, no indications that measles epidemics were as dramatic as typically described in refugee camps. Available data rather point to a decrease in measles CFR over the years.

As the poor quality of drinking water was a serious problem, epidemics of cholera and other diarrhoeal diseases were frequent. A 'rehydration-and-chlorination' control strategy was implemented through the existing health services, but they required intensive support from specialised teams to set up cholera treatment centres. The refugee influx probably caused the early smaller epidemics in 1990 and 1991, but the major 1995 cholera epidemic (Figure 30) was unrelated to the presence of refugees.

Other epidemics were not anticipated. An epidemic of meningococcal meningitis was only considered as a remote possibility, as the Forest Region is outside the meningitis belt.^{90,91} Nevertheless, at the end of 1992, an epidemic of meningococcal meningitis did start, but there are no reasons to link this epidemic to the refugee presence. A large-scale vaccination campaign was launched in Macenta and Guéckédou, but belatedly. Its impact on the course of the epidemic was doubtful. Also a small beriberi epidemic occurred, exclusively among the refugees living in Thuo refugee camp; it was successfully stopped through case management. In 1994, an epidemic of yellow fever was feared, but no cases occurred in Guinea.*

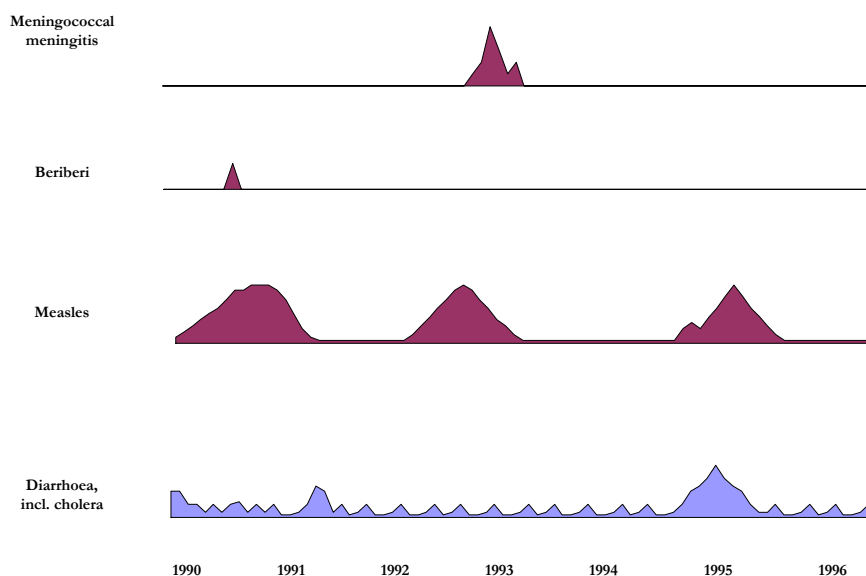


Figure 30: Epidemics in Forest Region, 1990-96

There was, however, a gap between the diseases perceived as a threat – because of their epidemic potential – and the diseases' contribution to the total burden of disease. Although usually considered an important cause of

* When yellow fever cases occurred in Nigeria and Ghana in 1993, a 'yellow fever-alert' was declared. A booklet with information on yellow fever was distributed to all health posts and health centres, and the importance of early declaration of any cases suspected was stressed. However, no declaration of suspected cases occurred, not even a false one. Soon the alert died out, and contingency planning ceased.

excess mortality in refugee literature (Figure 29, page 110), PARLS paid no special attention to pneumonia and malaria. The health authorities never perceived malaria or pneumonia as epidemic threats in the refugee-affected areas.* They thought that giving refugees access to health services was the best possible response for both malaria and pneumonia. They did not implement any additional control measures to tackle them, and these diseases are not discussed in this chapter on epidemics.

BIO-DEMOGRAPHIC BURDEN OF EPIDEMICS IN THE FOREST REGION

ATTACK RATES & CFRs. Table 19 presents the reported attack rates and CFRs of some selected epidemics that occurred in the Forest Region between 1990 and 1996. Several cholera and measles epidemics occurred, they lasted many months, spread throughout the Forest Region and thousands of cases were reported. Meningococcal meningitis and beriberi epidemics occurred only once, lasted weeks or a few months, remained geographically limited, and only hundreds of cases of meningitis, and as few as 20 cases of beriberi were reported. The reported numbers were undoubtedly underestimates (Box 3, page 105), but probably more so for measles than for the other diseases.

For measles, the 'real attack rate' (the attack rate occurring in the community) – as opposed to the 'reported attack rate' (the attack rate reported in the health facilities) – can be estimated quite reliably using a simple mathematical model.⁹²⁻⁹⁴ Comparing this with the reported attack rate, one can estimate that during measles epidemics, only some 20% of measles cases consulted the health services. Besides accessibility and acceptability of the health services, also the facts that measles affects only young children and that the population is very familiar with the disease may have played a role in this low utilisation. No measles mortality data are available. But even if mortality data had been available for those consulting at health facilities, the overwhelming majority of measles deaths undoubtedly occurred at home. Extrapolating from literature data, CFR in untreated case was estimated to be between 5 and 10%.^{37,95-99}

* In Guinea, inadequate shelter was never a serious problem; most refugees lived initially in Guinean families and schools, and soon started to construct their own houses with local building materials. Consequently, there were no indications that pneumonia became more frequent than it 'normally' was. Malaria had always been holo-endemic in the forest areas of Liberia, Sierra Leone and Guinea: it arguably was the most important health problem in the region.^{130,131}

Area (Period)	Disease	Total population	Reported caseload	Reported attack rate	Deaths notified	Reported CFR
N'Zérékoré, Yomou & Lola (Jan – Oct 1995)	Cholera	723,000	2,362	0.33%	258	11% ^a
Macenta & Guéckédou (Jan – Oct 1995)	Cholera	804,000	7,590	0.94%	164	2%
N'Zérékoré (Nov 1989 – Aug 1991)	Measles	243,000	4,442	1.83%	NA	NA
Guéckédou (June 1991 – Dec 1993)	Measles	340,000	2,247	0.66%	NA	NA
Macenta & Guéckédou (Jan – April 1993)	Meningitis	799,000	647	0.08%	51	8%
Thuo camp, Lola (Sept – Oct 1990)	Beriberi	10,000 (?)	20	0.20%	3	15%

NA = not available; CFR = case fatality rate; (?) = estimation. ^a Data include deaths recorded in the community.

Table 19: Reported burden of selected epidemics, Forest Region, 1990-96

For cholera, meningococcal meningitis and beriberi, the proportion of cases reported was probably much higher (70%?, 80%?). The population perceived these diseases as very severe, all age groups were involved, and the health authorities had taken special measures to improve access to the health services. However, some of the worst cases may have died before reaching the health facilities. But given the fear these diseases provoked and the sensitive case definitions used, there were also false positives, especially for cholera.

DEATHS DUE TO EPIDEMICS VS. OVERALL DEATHS. Table 20 estimates the share of deaths due to epidemics of cholera, measles and meningococcal meningitis in the total mortality in the Forest Region during an artificial 3-year period '1993-95'. It is assumed that during '1993-95' a cholera epidemic, a meningococcal meningitis epidemic and a measles epidemic took place.* The combined death toll of these 3 epidemics is estimated, both for

* '1993-95' is somehow artificially constructed. The 1992-94 measles data are used, together with those of the 1993 meningococcal meningitis epidemic and the 1995 cholera epidemic. However, as measles epidemics were triennial in the Forest Region, an 'artificial' 3-year period '1993-95' seemed the best fit to simulate the maximum impact of the three epidemic diseases combined. A measles epidemic occurred indeed in each triennial period, but epidemics of cholera and meningococcal meningitis occurred less frequently.

a low and a high estimate, using the following assumptions:

- (i) Total deaths due to all causes are based on the official 1995 population data for Guineans and refugees, with the crude mortality rate estimated at 18‰.¹⁰⁰ Maternal deaths are estimated assuming a crude birth rate of 50‰ and a maternal mortality rate of 900 per 100,000 live births.
- (ii) The low estimate uses the deaths reported during the 1995 cholera epidemic and the 1993 meningococcal meningitis epidemic. For measles the attack rate over 1992-94 assumes a CFR of 5% in the 80% of untreated cases, and a CFR of 2.5% in the 20% of cases treated.
- (iii) The high estimate uses the same attack rate for measles, but with a CFR of 10% in the untreated cases, reduced to 5% in the treated cases. For cholera and meningococcal meningitis it is assumed that the total number of deaths in the population was four times higher than those reported (75% false negatives).*

Table 20 shows that for the low estimates, deaths due to epidemics accounted on average for 4.1% of total deaths during '1993-95'. For the high estimates, this was 9.3%. The estimates for Macenta are presented in Figure 31. In the Forest Region, based on data from 1990-96, less than 15% of overall deaths were thus due to epidemics of cholera, measles and meningococcal meningitis (Table 20). In most prefectures, it was probably below 10%. Around 75% of these deaths were due to measles alone.

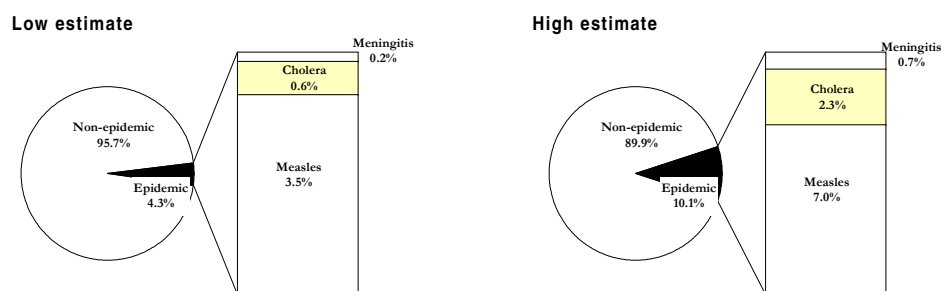


Figure 31: Deaths due to epidemics vs. overall deaths, Macenta, '1993-95'

* As stated above, for cholera and meningococcal meningitis there was probably less underreporting than for measles. To assume that only 25% of cholera and meningitis deaths were reported, seems really the upper limit, especially for cholera in Lola, N'Zérékoré and Beyla where deaths recorded in the community were included in the reported cholera deaths.

Prefecture (1995 popu- lation)	Total deaths '1993- 95'	Maternal deaths '1993- 95'	Cholera 1995 reported (low –high)	Meningitis 1993 reported (low–high)	Deaths due to epidemics				
					Measles 1992-94 estimated ^a (low – high)	3 epidemics '1993-95' (low – high)	3 epidemics % of total deaths (measles alone) low high		
N'Zérékoré (397,000)	21,438	179	57 – 228	0	518 – 1,035	575–1,263	2.7 (2.4)	5.9 (4.8)	
Yomou (164,000)	8,856	74	41 – 164	0	378 – 755	419–919	4.7 (4.3)	10.4 (8.5)	
Lola (189,000)	10,206	85	160 – 640	0	435 – 870	595–1,510	5.8 (4.3)	14.8 (8.5)	
Beyla (219,000)	11,826	99	74 – 296	0	504 – 1,008	578–1,304	4.9 (4.3)	11.0 (8.5)	
Macenta (355,000)	19,170	160	111 – 444	35 – 140	675 – 1,351	821–1,935	4.3 (3.5)	10.1 (7.0)	
Guéckédou (490,000)	26,460	221	53 – 212	16 – 64	932 – 1,865	1,001–2,141	3.8 (3.5)	8.1 (7.0)	
Total (1,814,000)	97,956	816 (0.83%)	496–1,984	51 – 204	3,442–6,884	3,989–9,072	4.1 (3.5)	9.3 (7.0)	

Assumptions: see text. ^a

Table 20: Deaths due to epidemics vs. overall deaths, Forest Region, '1993-95'

MEASURING CONTROL OF EPIDEMICS

Efficacy, effectiveness and cost-effectiveness are often used to measure the results of medical interventions.^{101,102} In the context of epidemics of infectious diseases (Table 21), the **efficacy** of a control measure is its result, in terms of decreased burden (reduction in attack rate and CFR) under conditions of optimal patient and provider compliance. It supposes that services are generally available and accessible to all those contracting, or at risk of contracting, the disease, and that these services are functioning 'optimally'. However, under field conditions, access to health facilities is incomplete (coverage), in some patients the diagnosis is missed or late (diagnostic accuracy), or the treatment prescribed is inadequate or not available (provider compliance), or control measures are taken after a delay (timeliness). Some patients do not use health services or do not comply with the treatment.¹⁰³ All these factors converge in reducing the efficacy of epidemic control measure to their **community effectiveness**.¹⁰²

<i>Aspect</i>	<i>Explanation</i>	<i>Indicator or measure used</i>
Theoretical susceptibility	Susceptibility to preventive and/or curative control measures under 'ideal' circumstances.	Efficacy. For vaccines: vaccine efficacy (reduction in attack rate). For case management: efficacy of treatment (reduction in CFR).
Operational feasibility	Ease of implementation: availability and quality of health services. Acceptability of control measures and of health services.	Coverage, diagnostic accuracy, provider compliance & timeliness. Utilisation of health services & patient compliance.
Result	Reduction in caseload and deaths.	Community effectiveness. For preventive measures: reduction in attack rate. For case management: reduction in CFR.
Cost	Cost of control measures to the health system. Private cost of control measures.	Direct cost, marginal cost, opportunity cost, & cost-effectiveness. Out-of-pocket cost & opportunity cost.

Table 21: Measuring control of epidemics

One can usually estimate the direct cost to the health services of epidemic control measures. If calculated as the additional cost to a routinely functioning health system, it can be considered a marginal cost. The **cost-effectiveness** of control measures is the community effectiveness obtained for a given cost.¹⁰⁴ In acute infectious diseases cost per case prevented, cost per case treated, and cost per death averted* are most frequently used. One should also consider the opportunity cost for the health system, and the private cost of control measures (out-of-pocket cost and opportunity cost for the population). But these are more difficult to estimate and usually ignored in cost-effectiveness analyses.¹⁰⁵

* A person can successively get several life-threatening diseases. One life can thus be saved repeatedly, or one's death averted repeatedly.¹³² Although 'deaths averted' is better than 'lives saved', it would be even more accurate to speak of 'deaths postponed'.¹³³

CONTROL OF CHOLERA, MEASLES, MENINGOCOCCAL MENINGITIS & BERIBERI

Table 22 and Table 23 summarise the efficacy, operational feasibility, community effectiveness and cost-effectiveness of the main preventive and curative epidemic control measures against the four diseases that occurred as epidemics in refugee-affected areas. For most variables, no data from the literature are available, and orders of magnitude are estimated in relation with field conditions prevalent in the Forest Region of Guinea.

SPECIFIC PREVENTIVE CONTROL MEASURES (Table 22) are mainly intended to reduce the attack rate of the epidemics. For measles and meningococcal meningitis effective vaccines are available. Both can be administered for pre-emptive vaccination, or for reactive vaccination. To reduce spread during a cholera epidemic, emergency chlorination of drinking water, and emergency sanitation can be implemented. A diet with sufficient thiamine prevents beriberi.

CASE MANAGEMENT (Table 23) during epidemics is mainly intended to reduce the CFR. For each of the four diseases, effective case management is possible. Most cases can be treated in peripheral health facilities by nurses.

Disease	Measures	Theoretical susceptibility Vaccine efficacy Attack rate	Operational feasibility		Result	
			Ease of implemen- tation	Accept- ability	Community effectiveness Attack rate	Cost- effective- ness ^a
Cholera	Emergency chlorination of drinking water	na	++	++	??	+++
	Emergency sanitation	na	+	+	??	++
Measles	Pre-emptive vaccination	85% ^b	+++	++	35-69% ¹⁰²	++++
	Reactive vaccination	85% ^b	++	+++	50%(?)	+++
Meningo- coccal meningitis	Pre-emptive vaccination	90% ⁸⁸	+	++	50%(?)	+
	Reactive vaccination	90% ⁸⁸	+	++++	50%(?)	++
Beriberi	Diet with thiamine	na	+++	++++	100%	+++

na = not applicable; + = low, ++ = intermediate, +++ = high, and ++++ = very high; ?? = unknown;

(?) = order of magnitude: no data found in literature, and depends largely on coverage reached. ^a High cost-effectiveness means that the cost is low for the result obtained (and *vice versa*). ^b Measles vaccine efficacy is 85% when administered at 9 months of age; it is only 60-70% when administered at 6 months of age,¹⁰⁰ but increases to 95-98% at 15 months of age.

Table 22: Specific preventive measures against epidemic diseases

Disease	Cornerstone of case management	Theoretical susceptibility	Operational feasibility		Result	
		Efficacy of treatment (reduction in CFR) ^b	Ease of implementation	Acceptability	Community effectiveness (reduction in CFR)	Cost-effectiveness ^a
Cholera	Oral and intravenous rehydration	50%→1-2% ^{25,107}	++	+++	50%→5-10%(?)	++++
Measles	Prevention and treatment of complications	5%→1.25% ^c 10%→2.50%	+++	++	5%→2.5%(?) 10%→5%(?)	++++
Meningitis	Antibiotherapy	50%→10% ²⁵	+++	+++	50→15%(?)	++++
Beriberi	Thiamine	++++	+++	++++	+++	++++

CFR = case fatality rate; + = low, ++ = intermediate, +++ = high, ++++ = very high; (?) = order of magnitude: no good data in literature, and depends strongly on coverage reached. ^a High cost-effectiveness means that the cost is low for the result obtained (and *vice versa*). ^b Estimation of the reduction in CFR from the 'natural' CFR to the lowest possible CFR with timely and optimal treatment. ^c CFR differs widely, probably depending on intensity of transmission.⁶⁰ The efficacy of excellent case management was reported to be 78%.⁹²

Table 23: Case management of epidemic diseases

CONTROL MEASURES IN THE FOREST REGION

Table 24 summarises the main measures PARLS took to control the epidemics of cholera, measles, meningococcal meningitis and beriberi. They correspond to almost the complete range of measures theoretically available (Table 22 & Table 23).

From an operational point of view, a distinction between measures that are part of the routine functioning of health services – 'routine' – and additional measures, deployed as an answer to an epidemic threat – 'intervention' – is more useful than a distinction between preventive and curative measures. However, the borderline between 'routine' and 'intervention' is not always clear. In Guinea, case management for the different diseases and pre-emptive measles vaccination in the health centres were part of the routine functioning of the health services. Cholera treatment centres, mobile measles vaccination teams and mass meningococcal meningitis vaccination campaigns were specific answers to epidemic alerts (Figure 32). However, when cholera, meningococcal meningitis and beriberi epidemics occurred, MOH and MSF decided that all health care for patients with these conditions was free of charge for refugees and Guineans, even in facilities functioning on a cost-recovery basis. This decision constituted an intervention in the routine.

<i>Disease</i>	<i>Specific preventive measures</i>	<i>Case management</i>
Cholera	Emergency chlorination of drinking water was part of 'rehydration-and-chlorination' strategy. Emergency sanitation was tried in some instances, but deemed unsuccessful.	Case management was routinely performed in all health facilities, but it was reinforced with the cholera control programme ('rehydration-and-chlorination' strategy and cholera treatment centres). Care was free of charge for refugees and Guineans.
Measles	Pre-emptive vaccination was performed by health centre teams and by mobile teams. Reactive vaccination was performed from 1993 on.	Case management was a routine activity in all health facilities.
Meningo-coccal meningitis	Pre-emptive vaccination was never performed. Reactive vaccination was performed during the mass campaigns in Macenta and Guéckédou.	Cases had to be referred from health centre to hospital. During the epidemic, special treatment protocols for treatment in health posts and health centres were established. Care was free for refugees and Guineans.
Beriberi	None	Case management was performed in health posts.

Table 24: Epidemic control measures used in Guinea

Costs and effects of controlling epidemics in the Forest Region

Funding by authorities and donors, together with the official user fees, amounted to about US\$3 per inhabitant and per year (Table 5, page 33). Control of epidemics entailed additional costs. This section estimates the direct costs for epidemic control activities: cost of vaccines, drugs, medical and non-medical material, vehicles, extra staff, &c. In combination with information on the effectiveness* of the different control activities, these

* The numbers of cases and/or deaths averted are sensitive to errors in the measurement of the numbers of cases and deaths that actually occurred, as well as to errors in the estimations of the numbers that would have occurred without the control measures. For the latter, the absence of comparison areas makes it necessary to rely on estimates extrapolated from the literature. Can conclusions be drawn on the basis of material with such an amount of uncertainty? The classical economist's approach is to conduct sensitivity analyses,¹³⁴ to check whether tenta-

cost-estimates help to answer questions on affordability and cost-effectiveness of the approaches used in Guinea to control the (real or threatening) epidemics that occurred between 1990 and 1996.

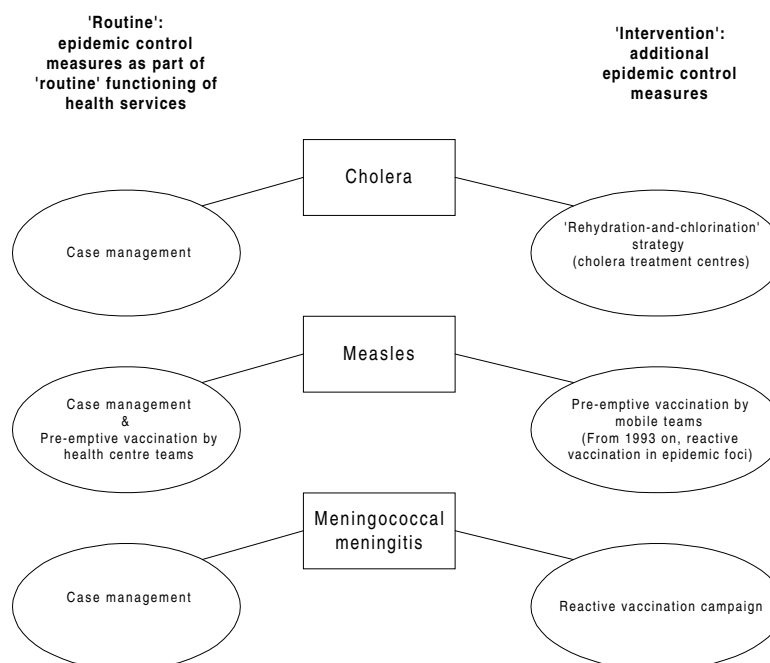


Figure 32: Epidemic control measures in Forest Region, 1990-96

EFFECTIVENESS. Estimates are made for the likely burden of an epidemic of cholera, measles, and meningococcal meningitis in Macenta prefecture. These estimates are based on notification data available from the Forest Region, completed with data from the literature. Where possible, estimates are made for 3 situations: (1) a 'natural' situation, in the absence of any health care, (2) a 'routine' situation where routine health services are functioning, without any additional epidemic control measures, and (3) an 'intervention' situation, as was the case in Guinea, where routine health services were strengthened and additional epidemic control measures implemented.

tive conclusions still hold with modified assumptions.

COSTS are estimated for Macenta prefecture for '1993-95', based on its 1995 population of 355,000 inhabitants, using data from MOH and MSF reports. For cholera, the cost of the 'chlorination-and-rehydration' strategy deployed in Macenta in 1995 is estimated.¹⁰⁸ The cost of pre-emptive measles vaccination by mobile teams is estimated from data for the whole Forest Region. The cost of the mass vaccination campaign against meningococcal meningitis is estimated from data on the 1993 epidemic in Guéckédou and Macenta.¹⁰⁹ These costs are marginal costs since the basic district system, with its facilities, staff, vehicles and cold chain, was already functioning and funded.*

COST-EFFECTIVENESS. Cost per case prevented and cost per death averted are calculated using these cost and effectiveness estimates. Sensitivity analysis, using various assumptions for reductions in attack rate and CFR (Table 22 & Table 23), is used to ascertain the robustness of inferences regarding the epidemic control measures.

CHOLERA

The caseload registered during the 1995 cholera epidemic in Macenta is used as a basis for the cost calculation. In the absence of treatment CFR of cholera is around 50% (Table 23). Without specific intervention, health facilities of the kind one had in Guinea may be expected, in the best of cases, to reduce this CFR to between 10 and 20%. In actual fact health facilities were assisted in dealing with cholera cases, through a cholera control programme: implementation of a 'rehydration-and-chlorination' strategy by the existing health facilities, reinforced with cholera treatment centres (CTCs).

DEATHS AVERTED. In Macenta, 6,340 cholera 'cases' were treated and 111

* This method is similar to the one used in the World Development Report 1993: Investing in Health.¹⁰⁵ The report states: "*The cost and effectiveness estimates used in this Report are based, as far as possible, on actual conditions in developing countries. Some fixed costs of operating a health system that cannot be attributed to particular interventions are not considered, but the costs of intervention-specific capacity are taken into account. Costs are assessed at market prices. For inputs that cannot be traded internationally, costs will be lower in developing countries. For drugs, most equipment, and high-level manpower, costs are likely to be equal across countries. Indirect costs, such as patients' costs of travel to treatment or the income they forgo, can be substantial for some interventions. Because these costs are difficult to determine, they were largely ignored.*"

deaths recorded: a CFR of 2% (reported deaths are probably underestimates, reported cases probably less so). As these data include false positives with a very low CFR, the CFR of true cholera cases may in fact have been as high as 4% ('Intervention' in Table 25).^{*} If cholera had been tackled by the routine health services ('Routine' in Table 25), without additional cholera control programme, one could have expected between 317 and 1,268 deaths among the 6,340 reported cases, depending on whether (1) one considers all cases as true cholera cases, and (2) whether one expects unassisted health facilities to get CFR down to 20 or to 10%. Depending on the combination of assumptions the number of deaths averted by the routine health services, as compared to the 'natural situation' with 50% CFR (Table 25), would have been between 951 and 2,536 deaths. The cholera control programme additionally averted between 206 and 1,157 deaths. This is a low-end estimate. First, because between 10 and 20% CFR in unassisted and unprepared health facilities of the kind one has in Guinea is rather optimistic. Second, because it does not take into account any reduction in attack rates: it is likely that chlorination of drinking water prevented at least some cases of cholera. Without this chlorination effort larger numbers of patients would have had to use the health facilities. Third, it is likely that without the cholera control programme a number of cholera 'cases' would not have used health services at all, and would have died at home at a rate much closer to 50%.

'Natural' situation (CFR = 50%)		'Routine': routine health services without cholera control programme (CFR = 10 to 20%)						'Intervention': routine health services & cholera control programme (CFR = 2 to 4%)			
Cases	Deaths	Assumptions		Cases	Deaths	Deaths averted	Drug cost per death averted	Cases (observed)	Deaths	Additional deaths averted	Cost per additional death averted
		FP	CFR								
6,340	3,170	None	10%	6,340	634	2,536	US\$7	6,340	111	523	US\$135
6,340	3,170	None	20%	6,340	1,268	1,902	US\$9	6,340	111	1,157	US\$61
3,170	1,585	50%	10%	3,170	317	1,268	US\$14	3,170	111	206	US\$344
3,170	1,585	50%	20%	3,170	634	951	US\$18	3,170	111	523	US\$135

FP = false positives; CFR = case fatality rate.

Table 25: Cholera: low-end estimates of deaths averted, Macenta, 1995

^{*} If one considers the very sensitive case definition used in the health facilities: up to 50% of 'cases' may actually have been non-cholera cases (false positives), with a near 0% CFR.

COST-EFFECTIVENESS. The total direct cost of the cholera control programme in Macenta was US\$70,850. It used some 12,000 litres of Ringer's lactate, 31,000 sachets of oral rehydration salts, 22,000 doxycycline tablets and 450 kg calcium hypochlorite. These supplies were available in the *Centrale d'Achat* of N'Zérékoré. The cost was US\$15,000, US\$2,500, US\$700 and US\$1,800 respectively. The cost of cholera cots, water containers, cleaning tools, and other material was US\$13,800 for the 46 CTCs established in Macenta. Two cars and two motorbikes were used exclusively for the cholera epidemic, at an estimated cost of US\$13,800 for 6 months. Twelve full-time staff were deployed for the cholera programme, one of them an expatriate, at an estimated cost of US\$23,250 for 6 months. The 6,340 cholera patients were thus treated at some US\$11 per patient. Depending on the assumptions used, the cost per death averted of the cholera control programme was between US\$61 and US\$344 (Table 25).

CASE MANAGEMENT IN ROUTINE HEALTH SERVICES. Assuming that routine case management in health services would have used similar quantities of Ringer's lactate and oral rehydration salts per case treated, the direct drug cost would have been US\$17,500, or US\$2.76 per patient treated; and between US\$7 and US\$18 per death averted (Table 25).

MEASLES

NATURAL SITUATION. Measles epidemics followed a triennial cycle in most of the Forest Region. In the 'natural' situation, the attack rate of measles during one such cycle would have been 10.44% of the total population.* In Macenta '1993-95', with its 355,000 inhabitants this would have amounted to some 37,000 measles cases. In the absence of case management, with a CFR of between 5 and 10%, this would have resulted in between 1,850 and 3,700 deaths.

MEASLES VACCINATION. Around 70% of children were vaccinated against measles, roughly half by health centre teams and half by the mobile teams.†

* Expected attack rate = (periodicity of epidemics in years) * (proportion of under-fives / 5) * (1 - (coverage) * (vaccine efficacy)) = 3 * (0.174 / 5) * (1 - (0 * 0.85)) = 0.1044.

† In the rural refugee-affected areas, surveys found on average 60% coverage. For the whole prefecture, estimates of the PHC programme were around 70% coverage. Initially in 1990, there were few health centres functioning and the mobile teams performed considerably more than half of the vaccinations. Following the expansion of the network of health centres, health centre teams progressively performed

With a vaccine efficacy of 85%, 70% of vaccination coverage prevented approximately 22,200 cases and between 1,110 and 2,220 measles deaths; half by mobile teams, and half by health centre teams (Table 26).

Between 1990 and 1996, the mobile teams vaccinated some 130,000 children. They used some 200,000 doses of measles vaccine at a cost of US\$60,000. 250 mobile team-months were dedicated to measles vaccination, at an estimated total cost of US\$137,500. The total direct cost of measles vaccination of some 130,000 children by mobile teams was thus approximately US\$200,000 over a 7-year period, or US\$1.50 per child vaccinated. In 'Macenta during '1993-95', the total cost of vaccination by mobile teams was estimated at US\$33,300. The result was 22,200 vaccinations, 11,100 cases prevented,* and between 555 and 1,110 deaths prevented. The cost was US\$3 per case averted, and between US\$30 and US\$60 per death prevented (Table 26).

In Guinea, the cost of routine vaccination at health centre was estimated at US\$8.80 per fully vaccinated child.^{110 †} This cost includes investment in cold chain and transport. If one attributes 20% of this cost to measles vaccination, the cost is similar to measles vaccination by mobile teams: US\$1.76 per child vaccinated. Health centre teams carefully recorded vaccinations, and never carried them out before 9 months of age. Under such circumstances one can assume that 85% of vaccinations resulted in protection. The cost per measles case prevented was then US\$2. The cost per measles death prevented was between US\$21 and US\$42 depending on CFR. If one, however, considers the full investment cost, the cost is approximately US\$5 per measles vaccination, US\$6 per measles case prevented, and between US\$59 and US\$117 per death prevented (Table 26).

a growing share.

* For measles vaccination by mobile teams, taking into account vaccine failures, revaccinations and vaccination post-measles, it seems reasonable to put the number of cases averted at 50% of vaccinations performed.

Vaccine efficacy is estimated at 85% at 9 months of age. Although the policy was to vaccinate children from 6 months of age on, many were vaccinated considerably later. Vaccine efficacy below 85% for those vaccinated before 9 months of age may roughly cancel out with vaccine efficacy above 85% for those vaccinated after 9 months of age. It has been documented elsewhere^{135,136} that vaccine efficacy may be considerable lower in field conditions. Breakdown of cold chain was thought to be the main cause. In Guinea, no incidents affecting the cold chain were reported, and notification of measles in vaccinated children was rare. No in-depth vaccine-efficacy study has, however, been done.

† Fully vaccinated child means vaccinated with BCG, polio, diphtheria - tetanus - pertussis, and measles vaccines, which needed 5 contacts with the health service (at 0, 1, 2, 3 and 9 months).

	<i>Total cost</i>	<i>Vaccina- tions</i>	<i>Cost per vaccination</i>	<i>Cases prevented</i>	<i>Cost per case prevented</i>	<i>CFR</i>	<i>Deaths prevented</i>	<i>Cost per death pre- vented</i>
Mobile teams	US\$33,300	22,200	US\$1.50	11,100	US\$3	10% 5%	1,110 555	US\$30 US\$60
Health centre teams	US\$23,000 ^a	13,060	US\$1.76	11,100	US\$2	10% 5%	1,110 555	US\$21 US\$42
	US\$65,300 ^b	13,060	US\$5.00	11,100	US\$6	10% 5%	1,110 555	US\$59 US\$117

^a One-fifth of total vaccination cost. ^b Full investment cost considered.

Table 26: Cost-effectiveness of measles vaccination, Macenta '1993-95'

VACCINATION & CASE MANAGEMENT. The cost to treat an ambulatory measles case in a health centre in Guinea was estimated at US\$1.¹¹⁰ Assuming a reduction in CFR from 10 to 5%, curative treatment would then cost US\$20 per measles death averted. A reduction in CFR from 5 to 2.5 % would mean US\$40 per measles death averted.

Such a reduction in CFR can obviously be obtained only for these cases that consult at the health centre: this was the case for only 20% of measles cases. With 70% measles vaccination coverage, preventing 60% of measles cases, the health facilities in Macenta '1993-95' would have treated 2,960 cases at a cost of US\$2,960, averting between 74 and 148 deaths (Table 29), at a cost of between US\$20 and US\$40 per death averted. In the absence of vaccination (Table 27), but assuming similar 'curative coverage' * in Macenta '1993-95', health facilities would have treated some 7,400 cases at a cost of US\$7,400, averting between 185 and 370 deaths, at a cost of between US\$20 and US\$40 per death averted. Assuming 30% curative coverage, the health facilities would have treated 11,100 measles cases, averting between 278 and 555 deaths (Table 27).

* Such assumption is, however, unlikely. The 'measles curative coverage' was assessed in a period when measles vaccination coverage was between 30% and 70%. It is likely that families using health facilities for preventive activities (i.e. measles vaccination) are more likely to use health facilities in case of disease (i.e. measles) than families not using health facilities for preventive activities.

CFR		'Natural' situation Cases (deaths)	Case management, without vaccination				
Cases not treated	Cases treated		Curative coverage	Cases not treated (deaths)	Cases treated (deaths)	Total deaths	Deaths averted
10%	5%	37,000 (3,700)	20%	29,600 (2,960)	7,400 (370)	3,330	370
			30%	25,900 (2,590)	11,100 (555)	3,145	555
5%	2.5%	37,000 (1,850)	20%	29,600 (1,480)	7,400 (185)	1,665	185
			30%	25,900 (1,295)	11,100 (278)	1,573	278

Table 27: Cost-effectiveness of measles case management, Macenta '1993-95'

Table 28 presents the likely impact of the 'routine' situation: measles vaccination by health centre teams, reaching a vaccination coverage of 35%,* together with case management reaching 20% 'curative coverage'. In Table 29 the added impact of measles vaccination by mobile teams, reaching a combined vaccination coverage of 70% is estimated ('intervention' situation).

CFR		'Natural' situation Cases (deaths)	Vaccination in health centres (35% coverage)		Case management (20% coverage)			'Routine': vaccination & case management	
Cases not treated	Cases treated		Cases prevented (deaths prevented)	Cases occurring	Cases not treated (deaths)	Cases treated (deaths)	Deaths averted	Total deaths	Deaths averted
10%	5%	37,000 (3,700)	11,100 (1,110)	25,900	20,720 (2,072)	5,180 (259)	259	2,331	1,369
5%	2.5%	37,000 (1,850)	11,100 (555)	25,900	20,720 (1,036)	5,180 (130)	130	1,165	685

Table 28: Impact of 'routine' measles control, Macenta '1993-95'

* This 35% is an average estimation for the period 1990-96, for the total population: refugees and Guineans. In 1996, all health centres were functioning routinely, and measles coverage by health centres alone definitely was higher.

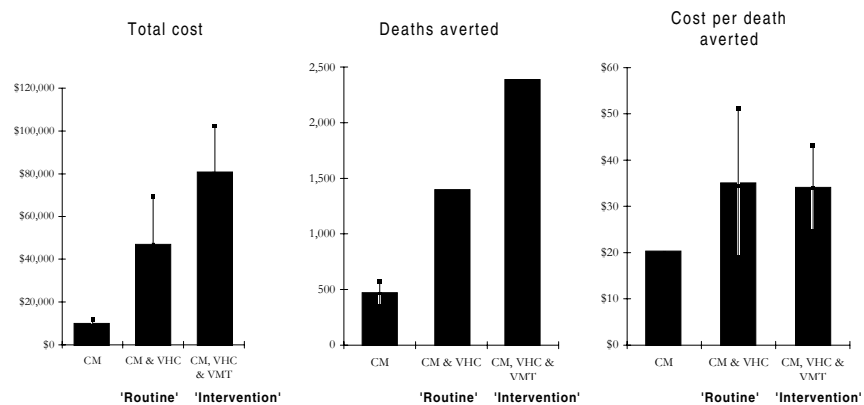
CFR		'Natural' situation	Vaccination by health centres & by mobile teams (70% coverage)		Case management (20% coverage)		'Intervention': vaccination & case management		
Cases nor treated	Cases treated	Cases (deaths)	Cases prevented (deaths prevented)	Cases occurring	Cases not treated (deaths)	Cases treated (deaths)	Deaths averted	Total deaths	Deaths averted
10%	5%	37,000 (3,700)	22,200 (2,220)	14,800	11,840 (1,184)	2,960 (148)	148	1,332	2,368
5%	2.5%	37,000 (1,850)	22,200 (1,110)	14,800	11,840 (592)	2,960 (74)	74	666	1,184

Table 29: Impact of 'intervention' measles control, Macenta '1993-95'

Table 30 and Figure 33 summarise the cost-effectiveness of different measles control strategies. The cost per death averted remains quite stable. The combination of case management, with vaccination in health centres and by mobile teams was clearly the best possible option in Guinea.

Strategy used	Cases prevented out of 37,000	Deaths averted		Total cost (US\$)	Cost per death averted (US\$)	
		out of 3,700 10% CFR	out of 1,850 5% CFR		10 % CFR	5% CFR
Case management alone (Table 27)	0	370-555	185-278	7,400-11,100	20	40
'Routine': case management & vaccination in health centres (Table 28)	11,100	1,369	685	25,960 - 68,260	19-50	38-100
'Intervention': case management, vaccination in health centres & by mobile teams (Table 29)	22,200	2,368	1,184	59,260 - 101,560	25-43	50-86

Table 30: Cost-effectiveness of measles control strategies, Macenta '1993-95'



CM = case management; VHC = vaccination in health centres; VMT = vaccination by mobile teams; 'Natural' CFR of 10% is assumed for all estimates

Figure 33: Cost-effectiveness of measles control strategies, Macenta '1993-95'

MENINGOCOCCAL MENINGITIS

When an epidemic of meningococcal meningitis occurred in 1993, mass vaccination and improved case management were the cornerstones of the control strategy.

DEATHS AVERTED BY VACCINATION. The reduction in attack rates resulting from meningococcal meningitis vaccination is difficult to estimate. As it is a reactive vaccination, not only the coverage reached but also the timing of vaccination plays a major role. In Macenta prefecture, vaccination was undoubtedly late. Whether mass vaccination in Guéckédou prefecture was timely is less clear. In the rural areas of Guéckédou, 120,000 persons out of some 400,000 were vaccinated, and no epidemic occurred. One can interpret this as '*vaccination prevented the epidemic*', or as '*no epidemic would have occurred anyhow*'.

A plausible assumption is that vaccination did not stop transmission, and did not influence the course of the epidemic.¹¹¹ Mass vaccination would then have decreased the attack rate proportionally to the vaccination coverage (28% in Macenta prefecture and 47% in Guéckédou prefecture),^{109,112-115} prevented 210 cases in Macenta and 96 cases in Guéckédou (Table 31).

Even this assumption may be too optimistic. Other authors estimate that the 28% and 47% reduction in attack rate does not apply to the whole caseload of the epidemic, but only to the caseload that occurred after pro-

tective immunity was conferred, and this only in some 90% of persons vaccinated.¹¹⁶

In Macenta and Guéckédou, CFR among notified cases was 6% and 15% respectively. It was assumed that all meningitis cases were reported and treated, and that thus respectively 6 and 15% of cases prevented through mass vaccination would have died in the absence of mass vaccination. With these assumptions, the meningococcal meningitis vaccination campaign prevented 13 deaths in Macenta, and 14 deaths in Guéckédou (Table 31).

COST-EFFECTIVENESS. The direct cost of vaccination was estimated at US\$0.50 per vaccination: US\$0.30 for the vaccine, US\$0.07 for injection material, US\$0.08 for logistics and US\$0.05 for staff incentives.¹⁰⁹ Total cost of the 104,000 vaccinations in Macenta prefecture was US\$52,000. For Guéckédou prefecture the cost of 207,000 vaccinations was US\$103,000. The cost per death prevented through vaccination was US\$4,000 in Macenta and US\$7,358 in Guéckédou. No cost-estimation for case management is available, but it was undoubtedly much cheaper than vaccination.

<i>Prefecture</i>	<i>Total cost</i>	<i>Reduction in attack rate</i>	<i>Caseload observed</i>	<i>Cases prevented</i>	<i>Cost per case pre- vented</i>	<i>Deaths notified</i>	<i>Deaths pre- vented</i>	<i>Cost per death pre- vented</i>
Macenta	US\$52,000	28%	539	210	US\$248	35	13	US\$4,000
Guéckédou	US\$103,000	47%	108	96	US\$1,073	16	14	US\$7,358

*Table 31: Cost-effectiveness of meningitis vaccination,
Macenta & Guéckédou, 1993*

IMPACT OF EPIDEMIC CONTROL MEASURES (Table 32). In a ‘natural’ situation, meningococcal meningitis CFR would be around 50%. With case management in routine services, this could be reduced to some 20%(?). With improved case management this was brought down to 6% in Macenta.

<i>‘Natural’ situation</i>		<i>‘Routine’: case management in routine health system</i>			<i>‘Intervention’: improved case management & mass vaccination</i>		
<i>Cases</i>	<i>Deaths (50%)</i>	<i>Cases</i>	<i>Deaths (20%)</i>	<i>Deaths averted</i>	<i>Cases</i>	<i>Deaths (6%)</i>	<i>Additional deaths averted case management vaccination</i>
749	375	749	150	225	539	35	102 13

Table 32: Impact of meningitis control activities, Macenta ‘1993-95’

'ROUTINE' VS. 'INTERVENTION'

The cost-effectiveness of epidemic control measures against cholera, measles and meningococcal meningitis in the Forest Region is summarised in Figure 34.

All activities were very cost-effective, except meningococcal meningitis vaccination. Indeed, rehydrating a cholera patient is one of the most effective medical interventions existing. Also measles vaccination and measles case management are very cost-effective health care interventions in developing countries.¹¹⁷ A recent study in Nigeria found that meningococcal meningitis vaccination was considerably less cost-effective than case management,¹¹⁶ but this critically depends on attack rates and timing of vaccination.

One should treat these data with caution, and this for several reasons. First, different sources for cost estimates had to be used, and their reliability varied. For instance, cost of meningococcal meningitis mass vaccination was better documented than cost of measles vaccination. Second, the cost was estimated as a marginal cost to the routinely functioning health system. Activities mainly developed within the existing facilities, such as case management, tend to have a lower marginal cost than activities for which an additional programme was organised, such as the 'rehydration-and-chlorination' cholera control strategy or meningococcal meningitis vaccination. However, this method of cost estimation was the best possible with the data available, and is widely used.^{104,105} Lastly, the assumptions used for reduction in attack rates and CFRs are imprecise. Reported or estimated attack rates and CFRs are already imprecise ('intervention' situation), but attack rates and CFRs in the absence of any health care ('natural' situation), or in the absence of additional epidemic control measures ('routine' situation) are even more difficult to estimate. To what extent data from the literature can be used in Guinea is doubtful. Predicting '*what would have happened if ...*' is often highly speculative.

The cost-effectiveness of epidemic control as part of routine health services was very favourable. But for measles, the coverage reached was low. During cholera and meningococcal meningitis epidemics in Guinea, efforts were made to improve case management, and care was made free of charge. The data available from Guinea do not allow for calculating the cost-effectiveness of such measures to encourage the use of routine health services, but it may well be that they were very cost-effective.

The role existing health services can and should play in control of epidemics is an important issue. In sub-Saharan Africa, health services often

lack the means and experience to tackle epidemics adequately.* They may run out of stock of the necessary drugs, and may have difficulties coping with the increased workload. In Guinea, existing health services could play a useful role during epidemics, but they had to be strengthened to do so. The decrease in measles vaccination coverage during the temporary abolition of the mobile teams illustrated that even if they receive additional means health services cannot always easily carry out additional activities.

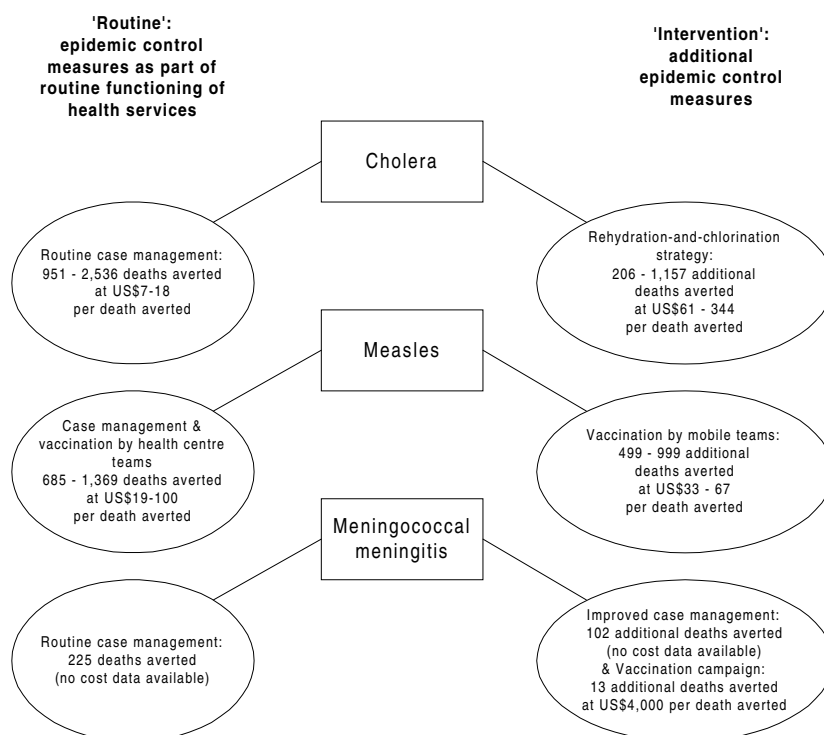


Figure 34: Cost-effectiveness of epidemic control measures, Macenta '1993-95'

Control of epidemics through existing health facilities undoubtedly helped to reduce costs thanks to the availability of many trained manpower, and the existence of a relatively dense network of health facilities. Moreo-

* It is not uncommon to hear reports of health services continuing 'business as usual' while an epidemic of cholera or meningococcal meningitis is ravaging the district.

ver, when the basic health services offer an appropriate response to epidemics, they intervene in a very vulnerable situation, when the population is worried and panic sometimes reigns. The credibility gained by a useful intervention in such circumstances can increase the prestige of the health service, and may subsequently improve coverage and utilisation of routine activities. Disease surveillance and capacity building for epidemics control should not only be an integral part of a refugee-assistance programme, but of any health service in sub-Saharan Africa. Such capacity may considerably increase the efficiency and acceptability of the health services overall.

Epidemics in context

DEATHS IN 'NATURAL' SITUATION VS. 'ROUTINE' & 'INTERVENTION'

Table 20, page 117, compares the deaths due to epidemics with the overall deaths in the Forest Region, and concludes that between 4.1 and 9.3% of all deaths were due to epidemics of cholera, meningococcal meningitis or measles. However, in the absence of additional epidemic control measures, the death toll could have been considerably higher (Table 33). In contrast with Table 20, this simulation does not make any assumptions for un-notified deaths (false negatives). Doing so would not have fundamentally changed the conclusions. Roughly, with the assumptions made, the 'routine' health system alone would have halved the deaths due to epidemics, as compared to the 'natural' situation, and the 'intervention' – the additional epidemic control measures – halved them again, leaving approximately one-fourth of deaths occurring.*

COST OF 'INTERVENTIONS' VS. COST OF THE HEALTH SYSTEM

The total cost of additional epidemic control measures – the 'interventions' – during '1993-95' in Macenta was estimated at US\$183,550 (US\$70,850 for the cholera control programme, US\$60,700 for measles vaccination with mobile teams and US\$52,000 for the meningococcal meningitis mass vaccination campaign). The cost was US\$0.52 per capita for 3 years. This adds 5.75% to the total cost of the routine health system – estimated at US\$3,195,000 for the triennial period – almost equally divided between cholera, measles and meningococcal meningitis control (Figure 35).

* These estimates obviously depend on the actual scenario. A wider range of possibilities is provided by Figure 34, page 133. Other choices would change the figures, but the marginal gain of adding the 'intervention' is always markedly smaller than what is gained by the 'routine' health system.

	'Natural' situation Deaths expected	'Routine' health system Deaths expected	Deaths averted	'Intervention' Deaths observed /estimated	Deaths averted	Source tables ^a
Cholera	1,585 - 3,170	317 - 1,268	1,268 - 1,902	111	206 - 1157	Table 25
Measles	1,850 - 3,700	1,165 - 2,331	685 - 1,369	666-1,332	499 - 999	Table 28 & 29
Meningitis	375	150	225	35	115	Table 32
Total	3,810 - 7,245	1,632 - 3,749	2,178 - 3,496	812-1,916	820-1,833	

^a Some data differ slightly from those in source tables due to successive rounding off.

Table 33: Potential deaths due to epidemics, Macenta, '1993-95'

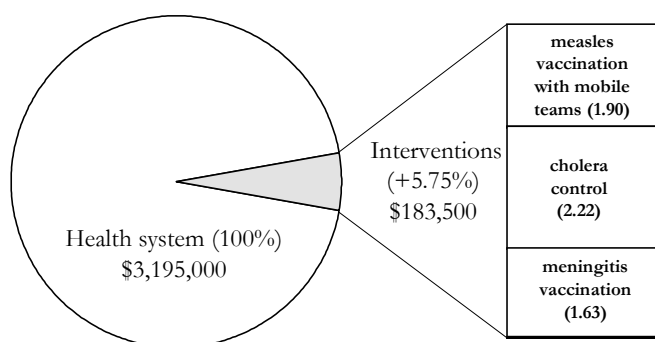


Figure 35: Cost of epidemic control interventions, 'Macenta 1993-95'

5.75% extra for interventions to control epidemics seems low, if one takes into account the following factors. First, that cholera, measles and meningococcal meningitis accounted for between 4.1 and 9.3% of overall deaths (Table 20, page 117), but that in the absence of these interventions the death toll could have been twice as high (Table 33). Second, that this cost-estimate is a worst-case scenario. This 5.75% estimated in Macenta for '1993-95' was probably higher than in other prefectures, or for other time periods. During the triennial period Macenta '1993-95' epidemics of cholera, measles and meningococcal meningitis occurred. Meningococcal men-

ingitis did only occur in Macenta and Guéckédou, and did not occur during the remainder of the period studied (1990-96), and cholera was more severe in Macenta than elsewhere.

IS COST PER DEATH AVERTED AN ADEQUATE MEASURE?

There are several problems with the use of cost per death averted as a measure of the cost-effectiveness of epidemic control measures. First, cost-effectiveness alone is not sufficient for the evaluation of a medical intervention. The cost-effectiveness ratio has to be balanced with the acceptability of the coverage reached (the deaths not averted, and whether this is 'acceptable'), and the affordability of the total cost. This is clearly illustrated for measles in Figure 33, page 130. Cost per death averted by case management alone was lowest, but the coverage reached would have been 'unacceptably low'. The best strategy was clearly the intervention – case management, vaccination by health centres & by mobile teams – as it averted most deaths and the total cost was still affordable.

Second, deaths averted can only be assessed after the epidemic occurred. Epidemic control measures are taken on the basis of 'expected' impact. The expected burden of an epidemic threat seems to be intuitively overestimated, both by the public and the health authorities. Moreover, when faced with an epidemic alert, decisions have to be made under considerable time-pressure, and thus often with a high degree of uncertainty. Epidemic control measures tend to be inspired by a 'worst-case scenario', rather than by the 'most probable scenario'. To evaluate *post factum* the epidemic control measures with the deaths averted calculated on the basis of a 'probable-case scenario' is, in fact, not fair.*

Third, epidemics do not only cause deaths, but also morbidity and disability. Cost per DALY averted would then be a better measure to evaluate epidemic control measures. Cost-effectiveness was calculated in terms of cost per DALY averted using the data from the Forest Region with the DALY-equivalents for sub-Saharan Africa used in the Global Burden of Disease.¹¹⁸ † The cholera and measles control measures costed between

* Cost-effectiveness estimates, as performed above, are also in sharp contrast with the intuitive evaluation performed by the actors involved. After the epidemic is over, the observed extent (most likely similar to the most probable scenario) is usually lower than anticipated (the worst-case scenario). Most actors involved, maybe with the exception of the most sceptical, have a tendency to make a causal link between the intervention and the observed result, and to think that the favourable outcome occurred *thanks to the control measures implemented*.

† Cholera case management: US\$0.50 per DALY; measles case management: be-

US\$0.50 and US\$10 per DALY, which ranks them between the most cost-effective health measures available.¹⁰⁵ Using cost per DALY averted did not fundamentally change the conclusions of the analysis based on cost per death averted. This was to be expected since the burden caused by diseases such as cholera, measles and meningitis is mainly due to premature death, with little weight given to morbidity and disability.

Lastly, epidemics do not only cause death, disease and disability. They also provoke fear and anxiety. Reductions in anxiety are difficult to measure and were not taken into account for the cost-effectiveness analysis; this seems a crucial objection. The bio-demographic burden and the psychological impact are both integral parts of what is perceived as an epidemic, both by health professionals and by the population. In Guinea, the psychological impact seemed influenced by factors such as (1) the degree of acquaintance with the diseases; (2) the fear of further spread; (3) the age groups involved; (4) the perception of certain epidemics as being an 'invasion from outside'; and (5) the history of the disease in the area (Table 34). These factors may explain why cholera and meningococcal meningitis were perceived as major threats, while measles was not. Even the very small beriberi epidemic triggered much fear, although in a more limited geographical area.

Potential mortality, psychological impact, and intensity and cost of the intervention can be semi-quantified for the epidemics that occurred in Guinea (Table 35). The psychological impact of cholera, meningococcal meningitis and beriberi was very high if compared to the mortality caused. For measles, it was the opposite. The intensity and cost of the intervention triggered by epidemic alerts was not proportional to the potential mortality, but psychological impact played an important role.

If epidemic control measures are as much a response to fear as an attempt to avert surplus mortality, it seems inadequate to measure the cost-effectiveness of epidemic control measures exclusively in terms of cost per death averted. To spend US\$52,000 in Macenta for meningococcal meningitis vaccination to prevent 13 deaths is not cost-effective, in terms of deaths prevented. If, however, one also considers this from the viewpoint of society, it may well have been worthwhile to spend that money to alleviate its fear through a highly visible operation. After all, to allocate resources in this (irrational) way is also the society's choice. Health authorities acknowl-

tween US\$0.50 and US\$3.00 per DALY; rehydration-and-chlorination strategy: between US\$2 and US\$10 per DALY; measles vaccination: between US\$1 and US\$2 per DALY; and meningococcal meningitis vaccination: US\$130 per DALY. Cholera, measles and meningitis counted for between 4.1 and 9.6% of total burden, expressed in DALY.

edged that the impact of vaccination on the course of the epidemic would be limited, but political pressure was so high that '*not vaccinating was not an option*'.

<i>Psychological impact</i>	<i>Elements of importance for perception</i>
Cholera +++	All age groups involved. Dramatic, occurring over short periods (2-3 weeks in a locality; up to 6 months at district level). History of severe cholera in early 1970s, and fear of new large-scale epidemic. Authorities not very worried as long as cholera was limited to rural areas; fear increased considerably when cases occurred in the cities. Considered as an 'invasion from outside'
Measles +	Only children involved. Epidemics are protracted (between 2 and 3 months at village level; over 1 year at district level). Measles epidemics considered as a 'fact of life' both by the population and health workers; considered as recurrent upsurges, 'coming from inside'. Health authorities considered case management in health facilities adequate
Meningococcal meningitis +++	All age groups involved. Fear of large-scale epidemic. Relatively unacquainted with disease. Feared by health authorities ('epidemic as in the meningitis belt'). Considered as an 'invasion from outside'
Beriberi ++	Adult population. Fear of large-scale epidemic. Population and health personnel totally unacquainted with disease

Table 34: Psychological impact of epidemics, Forest Region, 1990-96

	<i>Potential mortality (Table 33, p135)</i>	<i>Psychological impact (Table 34, p138)</i>	<i>Intensity of the intervention (Table 24, p121)</i>	<i>Cost of the Intervention^a (Figure 35, p135)</i>
Cholera	++	+++	+++	2.22%
Measles	+++	+	++	1.90%
Meningitis	+	+++	++++	1.63%
Beriberi	+	++	+	NA

+ = low, ++ = intermediate, +++ = high, ++++ = very high. ^a Cost additional to the cost of the health system.

Table 35: Impact of epidemics and control measures triggered, 1990-96

Managing epidemics: balancing response to burden and fear

Public health managers should thus acknowledge the two dimensions of epidemics: their bio-demographic burden and their psychological impact. Decisions on interventions to control epidemics usually are inspired both by the expected excess burden and the fear. Fear causes pressure to act, but also facilitates the mobilisation of resources. The resulting time-pressure usually does not allow for putting the expected burden of the epidemic in perspective with the other health problems. The expected additional burden is usually over-estimated (worst-case scenarios are the ones that carry the highest weight). The knowledge base used for the decisions is often incomplete, and the time constraint may not leave time to complete it (Figure 36).

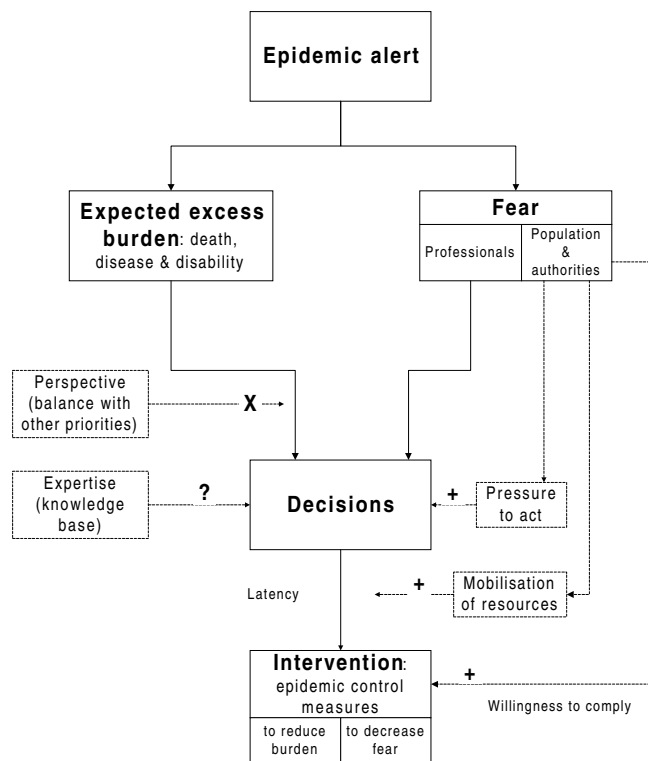


Figure 36: Decision making in epidemics

There is always a time-lag between decisions and effective implementation. In the context of epidemics, this is a real issue. Some delays are inherent to the methods chosen (e.g. time needed for a threshold to be reached), other are due to the time necessary for the mobilisation of resources (e.g. vaccines to be ordered and shipped).

Several factors thus converge to decrease the quality of decision making, and to increase the resources available (Figure 36). Inefficiency is then not surprising.

Explicitly acknowledging the role of fear in epidemics is a prerequisite for their sound management. Reduction of burden and reduction of fear should be balanced in decision making in epidemics. However, such conclusion raises several issues, which seem still largely unexplored. First, even if one acknowledges fear reduction as an integral part of epidemic control, little seems to be known about how best to do so. Existing insights in decrease of perception of risk may yield some guidance. For instance, increasing the amount of control felt by the population is important. Distributing chlorine solutions during a cholera epidemic may be a very sound measure, even beyond its potential to reduce transmission. Mass vaccination may also reduce fear. However, both measures may themselves raise the awareness of danger and the fear.

In times of epidemics communication with the authorities, the population and the health staff should be seen in this perspective. The phenomenon 'epidemic' has two dimensions: the bio-demographic burden and the fear generated. Health workers and the population itself are not only potential victims of the bio-demographic burden of epidemics, but also actors inasmuch as they contribute to generating fear. All are actors and opinion makers. Communication should thus not be limited to 'correct information' and 'how people can decrease their risk', but should also be a dialogue on perceptions and fear. One cannot simply assume that correct information will enhance confidence and a feeling of control.

The role of polyvalent health services vs. specialised teams in epidemic control should be viewed in the light of the foregoing. If basic health services have high credibility, they may be best placed to reduce fear. However, if this is not the case, outsiders with an aura of specialists may inspire more confidence. Whether the health staff who run the routine health services are involved in the intervention or not, they will continue to act as key opinion makers regarding the epidemic in the community. Not involving them puts them in a position where they are most likely to enhance panic. Their active participation gives opportunities for them to feel in control, and transmit this to the population. This, however, is possible only if health

services are reliable enough to contribute effectively to epidemic control.

How a network of reliable (?) health services was created in the Forest Region is the subject of the next chapter.

6. Health services for refugees: between primary health care & emergency medical assistance

Compromise: Finding of intermediate way between conflicting opinions, courses, &c, by modification of each.
Concise Oxford Dictionary

The organisation of health care nowadays invariably refers to the concept of primary health care (PHC).¹⁻⁶ Although in developing countries PHC has often been restricted to 'selective primary health care',⁷⁻¹⁷ or to village health workers,¹⁸ it is now widely accepted that it calls for an equilibrium between technical ('rationalisation') and social dimensions ('participation & autonomy'). Most authors have described these principles in generic terms,¹⁹⁻²¹ while others focused on practical organisational issues,²² and particularly district health care.²³⁻³⁰ All implicitly refer to stable situations where there is a perspective for development – not to societies struck by disaster.

Whereas PHC has a well-developed conceptual substructure, the literature on emergency medical assistance (EMA) has concentrated on technical and logistic considerations.^{31,32} The few authors who addressed the issue highlighted the fundamental differences between PHC and EMA in cases of mass migration of refugees:³³ *"the emergency approach tends to be the antithesis of the primary health care approach"*.³⁴

Typically refugees settle in camps, and a specific camp health care system is created to deliver EMA. Five types of camp health services are then usually put in place: health posts, health centres, home visitors, feeding centres and vaccination teams (Figure 39, page 155).^{35,36} These health services are usually set up in parallel to and with but few links with the health services in the host area. Setting up a system to deliver health care in a camp is straightforward, and can be done in a few days – although emergency assistance may meet with many logistic and political constraints and obstacles.^{37,38} Once the health system is established, access for refugees is usually good as all services are free of charge, well supplied and located within the camp. Moreover, as camps constitute a very unhealthy environment, there are many health needs. Utilisation of curative care is thus invariably high. Planning guidelines often refer to 4 visits per refugee per year,³⁵ but sometimes utilisation is much higher, especially during the initial emergency phase (Table 50, page 193). Also, the coverage of preventive

activities is often high: measles vaccination coverage of over 90% is common. Such results are facilitated by close follow-up by home visitors. Refugees living in camps constitute a 'captive population'; they are 'beneficiaries' of a hierarchic top-down relief system.^{39,40}

Such a health care system concentrates on delivering life-saving measures such as basic curative care and measles vaccination. When the emergency phase is over, and the health needs of the refugees cease to be fundamentally different from these of their hosts, the range of activities is progressively widened to include vaccination with all EPI vaccines, antenatal care and family planning.^{41,42} However, the social dimension – participation & autonomy – is rarely given due consideration. In fact, as a camp moves from emergency towards chronicity few fundamental changes are introduced in the top-down approach. As for other aspects, refugee camp health care fosters dependence on assistance rather than autonomy, and refugees are more often considered as passive recipients than as active partners.^{43,44}

Refugee camp health services usually are better supplied and organised than services for the host population. In the post-emergency phase, such inequality may fuel resentment between hosts and refugees.^{45,46} Some studies have documented how the efforts to run a refugee camp health care system resulted in weakening the health system of the host country by diverting human and financial resources towards the refugee health services.^{47,48}

In Guinea, the refugees self-settled among the host population, and there was no dramatic emergency phase. The *Programme d'Assistance aux Réfugiés Libériens et Sierra-léonais* (PARLS) gave refugees free access to the pre-existing Guinean health facilities wherever possible, and reinforced the health centres and district hospitals to enable them to cope with the additional workload. But PARLS also created many new health services. Links between the pre-existing health services and the newly created PARLS health services were intense and complex.

Such an approach of the health problems of refugees is not new. It was common before refugee camps became the dominant approach,^{49,50} but it has not been well documented in the scientific literature nor was it clearly conceptualised. In the absence of documented precedents, the implementation of PARLS was far from straightforward, and more a matter of 'muddling through' than of planned rational intervention. Ad hoc decisions progressively shaped the health services for refugees. From its onset PARLS

was a compromise between primary health care (PHC) and emergency medical assistance (EMA), and had to reconcile their conflicting types of logic.

The first part of this chapter spells out the conceptual, practical and strategic differences between PHC and EMA. PHC aims at promoting health in a society in development, while EMA concentrates on safeguarding survival in an emergency situation. This fundamental difference in objectives and time-frame results in different characteristics of health care and of health services, with important strategic implications. However, many situations are not clear-cut development or emergency situations, but remain in an in-between grey zone of non-development non-emergency situations.

The refugees in Guinea lived in such an intermediary situation: not a real emergency, but not a stable situation either where one could concentrate on long-term development alone. This had consequences for the organisation and development of health services for refugees. A key strategic choice was to develop one single health service for both refugees and Guineans. Many aspects of this complex and changing health system have been simplified for the sake of clarity and brevity. The description focuses mainly on the strategic and policy aspects.

The results indicate that PARLS' basic approach was the best option possible given the circumstances. PARLS was set up to solve the refugees' health problems, but at the same time it was used as an opportunity to strengthen and expand the Guinean health care system. This policy of compromises had implications for the effectiveness of PARLS as compared to more classical approaches of dealing with health care for refugees. In particular, it led to a balance of benefits between refugees and Guineans that is very different from what one usually finds in case of EMA. But the results also indicate that PARLS suffered from a series of imbalances and mistakes. First, choices systematically favoured expansion of geographical access over quality of care. Second, PARLS left little room for participation. Third, social accountability towards the refugee population was rarely taken into consideration. Lastly, certain strategic choices, such as the manpower policy, were initially short-sighted and proved difficult to reverse later. The PARLS experience thus points at a number of do's and don'ts in the organisation of health services in non-development non-emergency situations.

*Health services organisation in development & emergency**

Much has been written on development, disaster and emergency,⁵¹⁻⁵³ and on the 'continuum' in-between.[†] The contexts are different, and, not surprisingly, the 'paradigm' underlying primary health care (PHC) is distinct from the one that underlies emergency medical assistance (EMA). These paradigms determine the characteristics of health care and of health services. They also determine strategic aspects, such as sustainability, the role of different actors and accountability.

DEVELOPMENT, DISASTER & EMERGENCY

DEVELOPMENT. According to the dictionary of Third World terms: "*There is no consensus on what constitutes development. [...] society [is] more and more capable of understanding, coexisting with and sometimes controlling the forces of nature. [...] [There are] changes in technology, improvements in agriculture and industry, an increase in useful material resources. Without some such increase there can be no improvement in the quality of life which is the basic precondition for individual men and women to have more freedom to choose the way they live. [...] Development, or a general improvement in the quality of life, both depends on and stimulates social transformation. This view of development also suggests that it is a process and not a state*".⁵⁴ Sen conceptualised development as capability expansion, and stressed that economic prosperity is not an end but an intermediary goal. "*The focus is on human life as it can be led, rather than on commodities as such, which are means to human life, and are contingently related to need fulfilment rather than being valued for themselves*".⁵⁵ However one may want to define it, the term 'development' has never been value-free, and its explicit or implicit ideological and political connotations apparent for all concerned.

DISASTER. In contrast, the definition a disaster seems easier and more value-free. "*A disaster is an event which results in great harm, damage or death,*

* This section is inspired by and elaborates upon an article published in 1988 in French by Grodos: *De l'aide d'urgence aux soins de santé primaires. Difficultés, pièges, enjeux*. (From emergency aid to primary health care. Difficulties, pitfalls, stakes.)³³

† Some authors define rehabilitation and reconstruction as distinct stages in a disaster – development continuum. Others have challenged this.^{94,209-214} This debate is rich in ambiguous terms, such as chronic emergencies, protracted emergencies, developmental relief, welfare relief, and humanitarian aid. One could also argue for a classification of situations in a stable – unstable continuum. However, this chapter uses only development, disaster & emergency, as they are most widely used, although not always unambiguously defined.

or serious difficulty".⁵⁶ "Disasters hurt people. They injure and kill. They cause emotional stress and trauma. They destroy homes and businesses, cause economic hardships, and spell financial ruin for many".⁵¹ Defining disasters in terms of consequences seems logical: an earthquake without victims or damage is a natural event, not a disaster. Thus it seems logical to use the number of deaths and the value of property destroyed as the main indicators of the severity of a disaster.^{52,57,58}

Disasters are usually classified in terms of their causes.⁵⁸⁻⁶⁰ They are typically divided in natural (earthquakes, hurricanes, floods, &c) and man-made disasters (mainly wars). But natural disasters are often compounded by man-made factors, or even caused by man's treatment of nature: they are often 'anthropogenic natural disasters'.⁶¹ For example, the consequence of a drought is invariably more severe with an unstable government, and especially during war. Most famines indeed result from a combination of war and drought. Intriguingly, epidemics are rarely mentioned as natural disasters in their own right. They are usually seen as a consequence of other disasters. But many epidemics – meningococcal meningitis, measles, &c – are natural events that could qualify as 'disasters'.

EMERGENCIES. The word 'disaster' does not only mean a great misfortune, but also has a connotation of suddenness, limitation in time, unpredictability, and of need for outside assistance. There is a clear link between the notions of 'disaster', 'emergency', and 'emergency assistance'; hence the use of 'emergency medical assistance (EMA)' as a catchall term for health interventions in disaster and/or emergency situations.^{59,62-67}

The equation of 'disaster' with 'emergency' is often justified, but by no means always. Many disasters, such as droughts, are gradual, give early warning signs, and should not inevitably lead to a situation of emergency.^{68,69} Nevertheless, in these slow-onset disasters appropriate action often is only started when the effects are already advanced and have become an emergency; those that have not done so (yet) are usually dealt with as emergencies nonetheless. There are also emergencies that are not disasters; sometimes because an emergency intervention averted the disaster, but more often because the extent of the problem does not justify the use of the term disaster (for instance, a person with a myocardial infarction).

The same goes for the equation of 'disaster' with 'need for outside intervention'. The need for outside intervention in dealing with the consequences of a disaster is stressed so often that it becomes part of the definition of a disaster. "*A disaster is an act of nature or an act of man, which is or*

threatens to be of sufficient severity and magnitude to warrant emergency assistance".⁵⁷ "A disaster is a serious disruption of the functioning of society, causing widespread human, material, or environmental losses which exceed the ability of the affected society to cope using only its own resources".⁵⁹ However, the need for and usefulness of outside intervention may be overestimated.⁷⁰

Recently, the concept of 'complex emergencies' has been introduced recognising the importance of political factors in the origin of many disasters – war, genocide, &c –, and the limitations of 'humanitarian' assistance to deal with them.⁷¹⁻⁷⁹ A complex emergency is defined as "a form of man-made emergency in which the cause of the emergency as well as the assistance to the afflicted are bound by intense levels of political considerations".⁵⁹ Forced mass migration is a prototype of a complex man-made emergency.

THE DEVELOPMENT – DISASTER/EMERGENCY TYPOLOGY presents a bipolar view of the context in which primary health care (PHC) and emergency medical assistance (EMA) take place (Figure 37). Development stands for 'a society in development' and disaster/emergency for 'a society struck by a disaster needing an emergency intervention'. This uni-dimensional dichotomy is an intellectual over-simplification, and this for two reasons. First, it implies that 'development' is desirable, and efforts should be deployed to aim at it, and that 'disaster' should be avoided or overcome. But although 'development' is undoubtedly preferred over 'disaster', such polarisation is not simplistically one of 'good and bad', or 'ideal and catastrophic', or 'heaven and hell'. Even in a harmoniously developing society there is a lot of suffering and unhappiness. Even during the worst disasters there are signs of hope, and opportunities for growth and development.

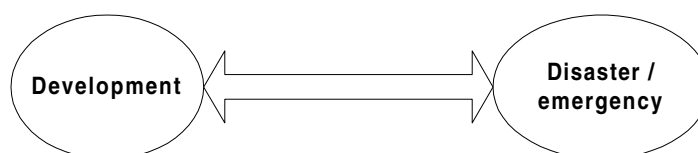


Figure 37: Typology used

Second, this typology appears to suggest that most situations can be assimilated to one of the two poles; that they are either black or white. This is obviously not the case: most concrete realities are situated somewhere in between (Figure 38). Neither can different intermediary situations be ranked in a straightforward fashion. Reality has different dimensions. Some of these dimensions can be ranked 'objectively', such as time (acute vs.

chronic), resource base (poor vs. rich; distribution of wealth), and human capital (level of education, health status, demography, &c). Others are more difficult to grasp or rank: level of conflict in the society, power relations, degree of democracy and participation, degree of organisation of society, geographical location, history, relations with other societies, culture, religion, &c. However, each of these dimensions conditions the potential for moving from disaster to development, or the reverse.*

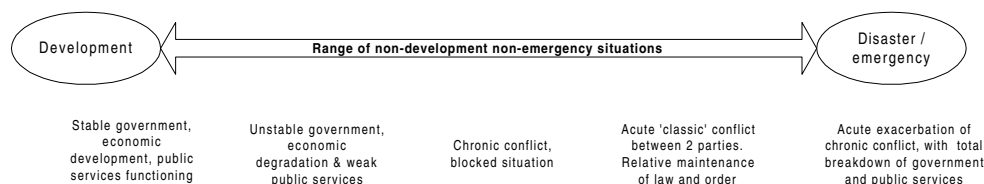


Figure 38: Different realities between development & disaster

Nevertheless, such a simple dichotomy may be useful as a conceptual frame, provided one bears the different dimensions of each specific reality in mind. Some of these dimensions may have a direct bearing on strategies to be used (e.g. presence of qualified manpower, resource base), while others may be necessary to understand perceptions and constraints (e.g. conflict in the society, history, culture and religion).

PARADIGMS OF PHC & EMA

‘GOOD’ PRIMARY HEALTH CARE (PHC) aims at safeguarding, promoting and restoring health. However, health is not an aim *per se*, but a condition for human development and well-being (Table 36).^{80,81} Health services should thus be developed in harmony with other aspects of society – education, social and economic infrastructure, &c – and use only a ‘reasonable’ share of the total financial and human resources available.^{55,82-84} Indeed, “[...] the possibility [exists] that the direct positive effects of health care on health may be outweighed by its negative effects through its competition for resources with other health-enhancing activities. A society which spends so much on health that it cannot or will not spend adequately on other health-enhancing activities may actually be reducing the health of its population through increased health spending”.⁸⁵ To produce a maximum of health with these limited resources,

* UNESCO has tried to develop an analytical framework to map these different dimensions in a vulnerabilities and capacities analysis matrix.²¹⁵

health services must be rationalised to function in an effective and efficient way.^{80,86}

PHC, however, also has important social dimensions: autonomy and participation.^{1,3,87} Where possible, health professionals should avoid making the users dependent on the health services. Instead, they have to promote autonomy, and deliver services which are complementary to self-care and family care.^{88,89} This requires a partnership between health professionals and the population, based on a continuous dialogue.^{87,90-93} The need for participation has several foundations: *“Increasingly, the demand is being made that both consumers and providers participate in the shaping of agency policy. As we have suggested, this stems, in part, from general social values that indicate a preference for egalitarian and participatory forms of governance. Partly, it stems from more pragmatic arguments. One of these is that consumers and providers have somewhat different perspectives on “health” and on its management, and that both viewpoints need to be taken into account and synthesized or reconciled if the agency is to be maximally effective. Another argument is that participation in decision making creates a sense of belonging and commitment and encourages behavior that is in line with agency objectives”*.²¹

	PHC	EMA
Aim	Health, as a condition for human development and well-being	Physical survival, as a pre-condition for human development
Relation to context	In harmony with other sectors of society	Part of a package of ‘emergency relief measures’
Resource-use	Use a ‘reasonable’ share of the overall resources	Use ‘all resources that can be mobilised’
Technical dimension (rationalisation)	Optimisation (effectiveness and efficiency)	Maximisation (effectiveness)
Social dimension	Autonomy and participation	Dignity and compliance
Time perspective	Long term	Short term

Table 36: Paradigms of PHC & EMA

The technical content of health care in a PHC perspective can be defined in fairly straightforward and objective terms. Rationalising its implementation and balancing technical content with autonomy and participation are essentially local issues. Developing autonomy and participation are more difficult and take more time than rationalising the technical aspects.

Fast success in developing participation is less frequent than in rationalisation. A 'technocratic imbalance' is often unavoidable, at least in the short term. Developing PHC is necessarily slow and requires a long-term perspective.

'GOOD' EMERGENCY MEDICAL ASSISTANCE (EMA), or medical relief, on the other hand, concentrates on protecting physical survival (Table 36).⁹⁴ WHO defines relief as "*assistance and/or intervention during or after a disaster to meet the life preservation and basic subsistence need*".⁵⁹ Physically surviving the emergency is an aim *per se*; it is the pre-condition for human development, once the emergency is over. EMA should be part of a package of emergency relief measures, including provision of water, shelter & food.^{32,67,77,95} These emergency relief measures may use 'all resources that can be mobilised'.* In EMA, rationalisation aims at producing a maximum output in terms of lives saved with the resources available. Effectiveness is thus the main consideration, even if this means jeopardising autonomy and creating dependence. Participation is often reduced to compliance. Health professionals work with 'beneficiaries', often in a paternalistic way. Safeguarding human dignity is an ethical imperative, and EMA should avoid creating humiliating conditions. As the technical dimension is dominant, and short-term effectiveness paramount, there is a tendency to rely on standard strategies.

CHARACTERISTICS OF CARE. From the differing paradigms of PHC and EMA result differing characteristics of care (Table 37). The objectives of PHC include the maintenance and restoration of health (providing 'cures'); preventing further deterioration; relieving symptoms, particularly pain; offering assistance in coping with the inevitable; and providing reassurance through authoritative interpretation, while still exercising control over one's own health.⁸⁵ To reach the triple objective of cure, care & autonomy, health care should find an optimal balance between being effective, integrated, continuous and holistic.^{80,81,96,97} Effectiveness of care should be balanced with its cost and with the importance of holistic care. Integration of curative and preventive care with health promotion is desirable, as it yields the best results in the long term. Continuous health care means care till the end of the episode of disease or risk. Holistic health care takes into account the physical, psychological and social dimensions of health and well-being. Each of these four characteristics is thus important, but none is absolute or

* From a local perspective: it is not meant to take a position in the debate over the growing share of relief aid in the global aid budgets.

takes precedence over the others. In PHC, the health care offered is variable according to circumstances and resources. It has to balance, both collectively and individually, the professionally defined need with the demand as expressed by the patient. As an interim strategy, responding to 'irrational demand' may be considered, or the relative importance of 'non-felt need' decreased.

In EMA 'cure' is dominant over care and autonomy, which are of secondary importance. The effectiveness of care takes absolute precedence over the other characteristics. Integration is less important; it may even hamper immediate effectiveness (e.g. when it is imperative to reach a high measles vaccination coverage in the very short term). Continuity of care and holistic care are less important.^{33,98} There are no top-priority activities that require continuous care. In EMA, the focus is on life-saving interventions. The professionally defined needs get precedence over demand.

From these differing objectives and characteristics of health care in PHC and EMA result differing characteristics of the health services.

PHC	EMA
Triple objective: cure, care & autonomy	Cure is dominant over care and autonomy.
Search for optimal balance between being effective, integrated, continuous & holistic	Effectiveness takes precedence over other characteristics.
Care provided is a compromise between need and demand.	Need gets precedence over demand.

Table 37: Characteristics of care in PHC & EMA

CHARACTERISTICS OF PHC AND EMA HEALTH SERVICES

In **PRIMARY HEALTH CARE** (PHC), temporal, geographical, and financial accessibility are all important features of a health service that facilitates the delivery of effective, integrated, continuous and holistic care.^{27,99} Permanent facilities, with opening hours in accordance with people's activities, are mandatory for curative care (Table 38). There is also a need for immediate access in case of emergency, even outside opening hours. Indeed, "[...] access when need arises may be the most salient feature of care for consumers [...] the stand-by function must be an integral part of the responsibility and of the work [...] to do otherwise would be, paradoxically, to be least effective when the client is most vulnerable".²¹ Preventive activities, however, can be intermit-

tent. Health services should be decentralised, to the extent that this is compatible with human and material resources needed for quality care.^{100,101} Financial accessibility is important, but should be balanced with the need for financial participation of the clients. Financial participation can be a lever for community participation in decision making and for accountability, especially at first line health services.^{91,102-108} Polyvalence is necessary to enable integrated and holistic care. Acceptability, conditioned by cultural and financial accessibility, requires that all valued aspects of the relationship between client and health care provider should be aimed at: such as stability, maintenance of client autonomy and family ties, active client participation – sharing knowledge, shared decision making, and participation in carrying out therapy – , empathy, supportive relationship, maintenance of dignity, privacy and confidentiality.²¹ A health information system with patient records, family files, and operational cards facilitates integrated and continuous care.

	PHC	EMA
Temporal accessibility	Permanent facilities are mandatory for curative activities and for emergencies; preventive activities can be intermittent.	
Geographical accessibility	Decentralisation, balanced with quality of care	Decentralised services are paramount, including home visitors.
Financial accessibility & financial participation	A balance should be struck between financial participation and financial accessibility.	Services should be free of charge.
Polyvalent or specialised?	Polyvalence is necessary for integrated and holistic care.	Specialised services are often needed.
Relationship between client and provider	Whole range of valued aspects should be aimed at.	The quality of the relationship is subordinate to other characteristics.

Table 38: Characteristics of health services in PHC & EMA

EMERGENCY MEDICAL ASSISTANCE (EMA) entails mainly the ad hoc delivery of life-saving interventions.^{36,109,110} Temporal, geographical, and financial accessibility are paramount and get precedence over other characteristics.³³ Maximising access requires permanent facilities for curative activities (Table 38). Preventive activities can be intermittent. Decentralised services are paramount, especially when there is social breakdown.¹¹¹ Home visitors are often necessary as outreach contacts, and to guide patients to the health

services.³⁵ Services should be free of charge. Specialised services are often needed to reach high coverage in the short term, and to reach immediately high technical quality.¹¹²⁻¹¹⁵ The quality of the relationship between the patient and the health care provider is subordinate to other characteristics.

These characteristics of the health services and the scope of activities offered determine the structure of the health system (Table 39). Together with the time perspective, they also determine, how the health system is managed (Table 40) and supported.

Structure

In **PRIMARY HEALTH CARE** (PHC), the health district catering for 100,000 to 300,000 people is the basic organisational unit of the decentralised health system.^{23,24,27,116,117} In a health district, a network of polyvalent health centres and a district hospital are linked in a two-tier system (Figure 39). A small team, headed by a nurse practitioner or medical doctor, staffs each health centre.¹¹⁸ The team delivers all curative and preventive first line activities, and is responsible for a population of 5,000 to 15,000 people (Table 39).¹¹⁹ This population is defined, geographically or by registration. Health centres can refer patients to the district hospital, which delivers both outpatient and inpatient care and has surgical, laboratory and imaging facilities.¹²⁰⁻¹²⁵ There may be exceptions to this two-tier system. Peripheral extensions – e.g. curative outposts with one staff – or intermediate facilities – e.g. health centres with beds for non-surgical hospitalisation – may sometimes be justified, depending on local circumstances and constraints. But community health workers can at most be a complement to a health system ran by professionals, and not its cornerstone.^{83,126-131} In a health district, a mobile team may be useful; not to deliver routine services, but to reinforce services in case of epidemics, or to palliate a temporary gap in health services coverage.¹³²⁻¹³⁴

A district health system should avoid gaps and overlap in functions; all resources, including public and private, should have a well defined and rational role.^{135,136} This implies that a rational referral system between first and second level should be encouraged (e.g. by granting preferential tariffs to those respecting it), but stringent measures to enforce the referral system are rarely justified. When peripheral extensions or intermediate structures are part of the system, they should not constitute a systematic stage in the referral process.

	PHC	EMA
First line	Polyvalent health centres responsible for a defined population (1 for 5,000 to 15,000 people)	Curative health posts (1 for 3,000 to 5,000 people)
Second line	District hospital	Referral hospital
Exceptions to two-tier system	Peripheral extensions and intermediate facilities are sometimes justified. Community health workers are seldom adequate.	Home visitors and intermediate structures are often needed.
Vertical services	Mobile team sometimes justified	Mobile team and feeding centres often needed
Articulation of services	A two-tier integrated district health system, avoiding gaps and overlap. A rational referral system should be encouraged.	Often a parallel health system; marginally linked to pre-existing health system. A strict referral system has often to be imposed.

Table 39: The decentralised health system in PHC & EMA

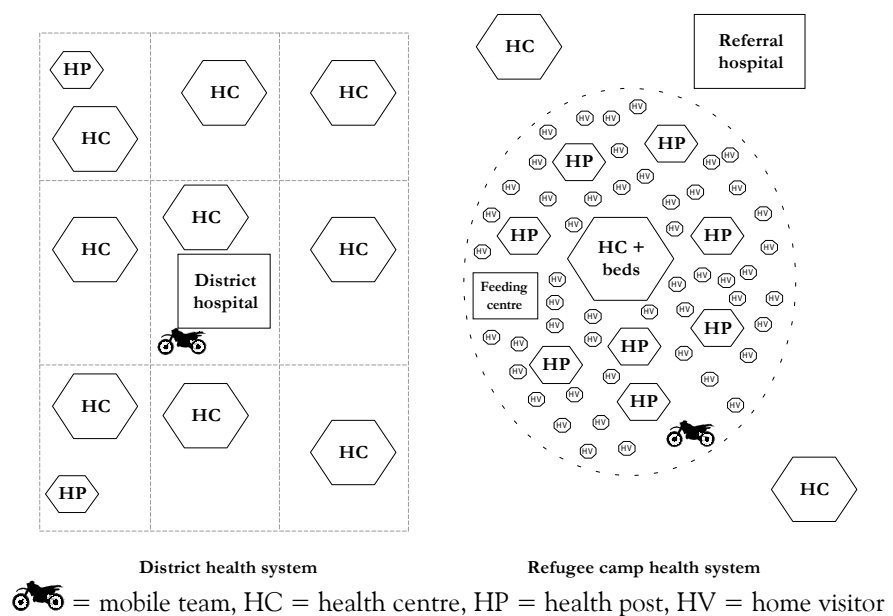


Figure 39: District health system in PHC vs. refugee camp health system in EMA

For **EMERGENCY MEDICAL ASSISTANCE (EMA)** it is often necessary to set up a separate health system. This rarely results in a district health system, but a basic two- or three-tier system is invariably present. A typical refugee camp health system can illustrate this (Figure 39).^{35,137} A network of curative health posts constitutes the first line. A small team, often headed by an auxiliary nurse, staffs such health posts. There is usually one health post per 3,000 to 5,000 population (Table 39), located in a makeshift building close to the affected population. Peripheral extensions with ancillary services such as home visitors are often necessary to establish a link between the beneficiaries and the health services. Also intermediate structures – e.g. health centres with referral level outpatient consultation and observation beds – are often established close to the beneficiaries. Vertical and specialised services – e.g. mobile teams or feeding centres – are often needed. All these services usually result in a parallel health system that is only marginally linked to pre-existing health systems, for instance, only to refer patients needing surgery or blood transfusion.³⁶ In EMA, a strict referral system has often to be imposed (e.g. the health post as mandatory entry point in the health system, except for emergencies, to avoid overburdening of referral outpatient consultation).

Management and support

In **PRIMARY HEALTH CARE (PHC)**, a health district is managed by a district health management team, composed of professionals with operational and administrative authority over the different health facilities.^{27,30,136} The district health management team should have a certain degree of autonomy to manage human and financial resources, and to establish priorities (Table 40). Co-ordination with private not-for-profit facilities, and regulation of private for-profit practices are needed.¹³⁸⁻¹⁴⁵ District management requires balancing medico-technical logic (such as quality of care, rationalisation of health services, &c); sociological logic (such as participation of the population, motivation of staff, &c); and administrative logic (health services as part of Ministry of Health and wider society, civil servants, law, &c).¹³⁵ Health services should be responsive to epidemic alerts, and tackle them adequately. Control measures for most epidemic diseases are very effective, and adequate interventions may considerably improve the credibility of routine services. Trying to reach pre-established objectives of coverage or utilisation may be counterproductive.⁹⁷ They may jeopardise the development of participation, and lead to 'technocratic imbalance'. The short-term results obtained may then not be sustainable. Good quality of care, empathic relation, dialogue during care, structured dialogue with the commu-

nity, education, &c are the methods most indicated to improve utilisation, coverage and adherence to therapy.

	PHC	EMA
Management structure	Team of professionals with authority over the different health facilities in a health district	Team of professional people with full operational and administrative authority, high degree of autonomy
Types of logic in management	Balancing the medico-technical, administrative and sociological types of logic	Medico-technical logic is paramount
Responsiveness to epidemic alerts	Important	Paramount
Pre-established objectives	May be counterproductive	May be necessary
Methods to improve utilisation, coverage and adherence	Good quality of care, empathic relation, dialogue during care, structured dialogue with the community, education, &c	Relatively coercive methods may be justified

Table 40: Management of the decentralised health system in PHC & EMA

In **EMERGENCY MEDICAL ASSISTANCE (EMA)**, the health system has to be managed by a team of professional people with full operational and administrative authority, and a high degree of autonomy to manage human and financial resources, and to establish priorities (Table 40).^{*} In EMA, the medico-technical logic is paramount, even if the importance of a sociological logic is not to be under-estimated.^{38,76,146-149} The administrative logic is often replaced by adherence to the institutional policy of relief agencies.^{51,150} As epidemics are frequent and severe, responsiveness to epidemic alerts is foremost in the managers' minds.^{31,114} Very high coverage of preventive activities may be necessary (e.g. achieving a near-total measles vaccination coverage is often an imperative). Relatively coercive methods may then sometimes be justified (e.g. restriction of movement during vaccination campaign).

In both PHC and EMA the management needs two major supports: supplies and information. In PHC it is the sustainability of the supply system that is crucial;¹⁵¹⁻¹⁵⁴ in EMA it is speed and reliability of the supplies. Supply of standard kits – e.g. the standard drug kit for 10,000 people for 3 months

^{*} Such co-ordination function, invested with authority, is especially important in an environment with many different operators (e.g. many NGOs).

– is often preferable.^{155,156} In PHC the design of the information system should support district organisation and self-regulation. Its focus is on supporting quality of care, monitoring achievements, and managing resources. In EMA the key issue is early detection of epidemics, using a disease surveillance system.¹⁵⁷⁻¹⁶⁰ Relief officials often rely on surveys to assess measles vaccination coverage and prevalence of malnutrition.¹⁶¹

STRATEGIC ASPECTS

All these differences between PHC and EMA have important strategic implications for sustainability (Table 41), the role of different actors (Table 42), and accountability.

Managerial and financial sustainability

In PRIMARY HEALTH CARE (PHC) sustainability is paramount.¹⁶²⁻¹⁶⁶ Different components of PHC should be developed harmoniously, and the health sector should be in harmony with other sectors of society. A programme format, becoming integral part of health and social policy, is thus preferable over a project format (Table 41).^{162,167-169} * The project format can, however, be justified to innovate, or to facilitate management of a particular part of a programme.[†] Institution building and institutional strengthening are important to obtain managerial sustainability (see also manpower policy, Table 42, page 160). In PHC, there is often cost sharing between government, international donors and users.^{83,166,170,171} Cost constraints are often overriding,³³ and even if this is not the case in the short term (e.g. when a foreign donor funds a PHC programme), efficiency and sustainability are important considerations. To be sustainable, health services should be organised at ‘affordable’ cost to be sustainable.

* The ‘programme – project’ typology is a simplification similar to the ‘development – disaster/emergency’ typology (Figure 38, page 150). Both typologies can be largely superimposed, and thus also many of their characteristics (such as time perspective, role of different actors, funding, &c).

[†] Most often, however, the project format is imposed by the foreign donor to facilitate financial accountability. The problems with the project format are clearly illustrated by the experience of EPI projects in the least developed countries. They resulted in a disproportional development of vaccinations within the health sector, and once the support of foreign donors decreased, they could not be sustained, which resulted in steep drops in vaccination coverage rates.

	PHC	EMA
Project vs. programme approach	Programme format is usually preferable.	The project format is usually preferable.
Institutional Strengthening	Important to obtain managerial sustainability	Of low priority
Importance of cost constraints	Often paramount; to be sustainable health services should be organised at 'affordable' cost.	Limited, funding from international donors. Sustainability is not an aim.
Sources of funding	Cost-sharing between government, international donors and users.	Often exclusively funded by international donors

Table 41: Sustainability in PHC & EMA

In EMERGENCY MEDICAL ASSISTANCE (EMA), the project format is often preferable. Developing EMA as a programme, with its corollary of institution building, may hinder timely abolition or integration in the PHC programme. Institutional strengthening is thus of low priority. In EMA, efficiency is less important than in PHC.³³ To be effective in the very short term, important resources are needed, and these originate often exclusively from international donors. Funding is thus usually not the main constraint. Sustainability is not a major concern.

Actors

PRIMARY HEALTH CARE (PHC) is a local and public responsibility.¹⁷²⁻¹⁷⁵ A collaboration with the local administrative and political authorities is necessary to imbed health services in overall society (Table 42). The central Ministry of Health (MOH) has an important role in resource allocation among areas and programmes; it must set norms and regulate.^{176,177} MOH should develop policies on manpower and training, on health care financing, on pharmaceutical supply and quality control, &c. Outside assistance may be necessary, but there is then also a higher risk of non-appropriate solutions, with a dominance of the technical dimension over the social one. The role of foreign support should be mainly a technical assistance; otherwise, the feeling of 'ownership' may be absent.^{167,178} Temporary substitution can only be justified as an interim measure in situations where local capacity is inadequate, and on the condition that there is a perspective for local take-over, otherwise sustainability could be jeopardised.¹⁶³

The long-term perspective and the necessary capacity building require long-term involvement of the same staff. Staff will thus often be health

professionals on long-term contracts, with attention for career structure and promotion possibilities. Work with on-the-spot trained auxiliaries may yield some short-term results, but often leads to a dead-end in the medium term.* Training at all levels is an important component of PHC.^{118,179-185}

Increasingly, PHC managers will have to come to terms with private health care.† This does not seem to raise unconquerable obstacles for the private non-profit sector (NGOs, churches, &c).^{142,143} However, the growth of private for-profit medicine in developing countries confronts public health professionals with serious challenges. Increasingly, they will have to find ways to have an impact on the quality of care it delivers, and on the inequalities it often reinforces.¹⁴⁰

	<i>PHC</i>	<i>EMA</i>
Identity of decision-makers	Local	Often outsiders
Relation with local authorities	Collaboration is necessary	Links are necessary
Role of central MOH	To allocate resources, to set norms, and to regulate	Often very limited
Role of foreign assistance	Mainly as technical assistance	Substitution is often needed
Manpower policy	Staff is mainly constituted of health professionals on long-term contracts. Training is important.	Staff often recruited among beneficiaries, with short-term contracts. Training geared to execution of standardised tasks.
Public/private	Increasingly, PHC managers will have to come to terms with private health care, both non-profit and for-profit.	Dominated by private non-profit actors

Table 42: Actors in PHC & EMA

In **EMERGENCY MEDICAL ASSISTANCE (EMA)**, decision-makers will often be outsiders, and foreign substitution the rule rather than the exception.³³

* This is well illustrated by the failure of most so-called primary health care programmes based on the wide-scale training of village health workers. Although they may have generated some short-term results (e.g. when measured in terms of number of consultations, or turn-over of village pharmacies), they fast lead to a dead-end.^{12,18,126,129}

† Private health care is a complex issue and public health professionals, both practitioners and academics, do not easily get a grip on it. It will be only marginally mentioned here.

Substitution is often needed. Paramount is the technical expertise and the ability to mobilise and manage the necessary resources. Links with local health authorities are useful, but lines of authority should be simple and straight. Links with administrative and political authorities are necessary. However, this is more to pay respect and to avoid obstruction than to involve them in decision making. The role of central MOH is often limited. Staff will often be recruited among beneficiaries and work with short term contracts. There may be a need to work with on-the-spot trained auxiliaries.^{186,187} Training is often geared to obtaining execution of standardised key tasks from auxiliaries. EMA is presently dominated by private non-profit actors, especially international NGOs.¹⁵⁰

Accountability

Accountability is a complex and value-loaded subject. Others have tried to get a grip on accountability of health services in PHC,^{21,188} and on accountability of emergency relief.^{33,51,150,189} In PHC and EMA in developing countries, the funding agency – frequently a foreign aid donor – and the clients – the recipients or beneficiaries of the aid – more often than not have different agendas and preferences. It seems thus appropriate to distinguish accountability to the donor from accountability to the beneficiaries. In relief and aid, this distinction roughly coincides with the distinction between financial accountability and social accountability.

In PHC, it is now widely accepted that health services have a responsibility to the population, and not only to the users who present to the health service. A step further is being accountable towards that population.¹⁸⁸ The style of governance and the degree of participation in the wider society will determine how financial and social accountability are valued and practised in the health services. When clients participate financially to the health services, this can be used as a lever to increase both financial and social accountability.^{102,103,190,191}

In EMA, discussions on accountability have usually focused more on financial accountability than on social accountability. Financial accountability of implementing agencies to donors, with its corollaries – bureaucratic regulations and financial audits – have steeply increased over the last decade. But social accountability remains largely on the level of good intentions. In disasters, decision-makers often feel accountable to their employers – international agencies and NGOs – who claim to be themselves accountable to the beneficiaries, the ‘victims’.⁵¹ However, agencies’ own agendas, bureaucratic logic and the short-time frame may hamper understanding of the beneficiaries’ perspective.¹⁶⁹

BETWEEN DEVELOPMENT AND EMERGENCY

If PHC is the appropriate strategy in a society in development, and EMA in case of an emergency, many real-life situations are somewhere in-between. Figure 40 elaborates on Figure 38, page 149, with a range of non-development non-emergency situations, characterised by different degrees of political stability. Stable situations with economic growth and functioning public services are probably optimal for development. Other situations, while definitely not emergencies, do not offer the same potential for development. This is the case when the government is unstable or lacks a constituency, when there is economic degradation and a weak public service.

An acute exacerbation of a chronic conflict – with total breakdown of government and public services resulting in mass displacement, epidemics and high excess mortality – can easily be qualified as an emergency. But a conflict between two well-organised parties with relative preservation of law and order and of public services, may have less disastrous consequences for the population. The same may be the case when a conflict results in a stalemate, and becomes chronic and blocked: in such situations active fighting is often more limited. Such situations often change over time. A real emergency that is managed timely and adequately can at times be ‘under control’ after weeks rather than months.* On the other hand, a situation of chronic conflict where public services initially had continued to function can deteriorate, both in severity and degree of emergency.

The aim of PHC is to build a sustainable health system. The aim of EMA is to save lives. The situation of the refugees in Guinea was a situation in-between development and emergency. PARLS had to organise health services able to respond to the immediate needs of the refugees, but sustainable over several years, and in close collaboration with the existing Guinean health system. PARLS had to develop a pragmatic intermediate approach, reconciling certain contradictions, and using elements from both PHC and EMA.

* ‘Under control’ means that there is no excess mortality any more, and that physical survival is thus no longer threatened: the situation moves away from the disaster pole.

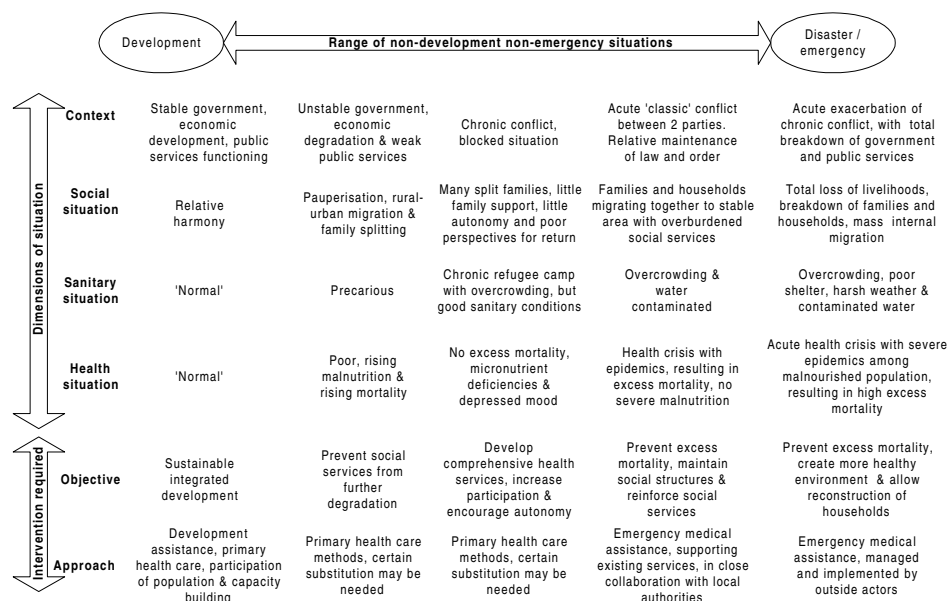


Figure 40: Examples of situations in the grey zone between development and disaster

Health services for refugees in Guinea

The refugee crisis in Guinea definitely was not an acute disaster, but neither was it a situation where a pure PHC could be followed, as if there were no emergency. Before the arrival of the refugees in Guinea, MOH and its field partners were developing a comprehensive PHC programme and setting up district health systems. When the first refugees arrived in Guinea, the same actors launched the medical part of the *Programme d'Assistance aux Réfugiés Libériens et Sierra-Léonais* (PARLS). PARLS' basic option was to use the facilities and infrastructure of the PHC programme where possible, and to reinforce and expand these where necessary. But PARLS also developed new parallel services on an ad hoc basis, such as mobile vaccination teams and feeding centres. The PHC infrastructure was undoubtedly a great asset for PARLS, but sometimes it was a stumbling block. PARLS was undoubtedly a boost for the PHC programme, but sometimes PARLS hindered the development of PHC.

During the period reviewed, 1990-96, these two types of logic, the PHC

logic – developing a sustainable health system – and the PARLS logic – assisting the refugees in their plight – were permanently present. At times the PHC logic and the PARLS logic coexisted in harmony, at times in parallel, at times in conflict.

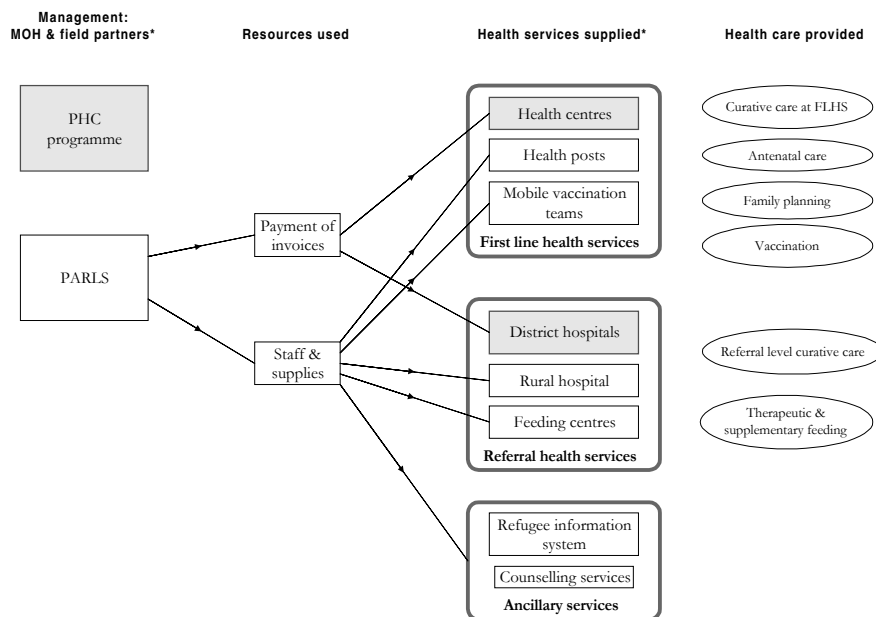
To illustrate this, the remainder of this chapter describes and analyses the health services for refugees in Guinea. Not all aspects developed in the previous section are systematically analysed. Only those aspects that illustrate the difficulties PARLS faced in combining aspects from EMA with aspects from PHC are developed in depth. Characteristics of care and of services are only developed marginally. This does not reflect a judgement on the relative importance of these aspects, but a choice to deal mainly with decision making and strategic issues, which most clearly illustrate the differing types of logic. The analysis is organised around the framework provided by Figure 41, and covers four aspects.

First, the section on management (page 165) analyses the role of MOH and its field partners in PARLS. During the initial months of 1990, the PHC programme and PARLS were fully integrated. However, the balance of power between the actors shifted away from MOH to foreign agencies, and PARLS evolved more as a parallel programme. Between 1992 and 1996, PARLS was again progressively integrated in the PHC programme. This process evolved differently in the 5 refugee-affected prefectures.

The following section (page 168) describes how PARLS supplied health services to the refugees: first line services, referral services and ancillary services. PARLS used the pre-existing health centres and district hospitals, but also established many new provisional health posts with a limited package of activities. Later, most of these health posts were upgraded and became permanent MOH facilities: integrated health posts or health centres. PARLS also established mobile vaccination teams, a rural hospital, feeding centres, and ancillary services.

A next section (page 179) describes the resources used for this fast and massive extension of the health system. The ambiguities and frictions between PARLS logic and PHC logic were most obvious in staff management and in user fees.

Lastly, the section ‘Health care provided’ (page 185) presents and analyses the output of the health services, in terms of user rates and coverage rates. The utilisation of health services by the refugees was relatively similar to the utilisation by the host population, although considerable differences existed according to the type of care. This section also analyses how PARLS influenced health care utilisation by the host population.



*Colour code: grey = pre-existing; white = new. PHC = primary health care; FLHS = first line health service; PARLS = *Programme d'Assistance aux Réfugiés Libériens et Sierra-Léonais*

Figure 41: Health services for refugees in the Forest Region, 1990-96

Management: MOH & its field partners

The medical part of PARLS was a MOH programme supported by foreign field partners. The respective roles of MOH and its field partners differed between prefectures, and evolved over time. Although officially MOH had the overall responsibility, MSF took the initiative and the lead in N'Zérékoré, Yomou & Lola. In Macenta and Guéckédou, the district MOH staff played a more prominent role. The central MOH was only marginally involved in the whole refugee programme.

EFFECTIVE DECENTRALISATION OR FOREIGN SUBSTITUTION?

In early 1990, at the beginning of the refugee-influx, representatives of the central MOH in Conakry participated in several assessment missions in the Forest Region. They viewed PARLS as adequately managed at regional

level and requiring neither interference nor support from the central level. In the periphery, this was perceived as a lack of interest in PARLS rather than as effective decentralisation.

The presence of MSF – recognised as a specialised medical relief organisation – undoubtedly played an important role in this attitude of central MOH. At district level, most district medical officers (DMOs) were happy to leave the management and implementation of PARLS to MSF. This would allow them to continue with their ‘normal’ duties without having to deal with the ‘additional’ workload of PARLS. Thus an opportunity was missed to use PARLS for capacity building within MOH. Only in Guékédou the DMO insisted on implementing as much as possible himself, confining MSF to a role of technical assistance. Using the extra resources provided by PARLS, he managed to strengthen his office considerably.

N’ZÉRÉKORÉ, YOMOU & LOLA

EARLY 1990, PARLS WAS INTEGRATED IN THE PHC PROGRAMME. Before the arrival of the refugees, MOH and MSF were working together in the PHC programme. When the refugees started arriving in early 1990, the MOH regional medical inspector and the MSF medical co-ordinator started up PARLS. The DMOs and their MSF counterparts did the field work. However, the workload for PARLS was very high and hampered the DMOs and their counterparts in their ‘normal’ duties, for the PHC programme.

MID-1990, PARLS AS A VERTICAL PROGRAMME. More refugees arrived and PARLS developed new activities, such as anthropometric surveys. ‘Relief workers’ – staff recruited specifically for PARLS or seconded to it – progressively took more responsibility. Soon each district had a MOH PARLS supervisor and a MSF PARLS supervisor. In theory, these PARLS supervisors were counterparts of the DMO and working under his authority. In reality, the expatriate MSF PARLS supervisors took the lead. These MSF doctors established direct lines of authority with the PARLS co-ordinator in N’Zérékoré. The final responsibility remained with the regional medical inspector and the co-ordinator of MSF. MSF also raised and managed all funds for PARLS, paid PARLS staff, as well as the invoices of health facilities.

1992-96, INTEGRATION ATTEMPTS & RE-VERTICALISATION. From 1992 on, PARLS had become routine, and the workload of managing PARLS health services decreased. The MOH regional medical inspector and the MSF co-ordinator proposed to enhance integration of PARLS in the PHC

programme. However, the DMOs resisted this policy change. They resented it as an attempt to give them extra work for which they felt no responsibility. They also argued that they would need more resources, such as money for salary supplements, fuel, and motorcycles. Their resistance was overcome when UNHCR supplied these resources. The mobile vaccination teams were abolished and health centres received extra resources to intensify outreach activities instead. MSF PARLS supervisors were progressively phased out. The intensity of supervision of PARLS decreased considerably, and the quality of care declined in many of the unsupervised health posts staffed by auxiliary staff. In 1994, when new refugees arrived massively in Yomou, MSF pushed for a re-verticalisation of PARLS in Yomou prefecture.

MACENTA & GUÉCKÉDOU

The situation was quite different in Macenta and Guéckédou. The role of the regional medical inspector, based in N'Zérékoré at a 4 to 6 hours' drive over difficult roads, was limited and the DMOs played a more prominent role.

MACENTA. In 1990, *Mission Philafricaine*, MOH's field partner in Macenta, initially did not want to set up PARLS. MOH requested MSF to do so. MSF staff had a close working relation with the DMO, but felt directly accountable to the MSF co-ordinator in N'Zérékoré. PARLS thus was initially a vertical programme. In 1991, when PARLS was well-established, *Mission Philafricaine* took over the follow-up of PARLS from MSF, and PARLS was integrated in the PHC programme. *Mission Philafricaine* left more responsibility to the MOH PARLS supervisor, and kept out of the day-to-day running of PARLS. When in 1995 cholera broke out in Macenta, MOH and *Mission Philafricaine* again requested the assistance of MSF. Later in 1995, the nutritional situation deteriorated and UNHCR concluded that MOH and *Mission Philafricaine* were not reacting adequately. UNHCR then invited *Action Contre la Faim* to set up a vertical nutritional programme in Macenta.

GUÉCKÉDOU. In 1990, there were only some 20,000 refugees in Guéckédou, and the DMO set up PARLS with limited assistance from MSF. UNHCR funded the DMO, without passing through a foreign field partner. In 1991 some 100,000 additional refugees arrived in Guéckédou, and MSF got more involved at the request of MOH and UNHCR. Nevertheless, the DMO managed financial and administrative matters, including payment of PARLS staff and payment of invoices to health facilities, without interven-

tion of MSF. In 1996, GTZ took over PARLS from MSF. By that time, PARLS staff in Guéckédou were well acquainted with the PARLS programme and were able to manage it with only limited direct assistance from GTZ. In Guéckédou, PARLS was well integrated in the PHC programme throughout.

Health services supplied

PARLS organised first line health services (FLHS), referral health services and ancillary services (Figure 41, page 165). When PARLS started, the PHC programme in Guinea was already in the process of establishing a typical two-tier district health system (health centres & district hospitals). PARLS used the same facilities, but added temporary facilities: peripheral extensions (health posts), intermediate structures (rural hospital), specialised services (vaccination teams & feeding centres), and ancillary services (counselling services & refugee information system). Many of these temporary facilities later became permanent ones; the health system became thus more complex. All facilities were used by both refugees and Guineans.

FIRST LINE HEALTH SERVICES (FLHS)

PARLS used four types of FLHS: health centres, integrated health posts, PARLS health posts and mobile vaccination teams. Before the arrival of the refugees, a limited number of health centres were functioning (1989 in Figure 44, page 176). When the refugee flow started, many new health posts were created (Figure 43).

1990-91: HEALTH POSTS & MOBILE TEAMS IN THE REFUGEE-AFFECTED AREAS. From the beginning of the refugee influx, refugees got free access to existing health centres offering curative care, vaccinations and antenatal care. The health centres established a monthly invoice for services delivered to refugees, and PARLS settled this invoice on the health centre's bank account. In refugee-affected areas without a health centre, PARLS created new health posts.* Initially, these health posts were to be established only temporarily. A PARLS health post was typically a two-room building made available by the local community, and staffed by an auxiliary

* The original criteria established in early 1990 were: *more than 3,000 people, of whom at least 1,000 refugees, living more than 10 kilometres from an existing health centre.* Sometimes, the criteria were lowered under pressure from community leaders who wanted a health post in their village.

nurse. MOH mobilised these nurses on very short notice, often overnight. Health posts delivered free curative care to refugees and Guineans alike, using simple algorithms (*ordinogrammes*), 15 essential drugs, and very basic medical equipment. Curative care at health posts was a simplified version of the curative care delivered at health centres (Table 44, Table 45 & Table 46). Health posts also carried out disease and nutritional surveillance, and distributed supplementary food rations to malnourished children (Box 4). Health centre staff provided vaccination and antenatal care during monthly outreach sessions (*stratégies avancées*) in the health posts in their catchment area.

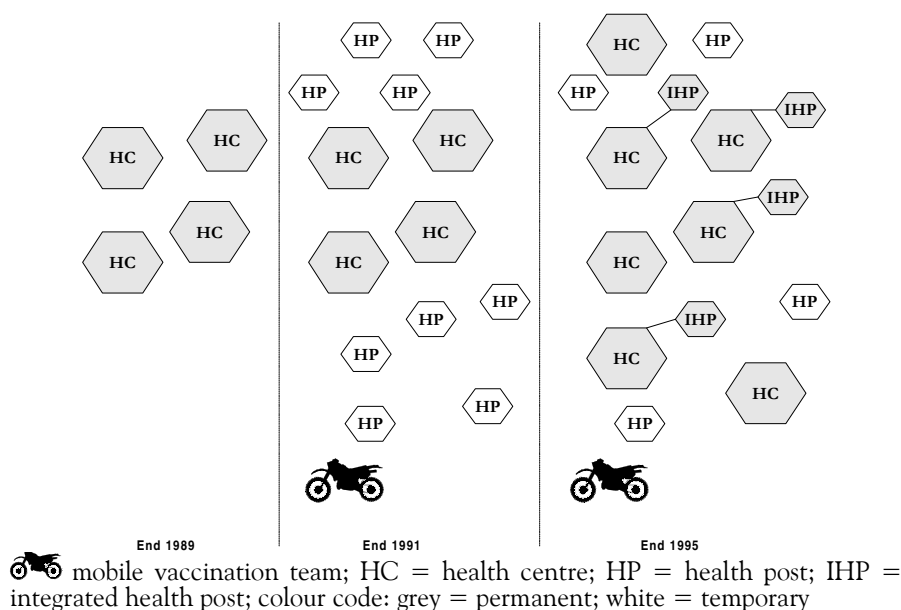


Figure 42: Development of FLHS in Yomou prefecture, 1989-95

In 1990, the outreach activities of health centres had only just begun; in many sub-prefectures there was no health centre yet, and thus no vaccination at all. MOH and MSF both considered measles vaccination as a top-priority and set up mobile vaccination teams. These vaccinated all children between 6 months and 5 years, and this independently from vaccination status or nationality. Measles vaccination was done in parallel with the existing outreach activities of the health centres.

<i>Category</i>	<i>Criteria</i>	<i>Implications</i>
'Health posts to be upgraded to health centres'	The health post was situated in the main village of the sub-prefecture, where MOH had planned a health centre.	The health facility to carry out all health centre activities (Table 44), and to adopt its cost-recovery scheme. Refugees to continue getting free care, but Guineans to pay (Table 46).
'Health posts to become integrated health posts'	According to population and distance criteria established by MOH, ^a the health post should continue to exist in the long term, even for the Guinean population alone.	The health posts to become a peripheral extension of a health centre (Table 44), adopting the same cost-recovery and management scheme, with all supplies and fees passing through the health centre. Refugees to continue getting free care, but Guineans to pay (Table 46).
'Health posts to be closed down'	The health post was interfering with the functioning of an existing health centre, because it was too close to it. ^b	The health post to be closed down as soon as possible.
'Health posts to continue as PARLS health post'	The health post was still necessary for the refugees, but it should disappear at the end of PARLS.	Free care for refugees and Guineans alike to continue.

^a More than 3,000 Guineans living more than 10 kilometres from a health centre.

^b This was mainly the case for health posts opened without respecting the criteria established by PARLS.

Table 43: The four categories of health posts, PARLS, 1992

PROGRESSIVE INTEGRATION OF HEALTH POSTS. In 1992, the health agencies involved in PARLS – MOH, UNHCR, MSF & *Mission Philafricaine* – jointly classified all health posts in the refugee-affected area in four categories. The criteria used were long-term usefulness, concordance with the national health policy, and interference with existing health centres (Table 43). Certain health posts had to be upgraded to health centres, others had to be closed. The majority of health posts had to become peripheral extensions of health centres (integrated health posts), while some would continue as PARLS health posts as long as the presence of refugees justified this. Mobile measles vaccination teams were to be abolished, and health centres would receive supplementary fuel and equipment to strengthen their outreach activities.

In line with this decision, twelve health posts were upgraded to health centres and eight were effectively closed. Thirty health posts were integrated in the PHC programme. Three categories of FLHS remained: health centres, integrated health posts and PARLS health posts. These three categories differed not only administratively, but also offered different activities (Table 44), and had different modes of functioning (Table 46).

Activity	Health centre	Integrated health post	PARLS health post
Curative care	Daily, using algorithms and 29 essential drugs (Table 45).		Daily, with simplified algorithms; 15 drugs. (Table 45).
Surveillance	Monthly reports with notification of all diagnoses and reporting of the proportion of malnourished children at the curative clinic (PMC monitoring, page 78).		
Vaccination (EPI) and antenatal care (ANC)	Daily EPI with 6 anti-gens and daily ANC. Monthly outreach in 6 to 10 villages.	Monthly EPI and ANC, as part of outreach by the health centre team. Often, a refugee midwife delivered 'unofficial' ANC.	
Supplementary feeding	Weekly ration of 2 kg of wheat soya blend for malnourished children (< 80% median W/H). In 1995, inclusion criteria were expanded and quantities of wheat soya blend increased (Box 4).		
Family planning	Progressively introduced in all health centres (1991-1995).	No family planning services	
Obstetric services	Normal deliveries attended	Variable, depending on staff available	

Table 44: Medical activities in FLHS, Forest Region, 1990-96

	<i>15 drugs for PARLS health posts</i>	<i>14 additional drugs for health centres & integrated health posts</i>
Oral drugs	Aspirin, chloroquine, co-trimoxazole, iron with folic acid, mebendazole, metronidazole, oral rehydration salts, & thiamine	Aluminium hydroxide, aminophylline, butylscopolamine, niclosamide, paracetamol, praziquantel, & promethazine
Injectable drugs	Diazepam & penicillin procaine	Aminophylline, lidocaine, methylergometrine, quinine, & Ringer lactate
Drugs for external use	Benzyl benzoate, cetrimide-chlorhexidine, gentian violet, tetracycline eye ointment, Whitfield ointment	Chloramine, & zinc oxide

Table 45: Drug list for FLHS

The integration of health posts in the PHC programme implied important changes for all actors. Guinean users of these health posts now had to pay for medical services; previously they had been free for both refugees and Guineans. In many instances, the DMO wanted new staff for the change of management system, and replaced the Guinean PARLS nurse by a MOH civil servant. After integration of the health posts, the heads of the health centres had to supervise them. In practice, all these changes often meant a decrease in quality of care at the very moment a financial barrier for Guineans was created. Not surprisingly, this resulted in a drop in utilisation, often quite spectacular (Figure 43).*

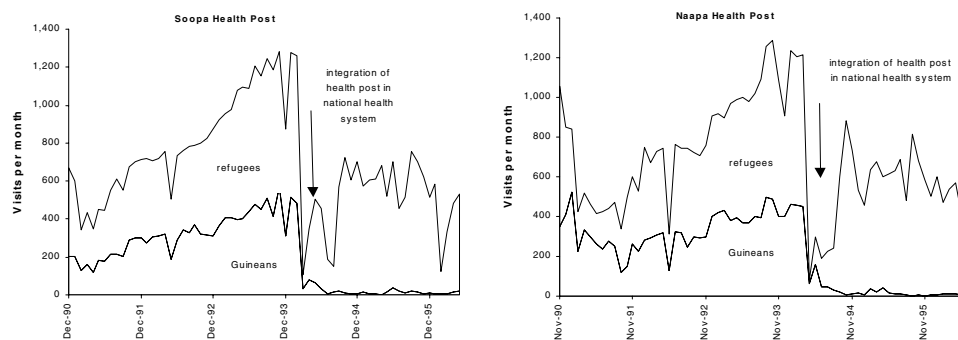


Figure 43: Monthly visits declared in Soopa and Naapa health post, 1990-96

* At first sight, one would think that only Guineans dropped out. However, the most likely interpretation is that both the numbers of refugees and Guineans decreased, but that the nurses registered most Guineans as refugees (see Table 48: Irregularities reported with invoices for medical care, page 184).

	<i>Health centre</i>	<i>Integrated health post</i>	<i>PARLS health post</i>
Staff	Usually a team of 3 or 4 MOH civil servants, headed by a qualified nurse, sometimes assisted by a refugee interpreter (PARLS 'volunteer').	Usually an auxiliary nurse (MOH civil servant), and a refugee interpreter (PARLS 'volunteer').	All staff were PARLS 'volunteers'; usually one Guinean auxiliary nurse, and a refugee interpreter, sometimes a refugee midwife.
Salary ^a and allowance	MOH civil servants: a salary of between FG70,000 and FG120,000 per month (US\$70-120), plus an allowance of between FG5,000 and FG30,000 (US\$5-30) per month. PARLS 'volunteers': an allowance of between FG30,000 and FG60,000 (US\$30-60) per month, but no salary.		
User fees	Guineans paid user fees. Care was free for refugees (PARLS paid a fee-for-service).		Free for Guineans and refugees.
Supervision	Monthly by DMO or member of district health team.	Monthly by head nurse of the health centre.	Initially weekly, later monthly, by PARLS supervisor.
Administration	Important workload to fill in registers, including detailed registration of drug prescriptions and fees, and detailed invoices to PARLS for refugees.		Rudimentary administration. Progressively stricter control on drug use (Box 6, page 183).
Supplies	Three-monthly orders to <i>Centrale d'Achat</i> , paid from fees and invoices.	All supplies obtained through the health centre, and paid from fees and invoices.	Monthly supply delivered by PARLS supervisor, all free.
Building	Permanent purpose-built building.	Usually, permanent purpose-built building.	Building in local materials made available by community.
Equipment	Fridge, motorbike, pressure cooker, delivery table, and small medical material.	Examination table and basic medical material.	

^a Salaries of civil servants doubled in mid-1991. Rates mentioned are those paid after the increase.

Table 46: Modes of functioning of FLHS, Forest Region, 1990-96

Box 4: *Supplementary feeding programme, 1990-96*

Before the refugee influx, health workers generally believed that malnutrition in the Forest Region was rarely due to lack of food, but that inappropriate weaning practices were the principal cause. There was no supplementary feeding programme (SFP). Health workers only gave nutritional advice to mothers of malnourished children.

In early 1990, refugees settled in Guinea, but there were no indications of increased malnutrition. MOH and MSF were reluctant to develop a SFP, and this for two reasons. First, malnutrition was considered rare and not very susceptible to intervention. Second, MOH feared that distribution of free food in the health services would change the Guinean population's perception of the health centres into 'places to receive handouts'. The collective wishful thinking that the refugees would not stay long also contributed to this resistance. In May 1990, the Centres for Disease Control & Prevention (CDC) supported this option, although for more technical reasons. CDC had performed an anthropometric survey¹⁹² and had found that the prevalence of malnutrition was 5.3% (95% CI: 3.2-7.4). CDC recommended: "Presently, the introduction of a SFP is not indicated. [SFP is] usually not considered unless acute malnutrition rates exceed 10%".³²

In mid-1990, WFP and UNHCR became operational in the Forest Region. WFP had ordered a large stock of wheat soya blend (WSB) and insisted on distributing it to malnourished children through the health system. Under considerable pressure, MOH and MSF finally accepted to supply WSB to health posts where staff distributed it sparingly and supervisors did not insist. Most WSB remained untouched in the WFP store, till it was insect-infested and considered unfit for human consumption.

When in 1991 some 100,000 Sierra Leonean refugees arrived in Guéckédou, the relief system was operational and food readily available. The development workers did no longer object to a SFP. Malnourished children (<80% median W/H) received 2 kg of WSB per week, till they were over 85% median W/H during two successive weeks. This SFP was introduced in all first line health services throughout the refugee-affected areas, notwithstanding the fact that prevalence of malnutrition remained low.

During 1992-95, the late arrivals were often in a serious nutritional state. The importance of the SFP increased accordingly. But in 1995, the famine year, there was a serious shortfall in food aid. In an attempt to compensate for this SFP was strengthened. Active anthropometric screening in the community was started. Malnourished children (<80% median W/H) received 4 kg of WSB per week. Children between 80 and 84% median W/H and pregnant and lactating women received 2 kg of WSB per week. In Macenta, *Action Contre la Faim* organised mobile teams to distribute food

rations to malnourished children in the refugee settlements.

SFP represented a considerable workload. The logistics of supplying food to all health facilities was a heavy burden. Supervisions too often became merely stock-control visits. On many occasions, food disappeared. Such incidents often strained relations between PARLS supervisors and health staff. On balance, SFP was more the result of pre-conceived ideas than of a rational analysis of the prevailing situation: the prevalence of malnutrition never reached 10% (Table 12, page 82 & Table 14, page 85) – except in a few pockets (Table 13, page 84) – but supplementary feeding was nevertheless performed routinely.

ACCESS TO FLHS. From 1990 to 1995, MOH and its partners created some 60 PARLS health posts. Twelve later became health centres, and 30 became integrated health posts. In addition, the PHC programme launched 26 new health centres and 3 integrated health posts in the Forest Region (Table 47). The 73 health centres were those originally planned by MOH in the PHC programme; one in each rural sub-prefecture, more than one in the cities. The 33 integrated health posts had not initially been foreseen.

Prefecture	1989		1995		1995 total	1995 vs. 1989 Increase in number of FLHS
	Health centres	Health centres	Integrated health posts	PARLS health posts		
N'Zérékoré	12	15	4	1	20	+67%
Yomou	4	7	4	4	15	+275%
Lola	4	9	1	2	12	+200%
Beyla	5	14	0	0	14	+180%
Macenta	6	16	15	0	31	+416%
Guéckédou	4	12	9	8	29	+625%
Total	35	73	33	15	121	+246%

Table 47: Growth in number of FLHS, Forest Region, 1989-95

Between 1989 and 1995, the population of the Forest Region increased by 64%: 50% through influx of refugees, and 15% through natural increase (+15%). Over the same period, the number of FLHS more than tripled. Consequently, the population per FLHS halved (Figure 44). This effect was most pronounced in Guéckédou, where the total population doubled, but

the number of FLHS rose from 4 to 29. It was least pronounced in N'Zérékoré, where coverage with health centres was already quite satisfactory in 1989. Eventually, most refugees got access to a FLHS at less than 5 kilometres from their residence. The host population evidently also benefited from this improved geographical access.

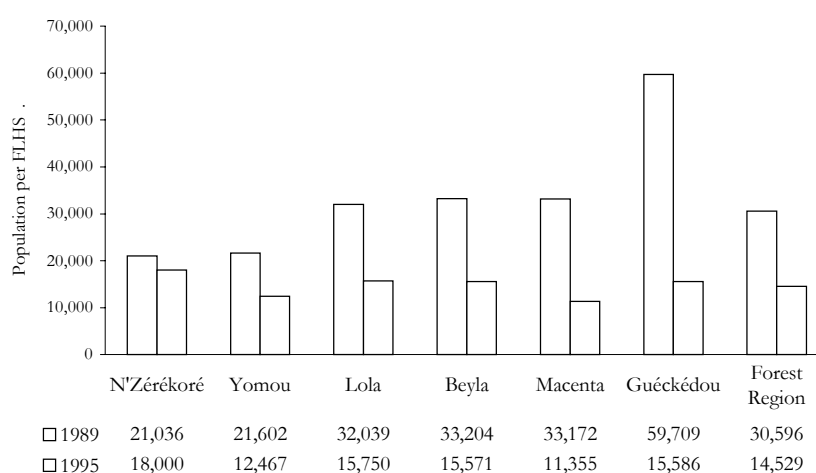


Figure 44: Population per FLHS, Forest Region, 1989-95

REFERRAL HEALTH SERVICES

PARLS used three types of referral health services: the district hospitals, feeding centres and a rural hospital (Figure 41, page 165). Refugees got free access to the district hospitals on the condition they were referred by a health centre or health post. The district hospitals established a monthly invoice to PARLS for care delivered to refugees. PARLS set up therapeutic feeding units in the paediatric wards of the district hospitals. From 1991 on, PARLS also established peripheral feeding centres (Box 5). In 1992, PARLS opened a rural hospital with a full-time resident doctor in charge in Koundoutoh, in the heart of the refugee-affected area of Guéckédou prefecture (Figure 13, page 42).^{*} These new PARLS structures were free for all

^{*} Administratively, only a health post could be located in Koundoutoh. In deference to MOH policy, the rural hospital was euphemistically called 'improved health post' (*poste de santé amélioré*).

patients. But in the pre-existing district hospitals Guineans had to pay, and fees were high.

Box 5: Therapeutic feeding

THERAPEUTIC FEEDING UNITS IN THE HOSPITALS. With the arrival of the refugees, there was an increase in the number of severely malnourished children (< 70% median W/H). Many were social cases, mostly orphans or children cared for by a grandmother. In each district hospital, expatriate MSF staff set up therapeutic feeding units in collaboration with the hospital staff. This involved training, standard protocols for around the clock re-feeding and medical care, design of follow-up cards, and supply of dry skimmed milk, sugar and oil along with all necessary kitchen equipment. Therapeutic feeding units got daily supervision, sometimes at night. A child would typically stay for three or four weeks in the hospital, accompanied by its mother. Children were discharged when reaching 75 % median W/H, and referred to the health centre for further follow-up and registration in the supplementary feeding programme (Box 4, page 174).

FEEDING CENTRES. In 1991, after the massive influx of Sierra Leonean refugees in Guéckédou, three feeding centres for therapeutic feeding were opened. They were adjacent to health centres, and run by PARLS staff. Expatriate MSF staff organised and supervised these centres. In 1995, additional feeding centres were opened in Macenta and Yomou. Feeding centres, where children and their mothers stayed overnight with around-the-clock meals, were labour-intensive and not well accepted by the parents. As a 'second-best solution', MSF organised day-care centres. Mothers brought the malnourished children to the centre in the morning, and picked them up at night. Day-care centres were more readily accepted.

Referral to hospitals was often problematic in Guinea: roads were bad, vehicles few, and transport costly. Moreover, once in the hospital, patients and their guardians needed further cash to pay for medical care and subsistence. All this undoubtedly contributed to very low hospitalisation rates (Figure 8, page 25). Although for the refugees hospitalisation was free, they had to pay for transport and subsistence. To facilitate subsistence of hospitalised refugees and their guardians, WFP supplied food to refugees in hospitals. At one point in time, refugee committees obtained cash from UNHCR to pay for patients' transportation. At another moment, health centres could advance it from the cash received through user fees. However, the money was managed badly, and abuses were frequent. All these makeshift attempts to cut the cost of transport were short-lived. More structured solutions came in 1992: an ambulance was stationed at the rural

hospital in Koundoutoh, a guesthouse opened next to Guéckédou hospital for guardians and ambulatory patients, similar guesthouses opened in N'Zérékoré and Yomou in 1992.

ANCILLARY SERVICES

Between 1991 and 1995 individual PARLS supervisors, and particularly those with a voluntarist 'relief worker' profile, took various initiatives to complement the provision of health services as described above. These initiatives, such as working with 'health animators',* were generally short-lived, often unsuccessful, and rarely evaluated. They met with special scepticism from the side of the more 'development-oriented' cadres. Other initiatives were more structured and relevant: the organisation of counselling services and the creation of a watchdog Refugee Information System.

COUNSELLING SERVICES. From early 1990 on, a steady flow of refugees consulted MOH, MSF and UNHCR offices because they had not found a satisfactory answer to their health problem in the health facilities, or to complain of the inadequacy of the food rations, of difficulties to get registration, to declare loss or theft of refugee registration cards, and other social or administrative problems. Dealing with these demands in a humane way represented an important workload for most agencies, and only few refugees could be helped satisfactorily. Many of the refugees then consulted other agencies afterwards, hoping to find as yet an answer to their problem. To channel these demands, UNHCR funded the Catholic Church to organise refugee counselling services, but this failed. Similar services provided by the refugee committees ran also into difficulties. It was only in 1995 that *Eglise Protestante Evangélique* and Jesuit Refugee Service managed to organise relatively satisfactory social services. In April 1996, MSF set up a medical counselling office in N'Zérékoré. It arranged transportation back to the area of origin for referred patients, reimbursed invoices of drugs purchased at private pharmacies, paid burial expenses, paid blood donors 'volunteering' to donate blood to refugees, &c. The medical counselling office could also

* Health animators were initially an answer of the MSF field staff to the lack of reliable demographic data on the refugee population, which they perceived as unacceptable. The duties of these animators included a variable mix of (1) registration of deaths, births, in- and out-migrations, (2) mid-upper arm circumference screening to detect malnourished children, (3) home follow-up of malnourished children, (4) facilitation of contacts between the population and the health services, e.g. by accompanying patients, (5) environmental hygiene in refugee settlements, and (6) promotion of condom use.

grant temporary refugee cards to sick unregistered refugees to allow them access to free medical care.

REFUGEE INFORMATION SYSTEM. In April 1996, MSF developed in N'Zérékoré, Yomou & Lola, the 'Refugee Information System / *Cellule d'Information du Terrain*'. This was mainly an answer to fraud during food distributions, but also to inadequacies within the health care system, such as under-the-counter fees, inadequate dosages of drugs, arbitrary limits on the number of refugees who could consult daily, &c. It was felt that these problems had increased with integration of health posts in the national health system.^{193,194} For this Refugee Information System MSF recruited refugees, mostly nurses and medical assistants. Their main task was to fill out a monthly semi-closed questionnaire of 15 pages, covering demography, health and nutrition, sanitation, agriculture, relief assistance, markets, and 'anything else considered relevant'. PARLS collected and processed these questionnaires, and compiled monthly reports, which were widely distributed among agencies and government bodies. The aim was double. First, to inform decision-makers on the changing needs of the refugees and the results of PARLS. Second, to formalise a watchdog function to detect and report deficiencies and fraud in PARLS. The Refugee Information System has not been formally evaluated.

Resources used

Establishing these health services required extra resource inputs, beyond what the Guinean health care system was able to offer. PARLS used outside funds, mainly from the European Union and UNHCR, to (1) pay staff salaries, (2) supply drugs and medical material, and (3) to pay for the health care delivered to refugees by pre-existing health centres and district hospitals. The total cost of the medical part of PARLS can be estimated at US\$4 per refugee per year.

HUMAN RESOURCES

GUINEAN STAFF. DMOs transferred male nurses from the urban health facilities to PARLS health posts and vaccination teams. But after some months, the pool of transferable nurses was exhausted and PARLS started recruiting unemployed auxiliary nurses as 'volunteers'.* PARLS also re-

* 'Volunteers' was in fact an euphemism, meaning that they did not have a formal labour contract, and did not receive a salary, only an allowance. For the refugees

cruited unemployed Guinean doctors and nurses through the central MOH in Conakry, paying them the same salary as civil servants on a contractual basis.

REFUGEE STAFF. There were many qualified health workers – including doctors, medical assistants, nurses and midwives – among the refugees, but both MOH and MSF were reluctant to recruit them. They would rather employ Guineans, as these were familiar with the national health policy, respected the authority of MOH, and spoke French, the working language in Guinea. Refugee health workers, on the other hand, often voiced their dissatisfaction with the Guinean health services, and in particular with the paucity of injectable drugs. MOH officials feared that refugee health workers would not comply with Guinean treatment protocols and that language would be a source of difficulties. Many of the refugees who claimed to be health workers could not prove their qualifications, as they had lost their diplomas. Guinean authorities would also bring up legal problems with work permits. In the rural areas, however, PARLS recruited refugee health workers as ‘volunteers’, one or two per health post. Independent from experience or qualification the Guinean national was invariably the head of the health post.*

GUINEANS VS. REFUGEES. Guinean nurses often belonged to an ethnic group different from the population they served and thus faced language problems. PARLS therefore recruited refugees with a medical qualification as interpreters. This often created conflicts. The Guinean auxiliary nurse, head of the health post and running the curative clinic, was often less qualified and experienced than the refugee nurse translating the conversation between nurse and patient. In certain health posts, the nurses found an informal understanding and the refugee health worker could also see patients. Sometimes this redistribution of tasks resulted in the Guinean being mostly absent and ‘delegating’ most tasks to the refugee. This type of informal arrangement satisfied the patients, both refugees and Guineans, but not the MSF supervisors: in their view the Guinean head of the health post was just not fulfilling his duties correctly. In other health posts, however, the Guinean and refugee staff did not find such understanding and latent or open conflicts continued.

this was a way to avoid legal problems with work permits; for the Guineans a way to overcome restrictions on recruitment in the civil service.

* From 1995 on, health posts in refugee camps, such as Noonah, were exceptions; they were staffed exclusively with refugee health workers.

SALARIES & ALLOWANCES. In 1990, MOH nurses earned between FG35,000 and FG60,000 (US\$35-60) per month, and an incentive of FG5,000 or FG7,500 (US\$5-7.5) per month, paid with the user fees. PARLS paid civil servants working in PARLS a monthly allowance of FG30,000 (US\$30).^{*} Volunteers, Guinean or refugee, did not receive a salary, only the monthly PARLS allowance of FG30,000 (US\$30). Although these allowances were rather modest, the overall working conditions in PARLS were quite satisfactory under the prevailing circumstances.[†] In mid-1991, salaries of civil servants doubled. Over the years, allowances were increased for some, decreased for others. These changes resulted from two differing and conflicting types of logic co-existing within PARLS. The relief workers argued for increasing allowances to give refugee health workers a more decent income, or to 'motivate' Guinean health workers. The development workers argued in favour of decreasing allowances to the level of the incentives in the PHC programme of MOH. They feared that otherwise the end of PARLS, including its allowances, would have a negative impact on health workers' motivation. Both sides had to compromise. The relief workers had to accept budgetary constraints, and the development workers recognised that PARLS brought an additional workload. Over 1991-92, PARLS allowances to volunteers gradually increased to FG60,000 (US\$60) per month, approaching thus the minimum salaries of MOH. Guineans working in PARLS health posts, on the other hand, lost their PARLS allowance when the health post was integrated in the Guinean health system.

NO ADDITIONAL STAFF IN HOSPITALS AND URBAN HEALTH CENTRES. PARLS never recruited additional staff for urban health facilities to cope with the additional workload caused by the refugees,[‡] and never paid allowances. PARLS paid all invoices for care delivered to refugees. In hospitals, after paying for consumables, income was distributed among staff as incentives. This could amount to 40% of the total fees. In the hospitals in the Forest Region income from PARLS accounted for 30 to 70% of total in-

^{*} The doctors recruited in Conakry received FG60,000 (US\$60) per month on top of their salary of some FG80,000 (US\$80) per month.

[†] Many unemployed Guinean nurses applied to PARLS for employment. Another factor might explain why working for PARLS was attractive for unemployed nurses. Under the structural adjustment programme, recruitment of new civil servants was very restricted. In 1991, MOH was allowed to recruit some new staff. In the Forest Region, MOH gave priority to health workers working as volunteers in PARLS. Unemployed nurses thus hoped that this would be repeated later.

[‡] Exception made for an interpreter, who acted also as an 'ombudsman' for the refugees within the hospital.

come. A large share of incentives paid to hospital staff thus originated from PARLS payments. This was, however, not perceived as such by the hospital staff, who often complained of not receiving incentives for additional work for refugees.

SUPPLIES

CREATION OF THE CENTRALE D'ACHAT. The new PARLS health facilities (Figure 41, page 165) delivered free care to all patients and received all supplies for free. In early 1990, the creation of the *Centrale d'Achat* in N'Zérékoré was already planned, but its implementation was accelerated with the increased supplies needed by PARLS. The *Centrale d'Achat* allowed to incorporate all drug supplies, including drugs donated in kind by different donors, in one coherent system. Problems of drugs reaching expiry date or being out of stock could be minimised. Creating one drug stock and one drug supply channel avoided problems of co-existence of 'free' and 'cost-recovery' drugs in health facilities. The *Centrale d'Achat* supplied all health facilities in N'Zérékoré, Yomou, Lola, Beyla and Macenta.*

PARLS DRUG SUPPLY. Drug supply to PARLS health posts went through four phases (Box 6). Over time, PARLS gradually tightened the control on drug consumption. When control was tightened, consumption dropped, but gradually 'leakage' increased again.

NON-MEDICAL SUPPLIES. New PARLS health facilities received furniture, equipment, fuel and stationary from PARLS. Initially, PARLS health posts were located in buildings made available by the local communities. However, from 1993 on, PARLS started to build new buildings for the integrated health posts. Initially, PARLS had to rent local taxis for supervision of health facilities and for anthropometric surveys. Later, additional cars could be purchased. PARLS also purchased dozens of motorcycles for the mobile teams and for logistic support.

* In Guéckédou, the health centres and the district hospital continued to receive supplies from the district medical store, while PARLS health facilities received supplies from the *Centrale d'Achat*. In 1996, PARLS supply for Guéckédou was incorporated in its district medical store.

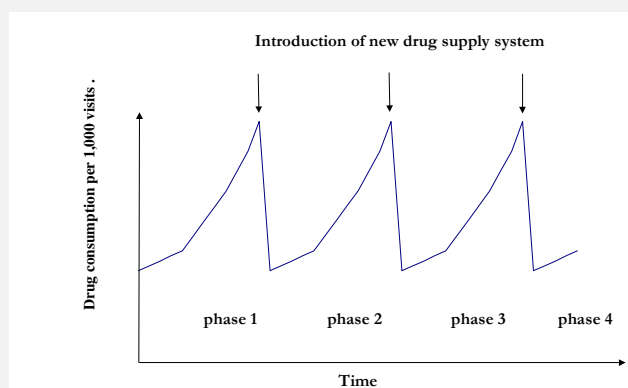
Box 6: Drug supply system & control of misappropriations in PARLS health posts

Phase 1: Supply on demand. Initially, the PARLS supervisors visited the health posts weekly and decided on quantities of drugs needed. Where 'leakage' existed, the quantities were limited in absolute terms, and considered being of little significance given the situation.

Phase 2: Supply per 1,000 visits. After a few months, misappropriations of drugs increased and a new drug supply system, based on an estimated standard drug consumption per 1,000 visits, was introduced. The supervisors had estimated the standard drug consumption from the observed consumption by a few nurses who the supervisors judged had a reasonable prescription pattern. According to the monthly workload, each health post received a drugs quota. This system reduced abuses considerably, but sometimes some drugs were out of stock. However, some nurses progressively inflated the declared number of clinic visits.^a When the PARLS coordinator judged that this practice took 'unacceptable' proportions, again a new system of drug supply was introduced.

Phase 3: Supply according to 'proven' consumption. In this new system, the nurse had to fill out a prescription for each patient. The health post was then supplied according to the 'proven' consumption (the addition of all individual prescriptions). This new system resulted often in a steep drop in the declared number of visits and considerably decreased total drug consumption. Although artificially increasing the number of patients was still possible, it definitely became more difficult to divert drugs.

Phase 4: The health centre supply system. When a health post was integrated in the national health system, the health centre supply system was introduced. Each prescription was registered separately, and strictly controlled during the biannual monitoring. However, complaints of refugees receiving incomplete treatment became more frequent.^b



^a For example, a supervisor would observe that on the day of the supervision 20 patients attended the clinic, while the monthly report declared 1,200 visits during the previous month.

^b Refugees would tell they had received 5 chloroquine tablets instead of 15, or 6 co-trimoxazole tablets instead of 20.

USER FEES VS. FREE ACCESS

There was one important difference between PARLS and the PHC programme: user fees. Health care was free for refugees, but Guineans had to pay. This was the case in most health facilities, only in the temporary PARLS facilities care was free for all users. Health centres and hospitals established a monthly invoice, listing name and registration number of each refugee who had received medical care, with the corresponding official fee. These invoices were sent to MSF (N'Zérékoré, Yomou & Lola), to *Mission Philafricaine* (Macenta), or DMO Guéckédou, who supposedly controlled them and then settled them with funds from UNHCR on the bank accounts of the health facilities. Real control on these invoices was, however, never done. Many irregularities were reported (Table 48).

Guineans registered as refugees, got hold of refugee ration cards and used them to get medical care.
Guineans borrowed refugee ration cards from genuine refugees to obtain free medical care.
Health workers registered Guineans as refugees and invented a refugee registration number. This could happen as a free gesture to the person involved, or for a payment. It could also occur without the knowledge of the person involved, who would pay the regular fee that could then be misappropriated.
Health workers added fictive refugees to the invoice.

Table 48: Irregularities reported with invoices for medical care

In some health centres, the number of Guinean users (or better: the number of paying patients) decreased considerably after the start of PARLS. Some considered this evidence that the irregularities were frequent. No serious attempts were made to rectify them as nobody considered them a priority problem. UNHCR never made a serious case out of it and paid all bills. 'Relief workers' thought this free medical care was a partial compensation for the Guineans who had readily supported the refugees. The 'development workers' did not worry as the irregularities did in the short-term not jeopardise the cost-recovery system. As all invoices were paid on bank accounts controlled by MOH, no fraud was possible at that level. Only when PARLS health posts were integrated and the proportion of (paying) Guineans suddenly decreased considerably compared to the previous proportion of (non-paying) Guineans, the development workers started to fear for the long-term sustainability of those health posts (Figure 43, page 172). From a very early stage MSF and *Mission Philafricaine* insisted on introducing symbolic

user fees for the refugees, and MOH and UNHCR agreed. However, the clearance the regional medical inspector and UNHCR claimed to need for the introduction of these user fees never came. It remains unclear at which level of decision making this decision was blocked.

TOTAL COST

The total cost of the medical part of PARLS was approximately US\$2,000,000 per year, or some US\$4 per refugee per year. This cost was calculated on the basis of all financial resources allocated to PARLS, by UNHCR, the European Union and MSF's private funds. It included costs of drugs and medical material, salaries and allowances, invoices from health centres and hospitals for care delivered to refugees, transport and logistics. It also covered all operating costs of foreign NGOs, including expatriate salaries, and investment in MOH infrastructure with PARLS funds. It excluded, however, salaries of MOH civil servants involved in PARLS, or other running costs of MOH facilities. US\$4 per capita per year is thus the marginal cost for running PARLS, with the MOH facilities already operating and funded from other sources.

These costs can be compared with the recurrent costs for a health district in the Forest Region, estimated at US\$3 per capita per year (Table 5, page 33), which, however, excludes investment costs and operating costs of foreign NGOs. In the PHC programme in Guinea, cost-awareness was very high, and costs were constantly monitored. Resource use in PARLS was largely in line with this MOH policy. There were differences between PARLS and the PHC programme, but these were relatively minor if compared to other situations.⁴⁶ This was also the case for the most contentious part of resource use: staff remuneration. Allowances and salaries were often a balancing act, somehow at odds with the emergency character of PARLS.

Health care provided

The combination of permanent government facilities and 'temporary' PARLS facilities made a number of health services – first line, referral, ancillary – available to refugees and Guineans. The conditions of access were often different, but both population groups ultimately used the same health care network. N'ZYL: N'Zérékoré, Yomou, Lola

Table 49 summarises the available data on utilisation of first line and referral health services by refugees and Guineans. The provision of services benefited both Guineans and refugees, be it to a different degree.

Services available	Care provided	Indicator	Refugees	Guineans
First line health services	Curative care at FLHS	Visits per capita per year	Guéckédou: 0.80; N'ZYL: 0.56–1.13; Noonah camp: 2.66	Guéckédou: 0.53 N'ZYL: 0.24
	Antenatal care	Attendance	11 – 42%	≅100%
	Family planning	Utilisation		≅1%
	Vaccination	Coverage	≅60% (range: 34 – 80%)	
Referral health services	Referral level curative care	Hospitalisations /1,000 / year	Guéckédou: 7 N'ZYL 1992-93: 6 N'ZYL 1995: 14	Guéckédou 1990: 4 Guéckédou 1994: 2 N'ZYL 1993-95:4–12
	Therapeutic & supplementary feeding	Coverage	Therapeutic: Guéckédou 1996: 3.4% Macenta 1996: 48.7% Supplementary: Guéckédou 1996: 16.4%, Macenta 1996: 24.9%	

N'ZYL: N'Zérékoré, Yomou, Lola

Table 49: Utilisation of health services, Forest Region, 1991-96

FIRST LINE HEALTH SERVICES

CURATIVE CARE. In 1994, in Guéckédou, Guineans used services at a rate of 0.53 visits per capita per year. In N'Zérékoré, Yomou & Lola the rate was 0.24 visits per capita per year. Refugees had higher user rates: between 1992 and 1995 they remained stable at a level of 0.80 visits per refugee per year in Guéckédou, whereas they rose from 0.56 to 1.13 visits per refugee per year in N'Zérékoré, Yomou & Lola. In 1995, the health post in Noonah camp, registered 2.66 visits per officially registered refugee per year. Free access and better geographical accessibility in the refugee-affected areas may explain these differences between refugees and Guineans. The data need nevertheless to be interpreted with caution. First, some nurses in PARLS health posts may have inflated the numbers of visits in order to obtain bigger drug quota (Box 6). Second, data for Guineans include also those living in areas where PARLS had no impact. User rates for Guineans in areas with many refugees, and free PARLS health posts, were probably higher than in areas with less refugees, and no PARLS health posts. Third, in health facilities with cost recovery, Guineans had to pay but were sometimes registered as refugees (Table 48). Lastly, the number of refugees (the denominator) was often overestimated (Refugee registration, page 69). Overall, though, it seems safe to say that the user rates observed among the refugees in Guinea were higher than those of their Guinean hosts, but con-

siderably lower than the 4 visits per refugee per year often observed in refugee camps.

ANTENATAL CARE. Refugees could attend antenatal care (ANC) at health centres or at the outreach sessions by the health centre staff (*stratégies avancées*). ANC attendance rates for Guinean women had always been high, even in health centres that attracted few clients for curative care. Refugee women on the other hand made little use of ANC in health centres. In N'Zérékoré, Yomou & Lola, ANC attendance was close to 100% for Guineans, but only between 11 and 42% for refugees. However, in many PARLS health posts, refugee midwives offered 'unofficial' ANC. Many refugee women attended such sessions, but no records were kept.

FAMILY PLANNING. As early as 1990, some refugee women had requested family planning services. At that time MOH did not consider this a priority. Contraceptives were first introduced in health centres in Guinea in 1992. MOH then decided to extend family planning services faster in the refugee-affected areas, since the demand had already been voiced. The uptake remained, however, lower than expected. In 1994 only 0.75% of women between 15 and 44 years used family planning offered in health centres. Some health centres reached utilisation levels of between 4 and 7%. Between 10 and 30% of these users were refugees. It is possible that refugee women – and maybe Guinean women as well – preferred to use 'unofficial', and unregistered, services by refugee midwives, as they did for ANC.

MEASLES VACCINATION. There are fairly reliable data on measles vaccination coverage: anthropometric surveys were an opportunity to estimate coverage in a more dependable way than would have been possible through analysis of routine data.* Measles vaccination coverage for the mixed

* The use of routine data, such as vaccination reports, was very problematic. The numerator, the number of children vaccinated, was difficult to estimate from routine data, as revaccinations could not be distinguished from first vaccinations. Before and during the conflict measles vaccination continued inside Liberia. On arrival in Guinea, refugee children were vaccinated, 'independent of vaccine status'. Children vaccinated before 9 months of age had to be revaccinated after 9 months. Also the denominator was quite unreliable and changed rapidly with the refugee fluxes. The proportion of young children among the refugees was not well known, but it is unlikely that it was the same as for the Guinean population. The birth rate during an acute crisis may decline steeply and increase fast again when the situation becomes more stable. Women and children might flee their country earlier or remain longer. During severe hardship child mortality may increase considerably.²¹⁶

Guinean and refugee populations in the PARLS areas ranged between 34 and 80%, with an average of about 60% (Figure 45). Most surveys showed that measles vaccination coverage was not significantly different between refugees and Guineans. The national data for Guinea were 51% measles vaccination coverage in 1992, 57% in 1993, and 74% in 1994 (Figure 7, page 22). The considerable efforts and resources used to ensure vaccination thus did not produce the expected results. Part of this may have been due to organisational weaknesses. For example, vaccinators could not trace defaulters, as health services did not keep files of refugees. They had to rely on the vaccination cards kept by the refugees or on the parents' memory.

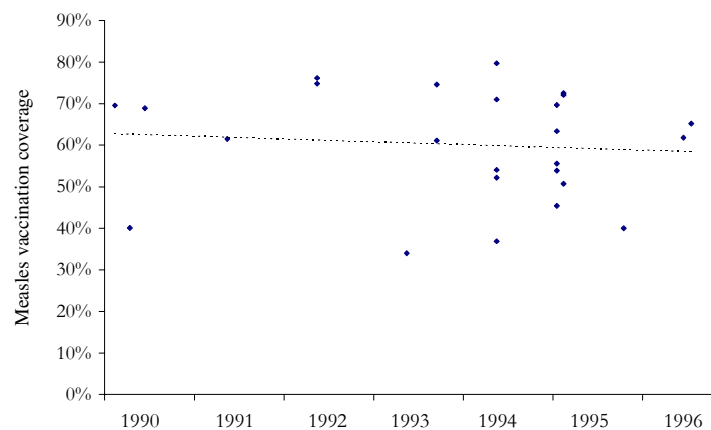


Figure 45: Measles vaccination coverage of children between 6 and 59 months, 1990-96. Data collected during anthropometric surveys in refugee-affected areas

REFERRAL SERVICES

HOSPITALISATION. Hospital activity increased considerably during the period PARLS was developed. In Guéckédou, the overall number of hospitalisations quadrupled between 1990 and 1994, in Macenta it tripled. These

But even the survey data are not free from methodological problems. First, few surveys studied a representative sample of the population. Most were targeted to a population group thought to have a nutritional problem. Second, the surveyor had to rely on the declaration of the mother, as vaccination cards were often not available.

increases were not only due to the refugees, but also to increased utilisation by the Guinean population. Absolute hospitalisation rates remained very low, but between 1990 and 1994, hospitalisations for Guineans in Guéckédou increased from 4 to 12 per 1,000 population per year. This increase was probably due to better access for the rural population living in the areas with an intensive refugee-assistance programme. The rural hospital and the ambulance at Koundoutoh probably played a major role in this increased utilisation. In the same area hospitalisation rates for refugees remained at around 7 hospitalisations per 1,000 refugees per year between 1992 and 1995. In N'Zérékoré, Yomou & Lola, the hospitalisation rates were similar in 1992 and 1993: around 6 hospitalisations per 1,000 refugees per year. Between 1993 and 1995, they increased to 14 per 1,000 refugees per year,* whereas rates for Guineans were between 4 and 12 hospitalisations per 1,000 population per year, depending on the prefecture. All these rates are low, compared to the 29 hospitalisations per 1,000 population per year, recorded as a median for 88 hospitals in sub-Saharan Africa.¹⁹⁵

NUTRITIONAL REHABILITATION. In July 1996, a prefecture-wide anthropometric survey in Guéckédou found a prevalence of malnutrition of 10.6% (95% CI: 7.9-14.0) among refugee children between 6 and 59 months and 6.1% (95% CI: 4.1-9.0) among Guinean ones.¹⁹⁶ These prevalences would correspond to 5,308 (95% CI: 3,818-7,303) malnourished children (<-2 z-score median W/H) in Guéckédou prefecture, of whom 1,498 (95% CI: 768-2,797) would be severely malnourished (<-3 z-score median W/H).[†] At the moment of this survey 872 children were registered in the supplementary feeding programme and 52 in therapeutic feeding. Assuming correct targeting,[‡] the coverage of the supplementary feeding programme can be

* This increase was, at least in part, due to bias. The refugee re-registrations during 1993-95 considerably reduced the number of false refugees, especially in N'Zérékoré city (Figure 6, page 18). The increase in hospitalisation rates for refugees was more influenced by the decrease in denominator, than by an increase in numerator.

[†] 1995 population of Guéckédou: 206,000 Guineans and 215,000 refugees; 15.0% between 6 and 59 months.

[‡] Correct targeting meaning no false positives among the beneficiaries of the feeding programmes. But this is questionable. Admission to feeding programmes was based on % median W/H, assessed with the Nabarro chart. This may have introduced a 'humanitarian bias': the tendency of the care provider to misclassify a child that is slightly above 80% median W/H to allow it to benefit from the supplementary food ration. 'Humanitarian bias' can double the proportion of children classified as malnourished, compared to assessing height separately.²¹⁷ Moreover, children registered in a supplementary feeding programme remained registered till they

estimated at 16.4% (95% CI: 11.9-22.8) and of therapeutic feeding at 3.4% (95% CI: 1.9-6.8).

In Macenta similar calculations based on the finding of the July 1996 anthropometric survey¹⁹⁷ result in a 24.9% coverage (95% CI: 16.2-38.6) for supplementary feeding and 48.7% (95% CI: 9.1-100) for therapeutic feeding. During the same survey, *Action Contre la Faim* found that out of 52 children responding to the criteria for inclusion in a feeding programme, 25 (48%) were effectively registered. The coverage of the feeding programme in Macenta in 1996 was arguably the highest that was ever reached in PARLS.* *Action Contre la Faim* was conducting a 'real campaign against malnutrition' and mobilised important resources to do so. It is likely that the low coverage figures of Guéckédou are more representative for PARLS as a whole.

THE HOST POPULATION BENEFITED FROM PARLS

It is beyond reasonable doubt that the host population living in the refugee-affected areas benefited from the fact that PARLS extended and reinforced the Guinean health system. They gained access to many new FLHS. Although the quality of care may not have been optimal, Guineans used these facilities frequently, at least as long as they were free of charge. Between 1990 and 1996, utilisation of health services and coverage of preventive activities increased considerably for the Guinean population (Figure 7, page 22). This happened throughout Guinea, also in areas with no refugees and no PARLS. However, the observed increases were higher in the Forest Region than in the other regions, and there was a widespread belief that PARLS had contributed to this.

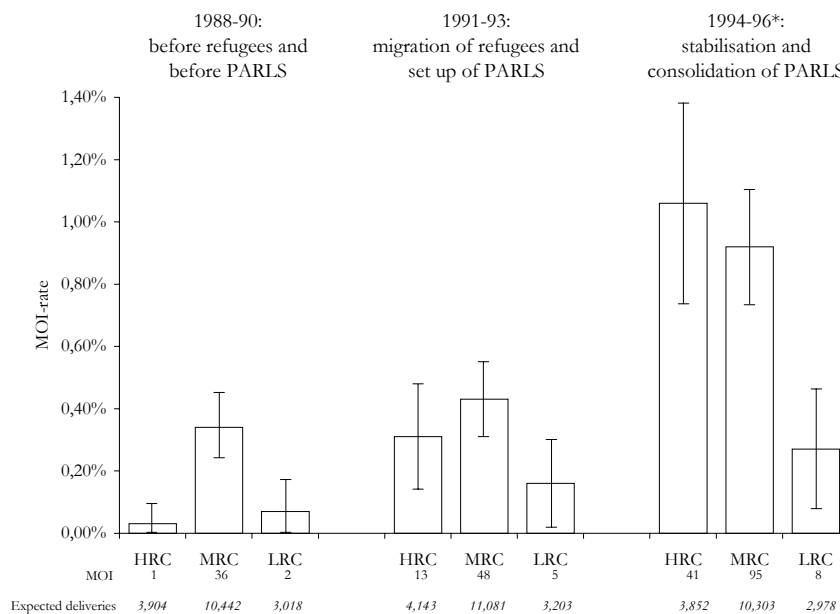
The hypothesis of a positive spin-off for the host population was tested by looking at the evolution of major obstetric interventions (MOIs) in rural areas of Guéckédou with different concentration of refugees between 1988 and 1996.¹⁹⁸ Rural Guéckédou was divided in 3 areas: a high refugee concentration area (HRC area), a medium refugee concentration area (MRC

reached the exit criteria of $\geq 85\%$ median W/H during at least two consecutive weeks. Often up to 50% of children had already reached 80% median W/H, and should have been excluded from the coverage calculation. On the other hand, surveys used z-score median W/H, which is more sensitive than % median W/H (Table 15, page 87).

* With the possible exception of real camps, as Noonah, where during 1995 important efforts, including exhaustive surveys and active screening, were deployed to find malnourished children. As the feeding centre was in the camp, utilisation was high.

area) and a low refugee concentration area (LRC area). The number of MOIs performed in Guéckédou hospital on Guinean women from these areas were recorded for the period 1988-96. For 1988-90 (before the arrival of refugees), 1991-93 (migration of the refugees and set up of PARLS) and for 1994-96 (stabilisation of refugees and consolidation of PARLS) the corresponding MOI-rate was calculated for each area by dividing the number of MOI by the expected number of deliveries during that period.

Figure 46 shows that the MOI-rate increased in the three areas, but significantly more in the areas with many refugees (HRC area > MRC area > LRC area). After analysing all possible biases, the only explanation for this difference was the different proportion of refugees and of PARLS input in the three areas.



HRC = high refugee concentration area, MRC = medium refugee concentration area, LRC = low refugee concentration area; MOI = major obstetric interventions

Figure 46: MOI-rates (95% CI) for the host population, rural Guéckédou, 1988-96

This study shows that the inhabitants of rural Guéckédou obtained better access to referral level curative care. It is not clear to what extent such improvements also occurred in other prefectures. The opening of a rural hospital in a remote area and the free ambulance service in Guéckédou may have considerably contributed to the improved access for these rural areas. These innovations were unique to Guéckédou. Although most PARLS health posts were integrated in the Guinean health system, it remains to be seen how sustainable they will be after the refugees return home, and PARLS stops its support.

WHY HEALTH CARE UTILISATION BY THE REFUGEES REMAINED LOW

HEALTH CARE UPTAKE IN REFUGEE CAMPS. In refugee camps the utilisation of curative care and the coverage of preventive activities is usually very high. Table 50 presents an overview of published user rates for curative care and hospitalisation rates in refugee camps. During acute emergencies user rates can be as high as 3.95 visits per refugee per month.¹⁹⁹ The Rwandan refugees in Kivu in Zaire in 1994 presented a rare opportunity to compare user rates between self-settled refugees and refugees in camps.²⁰⁰ The encamped refugees used the health services approximately twice as often as the self-settled. Even in well-established chronic refugee camps – with very low crude mortality rates – user rates remain between 2 and 4 visits per refugee per year. Medical staff working in such chronic situations often report that many visits are for minor or psycho-somatic complaints¹¹¹ that would not, in normal circumstances, result in a demand for care. The breakdown of social support systems resulting from the crisis and displacement probably hampers normal coping mechanisms. *“Whether or not people respond to adverse circumstances by contacting the health care system, seeking ‘patient’ status, will depend on their perceptions of their own coping capacities, and their informal support systems, relative to their expectations of the formal system”*.⁸⁵ Where measured, hospitalisation rates also were very high, equivalent to 171 and 1,018 hospitalisations per 1,000 refugees per year. The cost of medical assistance for encamped refugees often amounts to US\$20 per capita per year.

<i>Situation (period of data collection)</i>	<i>User rate (visits per refugee per year)</i>	<i>Hospitalisation rate per 1,000 refugees per year</i>	<i>Comments</i>
Initial emergency phase. Sa Kaeo, a medium-sized closed and overcrowded camp with 31,900 Cambodian refugees, Thailand. (October – November 1979)	47.45	1,018	Very intensive intervention: 10 NGOs and a hospital with 1,050 beds. Crude mortality rate ^a fell from 9.1 to 0.7 per 10,000 per day over a 5-week period. ¹⁹⁹
Initial emergency phase. Wad Kowli, a large camp with 85,000 Ethiopian refugees, East Sudan. (February 1985)	4.47	NA	Crude mortality rate ^a of 8.9 per 10,000 per day, continued for 6 months. Dramatic impact of measles epidemic. ²⁰¹
Initial emergency and post-emergency phase. Rutshuru, self-settled Rwandan refugees outside camps in Kivu, Zaire (August – October 1994)	3 to 4	NA	Cholera and dysentery epidemics. Assistance by the routine district health system. ²⁰⁰
Initial emergency and post-emergency phase. Rwandan refugees in camps, Kivu, Zaire (August – December 1994)	7 to 8	NA	Cholera and dysentery epidemics. Intensive interventions by many NGOs. ²⁰⁰
Chronic and stable situation. Tawara, a chronic open refugee settlement with 4,162 Ethiopian refugees in Gedaref, East Sudan. (August 1980 – May 1981)	4.32	NA	Intensive intervention by 3 medical doctors. ²⁰²
Chronic and stable situation. Site 2, a large chronic closed camp with 70,000 Cambodian refugees, Thailand. (June 1987 – May 1988)	3.10	<15 years: 133 adults: 171	Crude mortality rate ^a of 0.1 per 10,000 per day. Very intensive foreign intervention. ²⁰³
Chronic and stable situation. Five camps and 25 settlements for Ethiopian refugees, East Sudan. All were small or medium-sized. (1989)	2 to 3	NA	Crude mortality rate estimated at half that of the host population. ²⁰⁴

NA= not available. ^a When the crude mortality rate is <1.0 per 10,000 per day, the situation is considered 'under control', while a crude mortality rate of >5.0 per 10,000 per day is considered 'catastrophic'.²⁰⁵

Table 50: Utilisation of curative care in refugee camps

THE COMPARATIVELY LOW UPTAKE OF CARE BY REFUGEES IN GUINEA.

In Guinea much less was spent on health care – only US\$4 per refugee per year – and uptake of care by the refugees was much lower (N'ZYL: N'Zérékoré, Yomou, Lola

Table 49 , page 186). The explanation for this is not straightforward. Three elements may have played a role: need, accessibility and acceptability.

A first explanation might be that in Guinea most refugees did not face a catastrophic 'health crisis', as is common during an emergency displacement. Most refugees were self-settled, and lived in an environment similar to the one of their home country. But the tropical rain forest is an unhealthy environment. Malaria and other parasitic diseases are highly prevalent, and people get ill frequently. The health status indicators in Guinea were among the worst recorded in the world during the 1990s (Figure 2, page 11), and they were worse in the Forest Region than elsewhere in Guinea. The health needs of the refugees were thus undoubtedly high, but probably not much higher than those of their hosts, or than what they had been experiencing before their flight. Without 'health crisis' there may have been less need for curative care than in a typical camp situation.

A second way to explain the low utilisation of health services might be poor access. But there was a dense network of first line health services (FLHS), and the majority of refugees lived at less than 5 kilometres from a FLHS. Health services were officially free of charge for refugees, and complaints about unofficial fees for refugees were rare. Geographical and financial access to FLHS was thus good, although lower than in refugee camps. But access to hospital care remained almost as difficult for the refugees as for the Guinean population. Despite the efforts undertaken, geographical and financial obstacles remained. Moreover, as most refugees actively participated in the Guinean economy, the opportunity cost for medical care was probably higher for refugees in Guinea than for encamped refugees. Additional factors may further explain the low coverage of preventive activities. Preventive care delivery is operationally much easier among a captive target population in a camp than among self-settled and inadequately registered refugees as in Guinea.

Finally, the refugees were not satisfied with the Guinean health services. Utilisation of formal health services was low, but informal private clinics flourished.* The quality of the rural health services often remained poor, especially in health posts with inexperienced auxiliary nurses. In their

* Most refugee health workers, including those employed by PARLS, held informal private clinics.

home country many Liberians and Sierra Leoneans had had access to health services of a higher perceived quality and with different treatment schedules. Refugees often complained about the Guinean health services.

In December 1994, MSF conducted a survey to understand the reasons for the refugees' negative perception of FLHS.²⁰⁶ * A majority of interviewed refugees judged that clinical examination at FLHS was insufficient (57%) and that the nurse did not give any explanation to patients about their illness (68%). Most did not trust the diagnostic capacities of the nurse in charge (69%), and many had a negative view on the kindness of the nurse (60%), the consultation time (59%), and overall waiting time (67%). Many refugees considered that clinics had only drugs for the most frequent diseases (76%). They called Guinean nurses 'chloroquine-aspirin doctors'.[†] Less than 10%, however, questioned the quality of the drugs supplied, and 53% thought even that they were more effective than those sold in private pharmacies. Refugees also regarded the facilities as adequate (85%), but the equipment as insufficient (75%). More than 60% did not consider distance to the health facility a problem. Refugees living near the two health posts where Liberian nurses were in charge, were considerably more satisfied with all aspects of health care. A large majority (77%) declared to use the informal private sector regularly, despite the fact that 79% judged this to be very expensive. Only 8% said to consult traditional healers in Guinea. This is surprising since 68% declared they consulted traditional healers in Liberia or Sierra Leone.[‡] Most (65%) thought that care given in private clinics was of better quality than care given in public facilities. Not surprisingly, the refugees suggested to set up health posts headed by refugee staff and to increase the variety of drugs in the health posts. Refugees obviously took a dim view of the quality of care in the Guinean health services, and PARLS' reluctance in employing refugee health workers certainly contributed to this. Refugees would view Guinean health facilities as places where one could obtain a limited number of drugs for free, useful if one had one of the

* Refugee surveyors interviewed 1,293 refugee households using a closed questionnaire. The participants were selected by cluster sample from over the whole refugee-affected area. The methodology excluded, however, refugees living in settlements with less than 1,000 refugees.

[†] An analysis of prescription patterns indeed showed that in certain health posts 60 to 70% of all patients were treated with aspirin, chloroquine, mebendazole and/or co-trimoxazole; often all four.

[‡] This steep decrease in (declared) utilisation of traditional healers is probably linked to the rupture of social networks. Western-type medical practitioners remain quite similar in different locations, while traditional healers might be very different from one area to another.²¹⁸

most common health problems, such as malaria, respiratory infection or diarrhoea. Beyond that, it was better to consult a private refugee practitioner. PARLS' management did not take these complaints seriously. The feeling of most actors in the refugee system was *'that refugees get free health care, but continue to complain, and are never satisfied'*.

It seems probable that the low quality of the Guinean health services, as perceived by the refugees, was the main factor in the low utilisation of FLHS (and, to a lesser extent, of preventive care and hospital care as well).

Was PARLS the best solution possible?

The majority of the 500,000 refugees in Guinea self-settled. Compared to living in camps, self-settlement undoubtedly carried social and economic benefits for the refugees.²⁰⁷ This situation also presented an opportunity for a flexible and pragmatic approach to organise health services for the refugees. For the sake of coherence in delivering medical care to both the Guinean population and the refugees, a 'compromise' health system was worked out: a rapid expansion of the Guinean health system, with many new facilities. The result was a 'compromise PARLS', shifted away from 'typical' emergency medical assistance (EMA) towards primary health care (PHC), and with close links with the pre-existing health system. These PARLS health services were for a long time the only health services accessible to a large part of the host population. The experience with PARLS showed: (1) that such approach in the Guinean context was possible at a sustainable cost; (2) that despite this approach no severe health crisis occurred; and (3) that it benefited the host population, which in camp situations usually is not the case.

ALTERNATIVES. Nevertheless, the utilisation of health services by the refugees remained low. Is this because PARLS shifted too far towards PHC, or not enough? Was PARLS too much a top-down emergency programme, or not enough? Possible alternatives would have been: no special refugee-assistance programme at all ('no PARLS') or a completely separate refugee-assistance programme ('separate PARLS').

The 'no PARLS' option would have consisted in giving the refugees access to the pre-existing Guinean health services, and continuing the extension of the PHC programme at the programmed pace. Considering the state of development of the Guinean health system at the arrival of the refugees, the 'no PARLS' option would have amounted to non-assistance to a displaced population, and might have led to a severe health crisis. This was

not an option for any of the decision-makers.

The 'separate PARLS' option would have consisted in setting up a specific refugee health system with no attempt to reconcile it somehow with the local health system. It would have resulted in two parallel systems: PARLS for the refugees and PHC for the Guineans. However, PHC did not yet exist in most rural areas. Guineans in these rural areas would thus have been excluded, or have used PARLS. The 'separate PARLS' option was briefly considered by MOH and MSF, when UNHCR was not yet operational. MOH and MSF thought that it was more difficult to implement since PARLS needed the MOH resources, such as manpower, logistics, know-how, &c. A separate PARLS would probably have been more acceptable for the refugees, and the enrolment of refugee health workers would undoubtedly have been more easy. In the longer run, however, it would have been more expensive to maintain, and it might have created conflicts between refugees and Guineans, or between MOH, UNHCR and the foreign field partners. From the very start, MOH decided they did not want such a double system, and opted for one common system: PARLS as an extension of, and in close collaboration with, the PHC programme. PARLS thus necessarily had to make compromises.

COULD PARLS HAVE DONE BETTER? In 1990 alone 250,000 refugees arrived. The expansion of health services had to closely match this influx. PARLS thus had to move fast. To enable such fast expansion, PARLS reduced the package of activities offered to the bare minimum of life-saving interventions, and made this available to as many refugees as possible. PARLS concentrated on removing geographical and financial barriers to health care, and was willing to compromise on quality of care to obtain this.

At that time, 'collective wishful thinking' prevailed. Everybody was convinced that the refugees would return home soon. PARLS was thus conceived as a temporary solution to a temporary problem. This was an error, and it is a frequent one. Refugee situations tend to last for several years.^{207,208} Guinea was not an exception. For one year and a half, one wave of refugees after the other arrived in Guinea. PARLS was thus busy extending this same basic approach to the ever growing refugee-affected areas (Figure 5, page 17). When in early 1992 this was done, and PARLS functioned routinely everywhere, the first refugees had been in Guinea for almost two years. Hundreds of thousands of refugees had fled to the Forest Region of Guinea, no severe health crisis had occurred, and most of these refugees had access to basic health care. MOH, MSF, and the other implementing partners were frankly proud of their performance.

Only in 1992, all actors realised that the presence of the refugees was not a short-term reality. It took two years for the collective wishful thinking to make place for a more realistic time perspective. However, to shift the basic approach towards more PHC was difficult. If PARLS would have to continue for years, the main worry became to integrate PARLS as rapidly and as completely as possible in the PHC programme. But the mode of operation and the quality of care in PARLS were never fundamentally questioned. PARLS not only failed to improve the quality of care over time, it even degraded when PARLS health posts became integrated health posts, new inexperienced staff was appointed, and supervision virtually ceased. PARLS definitely missed an opportunity: qualified refugee health workers were readily available, but they were not adequately employed within PARLS.

PARLS was well rooted in the Guinean health system, but not in the refugee communities. In the PHC programme, community participation was largely limited to co-management of user fees. In PARLS, no such financial resources had to be managed, and there was no community participation at all. In general, in PARLS, responsibility and social accountability towards the refugee population were rarely, if ever, taken into consideration; let alone towards the host population. Throughout PARLS, the medico-technical and administrative logic prevailed, the sociological logic was largely absent. How acceptable the services were for the refugees was not an issue. The refugees' demands were not taken seriously, but systematically dismissed as 'exaggerated claims'. As a partial answer to the refugees' demands, PARLS put in place ancillary services – health animators in the rural areas and counselling services in the urban areas – but these did not address the problem fundamentally. PARLS remained stuck in a paternalistic approach. It assisted the refugees, but did not consider them partners. As there was not really an emergency situation, the refugees did not consider the health services offered acceptable.

PARLS' intensive links with the Guinean health system facilitated the swift development of an extensive network of health services at low cost. Moreover, it benefited the host population. For the Guinean population living in the remote rural areas it resulted in a considerable improvement, because before PARLS they had little or no access to effective health services. Yet, the Guinean PHC programme basically suffered from the same problems as PARLS. Both systematically favoured expansion of geographical access over quality of care. PARLS largely benefited from the PHC experience, and PARLS allowed for a further expansion of health services. Both were undeniable success-stories in terms of efficient expansion of cov-

erage. But both left little room for participation. Both were 'health for the people', not 'health with the people'.

The study of the PHC programme and PARLS in Guinea allows to reassess the similarities and differences between PHC and emergency medical assistance (EMA). The technical contents of PHC and EMA are definitely similar. The differences lie in the objectives, the strategies used, and the time perspective. However, the differences between 'paternalistic PHC' – that largely ignores the social dimension – and a top-down compromise refugee-assistance programme – that is well-connected with the pre-existing health services and develops a long-term perspective – become subtle at most, or close to non-existing. Indeed, progressively most differences between the PHC programme and PARLS in Guinea became minor. The most visible exception were the user fees for the Guineans and the free care for the refugees. There is a real risk that situation the compromise becomes the standard. In that case the end result is not a provisional optimum solution, but a hybrid, fundamentally weak in its fragile social dimension.

7. Towards a more balanced refugee policy

Medical officers and relief committees were generally loath to exclude the starving, the sick and dying from relief and shelter. [...] Such a reaction was regarded as highly irresponsible by the Board of Health. [...] They were convinced that overcrowding was a major factor in generating disease and as such posed a grave threat to public health. They contended that institutionalisation of the sick and the hungry was a greater evil than allowing them to fend for themselves outside.

Laurence M. Geary, on Medical Relief
in the Irish Famine of 1847¹

And you must know this law of culture: two civilisations cannot really know and understand one another well. [...] signals from the other civilisation will be as incomprehensible to you as if they had been sent by inhabitants of Venus.

Ryszard Kapuscinski, *The Emperor*

Between 1990 and 1995 some 500,000 refugees fled to Guinea and settled among the host population. This result was in sharp contrast with the archetypal refugee emergency, where refugees experience an acute health crisis with excess mortality during the first weeks after arrival; where refugees are separated from the host society and concentrated in camps; and where a high-profile, standardised and codified emergency assistance programme is set up.²⁻⁹ If not hampered by logistic and political constraints, such approach can fast reduce excess mortality.

Putting refugees in camps facilitates the delivery of emergency relief, but it also has a number of drawbacks. Camp conditions prevent the reconstruction of social life. The manner in which camps are administered encourages passivity. The lack of autonomy engenders hopelessness. Camp conditions affect physical, mental and social well-being.^{10,11} Camps can be incredibly violent, they often are breeding grounds for a highly politicised, and often destabilising, collective consciousness.¹² Because of increased transmission through overcrowding, epidemics of measles, cholera, dysentery and meningitis become major killers in camps, more than in any other

situation.² The bigger the camps are, the more pronounced these effects become.¹³

Medical assistance in camps often costs up to US\$20 per refugee per year. Several studies have also shown that refugee assistance may have a negative impact on the quality of health services offered to the host population by diverting human and financial resources towards the refugee health services.²²⁻²⁴ The cost of a full 'care & maintenance' programme ('welfare relief')¹⁴ is several times higher, at times more than the GNP per capita of the host country.¹² The international community is often unable to assure such funding on a long-term basis, and food rations diminish in quality or quantity.¹⁵ Eventually the situation degrades and nutrition-related diseases increase;^{16,17} it is mainly in refugee camps that one encounters widespread beriberi, pellagra or scurvy.^{3,18-21}

The refugee-assistance programme in Guinea, PARLS, was not free of some of the ills of classical refugee-assistance. Food aid started late, was poorly targeted, and the quantities distributed were far below subsistence level. The refugees got access to basic health services, but the care provided was not to their satisfaction, and the utilisation remained low. Nevertheless, this mass migration did not lead to a severe health crisis. Although mortality rates could not be measured reliably, an authoritative review on refugee health noted: *"In Guinea and Côte d'Ivoire, mortality rates among Liberian refugees may not have been elevated, although surveillance information from these countries is incomplete. These refugees may have been spared excessive mortality because many were housed in local villages, avoiding the problems associated with crowded and unsanitary camps"*.²⁵ The impact of epidemics remained rather limited. The dispersion and the general situation of the refugees probably determined this outcome more than the effectiveness of epidemic control measures. The cost of the medical programme was limited to some US\$4 per refugee per year.¹²

Most refugees self-settled and participated economically in the host society. They maintained a high degree of autonomy, and did not become totally dependent on external assistance. The host population benefited from the medical refugee-assistance programme.²⁶ This situation lasted for over 6 years.

Refugees in Guinea did not benefit from high-profile state-of-the-art emergency assistance, and still the outcome was favourable compared to a typical refugee emergency. This can partly be explained by the fact that PARLS managed, at least to some extent, to overcome the limitations of the implicit rationale behind refugee assistance: the health crisis model. The health crisis model fails to put the refugee experience in a social per-

spective: refugees as a product of a disrupted society. Theories on health and well-being show that the socio-economic environment and the individual's coping mechanisms may determine refugees' survival in adverse circumstances as much as bio-medical determinants and health services do. Central to this is the reconstruction of social life and the relations with the host society, which strongly depend on the settlement patterns.

From saving lives to promoting health

THE BIO-MEDICAL APPROACH TO REFUGEE HEALTH

Emergency medical assistance (EMA) aims at saving lives in often dramatic circumstances (Table 36, page 150). The implicit rational reference frame is a bio-medical health crisis model: 'disastrous circumstances' lead to increased exposure to pathogens, which leads to increased morbidity, resulting in excess mortality (Figure 47). Emergency assistance concentrates on priority interventions and focuses on the physical environment (provision of water, food & shelter) or on the life-threatening diseases that cause excess mortality (measles, diarrhoea, &c).

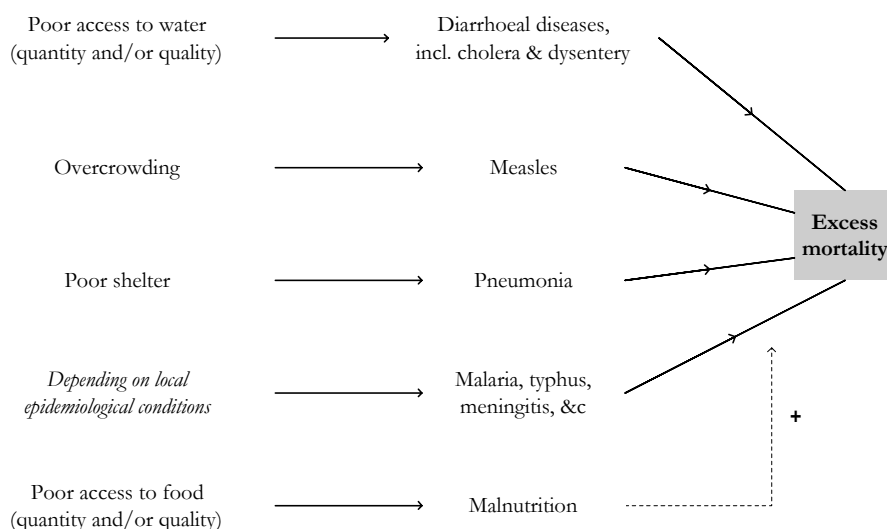


Figure 47: *The health crisis model in emergency situations*

If refugees in Guinea “*may have been spared excessive mortality*”,²⁵ this can, at least in part, be explained within the bio-medical reference frame of the health crisis model. Since the refugees self-settled in an environment similar to their own (Chapter 3, page 35), the effects of inadequate food and water, overcrowding and poor shelter were largely avoided. Overall, living conditions of the refugees probably were quite similar to those before their flight. This may explain the lack of excess mortality during the initial phase, but not why beyond that period refugees in Guinea fared better than those in chronic refugee camps.

In actual fact, the health crisis model has serious limitations. By focusing on excess mortality as the consequence of forced migration, it implicitly reduces life to physical survival. This may possibly be justified during the initial emergency phase, but not beyond, when there is undoubtedly more to life than survival (Table 36, page 150). If tackled adequately, and EMA is not compounded by major political or logistic constraints, such an emergency phase should be over in weeks rather than months.⁸

The health crisis model reduces the problem to a ‘snap shot’ of the initial emergency, without a before and after. However, a refugee crisis is part of a chain of events (Figure 48). From where, why and how the refugees fled may critically determine their condition. What will happen with the refugees after the initial emergency depends to a large extent on decisions taken during the initial emergency. A short-term focus on the emergency would be justified if everything would go back to normal immediately after. EMA – and the health crisis model – usually assume that this would be the case. However, experience teaches that refugee crises most often become chronic, and may last for several years.^{12,27-30}

This makes it all the more important not to neglect the social environment through an exclusive focus on physical environment and health services. One needs to look at a refugee crisis in a broader time frame, and, if only for that reason, in a broader perspective: in the post-emergency phase, the social determinants of health become more important, but even during the initial emergency phase survival may well depend on social factors.

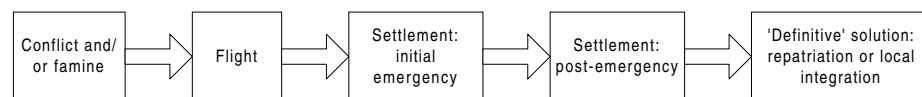


Figure 48: Refugee crisis in a time perspective

REFUGEES AS A PRODUCT OF A DISRUPTED SOCIETY

When a society gets in a crisis – through conflict or civil war – disruption is often first obvious at the macro-level, at least to outsiders. The government becomes unstable, law and order break down, communication and transport systems fail, health and social services collapse, &c. Progressively, disruption reaches meso- and even micro-level. Local markets are no longer supplied, men are enrolled in fighting factions, villages are attacked and pillaged, property is destroyed, people are killed or wounded, &c. Finally, intra-household care and support, and even self-care may be jeopardised. An intermediate phase of such progressive top-down disruption is represented in Figure 49.

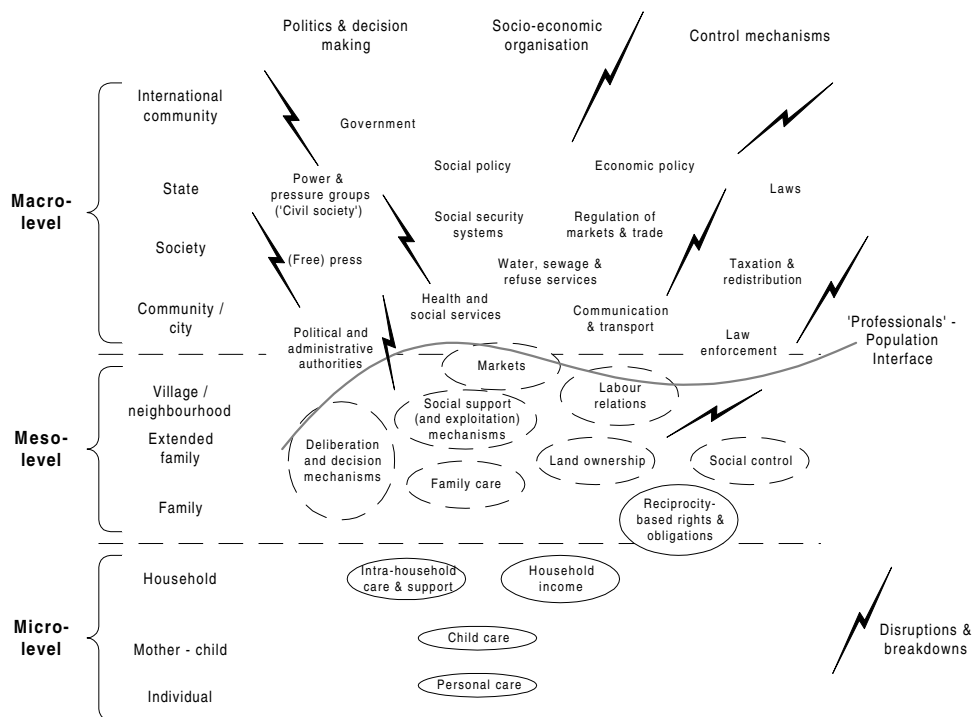


Figure 49: Disruption & breakdown model: top-down disruption of society

In most conflicts, however, the pattern of disruption is more complex: in certain areas the micro-level is already highly disrupted, while nationwide the macro-level (the State) starts crumbling (or is devoting all re-

sources to the war effort). In natural disasters, such as earthquakes or floods, the impact usually is very sudden. It may affect all levels, or only the micro-level, depending on the extent of the disaster. In gradual-onset natural disasters, such as droughts, the eroding of the resource base may lead to similar disruptions and breakdowns, usually bottom-up, starting among the poorest, either rural or urban. Man-made disasters that lead to an emergency situation and mass migration are usually gradual in build-up, of long duration, and, at least partly, of a political nature. The term 'complex emergencies' thus usually applies to them.³¹

The disruption and breakdown model is still simplistic, but presents a more complex picture of the impact of conflict on people's lives, than the health crisis model. It stresses the gradual nature of damage to all sectors of society, that may eventually lead to mass migration.

There is evidence supporting the link between disorganisation and breakdown of society, and increased mortality. First, there is de Waal's famous study on the 1984-85 famine in Darfur, Sudan.^{32,33} He compared villages with similar levels of food shortage and destitution, but different levels of disruption and breakdown. Inhabitants of villages that managed to maintain relatively 'normal' functioning suffered considerably less excess mortality than the inhabitants of villages where basic organisation broke down. Normal village life and support mechanisms seemed to confer inhabitants considerable protection against death.

Second, Szreter presents historical evidence based on the mortality data from England and Wales.^{34,35} In 19th century Britain, industrialisation, rapid economic growth and rapid urbanisation went hand in hand. There is convincing evidence that increases in mortality were not linked to urbanisation and crowding per se, but to political and administrative breakdown. Mortality increased in cities with a failure of effective social and health administration, but not in those with effective voluntary or state provisions for the poor and sick. Szreter conceptualises this in a sequential model: the 'four Ds' of disruption, deprivation, disease, and death. In the absence of disruption, there was no excess mortality.

Third, a prospective study in Somalia³⁶ showed that infant and child mortality dramatically increased in villages when the social and economic infrastructure broke down due to the socio-economic and political collapse in Somalia, *even before the onset of war*. During the study period, Somalia experienced organisational and administrative upheaval at different levels. Households that were more integrated in the market economy suffered more than subsistence farmers.

These three situations could also have been analysed using the 'health

crisis' model, and as a matter of fact, each of the authors did so, implicitly^{34,36} or explicitly.³³ They all showed that diarrhoeal diseases, acute respiratory infections and measles were the main causes of death. But they also showed that disruption and breakdown of socio-economic life precede and determine excess mortality.

THE DETERMINANTS OF HEALTH STATUS & COPING ABILITY

How does this fit in with more general theories on health and well-being? One such theory has been proposed by Stoddart & Evans, who consider well-being – defined as the sense of life satisfaction of the individual – the ultimate goal of human activity.* A person's health status plays a crucial, but not exclusive, role. Health status, and thus well-being, is critically affected by disease, as understood by health care providers. But more important is illness: how the person, and his family or other relevant social groups, experiences his health and function (Figure 50).

A person's health status depends on the interaction between his genetic endowment and the environment ('nature & nurture'). Within the environment one should consider the physical environment – water, food, housing, pathogens, &c – , the social environment – social relations, employment, organisation of society, &c – , and the specific contribution of health services. The relative contribution of each is a matter of debate since long.³⁷ The contribution of health services is probably overestimated,³⁸ at least in industrialised societies.† The crucial importance of the physical environment is well acknowledged and still is the basis of most interventions in medicine and environmental sanitation. The contribution of the social environment is still relatively ignored by health professionals and policy

* Well-being so defined is close to the World Health Organisation's definition of health: "Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or injury". Such all-encompassing definition of health – almost a Platonic ideal of 'The Good' –³⁸ is, however, not very useful for practical purposes.

† In societies where health services are already functioning relatively satisfactorily, such as Canada and Western Europe, it may be argued that "*the remaining shortfalls, the continuing burden of illness, disability, distress, and premature death, are less and less sensitive to further extensions in health care – we are reaching the limits of medicine. At the same time the evidence is growing that this burden may be quite sensitive to interventions and structural changes outside the health care system*".³⁸ However, as long as the burden of infectious diseases is not adequately dealt with, improvements in health services may be very efficient in terms of improved health (mainly thanks to vaccination and case management of infectious diseases). This is still the case in most developing countries.

makers, despite growing evidence that social relations constitute an important independent determinant of health status.^{39,40} *"Social relationships, or their absence, are important correlates of disease and mortality. Feelings of self-esteem and self-worth, or hierarchical position and control, or conversely powerlessness, similarly appear to have health implications quite independent of the conventional risk factors"*.³⁸ Cassel stressed that situations of rapid social change and social disorganisation were detrimental to health, independent from other determinants. He also found that the strength of the social support provided by those of most importance to the individual was a crucial element in the individual's health status.³⁹

Each of the four determinants – genetic endowment, physical and social environment, & health services (Figure 50) – has a direct bearing on health status. However, according to Evans & Stoddart, there is also a modulating factor: the person's individual response or 'coping ability'. *"This response will influence the ability of the individual to deal with external challenges, either to resist illness or to maintain function in spite of it. They will also affect the burden of disease, insofar as the decision to seek care, compliance with therapy, and response to therapy are also part of the individual's response"*.³⁸ The health status, and thus well-being will reinforce in turn the individual's coping ability. This coping ability is not only behavioural, but also biological (immunological and neurological).^{39,40} Moreover, *"the protective sense of self-esteem or coping ability seems to be collective as well as an individual possession"*.³⁸

Evans & Stoddart recognise also the role of economic prosperity in health and well-being, both by reinforcing well-being and thus coping ability, and as a means to improve the physical and social environment. In many societies, prosperity may also condition access to health services. Figure 50 represents these relations, *"though without overwhelming and paralyzing one in the dependence of everything upon everything"*.³⁸

The health crisis model refers to some of Doyal & Gough's intermediate needs crucial to physical health: the avoidance of 'disastrous circumstances' (non-hazardous environment, and adequate food & water), or dealing with the health crisis through appropriate health care. But the human need theory also recognises autonomy as a basic need, and identifies security in childhood, significant primary relationships, and economic security as intermediate needs.

A THEORY OF HUMAN NEED: HEALTH & AUTONOMY

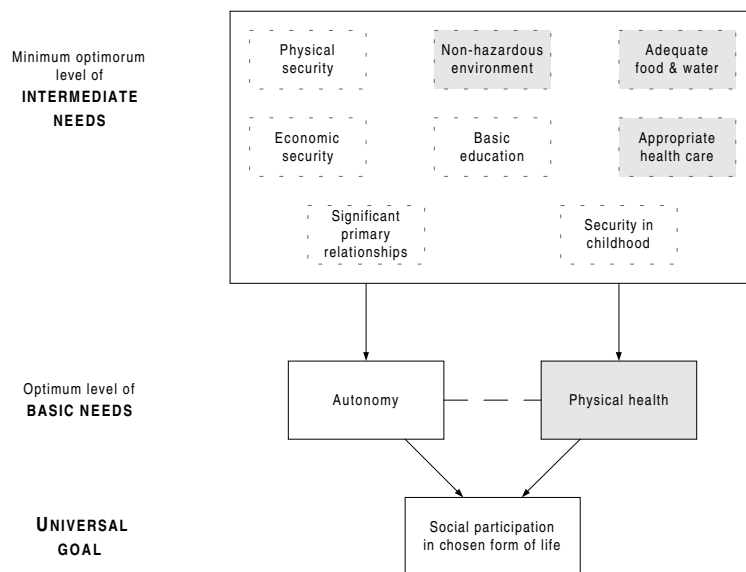
Doyal & Gough propose a universal theory of human needs.⁴¹ They distinguish a universal goal, basic needs and intermediate needs. Figure 51 shows a simplified version of their theory. They consider 'social participation in the chosen form of life' the universal goal of all human beings. To be able to do so, each human being needs optimum levels of physical health and autonomy, both of which are identified as basic needs. *"Physical survival and personal autonomy are the preconditions for any individual action in any culture, they constitute the most basic human needs – those which must be satisfied to some degree before actors can effectively participate in their form of life to achieve any other valued goals"*. That physical health is a universal basic need is probably not contentious. However, autonomy as a basic need is a less straightforward concept. They define being autonomous as *"to have the ability to make informed choices about what should be done and how to go about doing it. Autonomy is expressed when individuals formulate consistent aims and strategies which they believe to be in their interests and attempt to put them into practice in the activities in which they engage (this is why one holds persons practically and morally responsible for their actions). [...]* Three key variables affect levels of individual autonomy: the level of understanding a person has about herself, her culture and what is expected of her as an individual within it; the psychological capacity she has to formulate options for herself; and the objective opportunities enabling her to act accordingly".⁴¹

In order to reach this optimum level of physical health and autonomy, a 'minimum optimorum' level of a series of intermediate needs is required: *"the minimum quantity of intermediate need-satisfaction required to produce the optimum level of basic need-satisfaction"*.*

In security in childhood, Doyal & Gough stress the importance of (1) a stable, continuous, dependable and strongly affective relationship with parents or parent-substitutes, (2) a known place and familiar routines, and (3) a wider network of kin and community beyond the immediate family concerned with child care. In significant primary relationships, they present evidence for the universal need of 'moral nets' – those primary groups that serve as a normative reference group. They also show how *"people who are extremely dependent on others can experience a bizarre combination of lack of privacy and utter isolation, harming the individual's sense of self and leading to a*

* In health and education they acknowledge that in many societies this minimum optimorum cannot be universally achieved with available resources. In these cases a constrained optimum is called for, which is the highest level of need satisfaction which is generalisable over the relevant population.

spiral of disablement and diminishing autonomy".⁴¹ Economic insecurity or deprivation is defined as "if people do not have, at all, or sufficiently, the conditions of life – that is, the diets, amenities, standards and services – which allow them to play the roles, participate in the relationships and follow the customary behaviour which is expected of them by virtue of their membership of society".⁴¹ For anyone familiar with life in a refugee camp, it must be clear that security in childhood, significant primary relationships and economic security are invariably highly jeopardised.



in grey: the elements (partially) addressed by the health crisis model (Figure 47, page 203)

Figure 51: Doyal & Gough's human need theory

BECOMING A REFUGEE AS A WAY OF COPING

Mass migration usually is a late occurrence in the progressive degradation of a society in crisis.³³ In some instances, fleeing is a sign of extreme despair. Most often, it is a rational decision to mobilise all energy and resources available to find a way out of a situation which has become 'unbearable'. One decides to flee when one thinks that it will be better under other skies. Fleeing is thus a way of coping, weighed against other available options.

In some instances, as a result of great political changes or movements of

armies, entire villages may flee together to a place decided before departure, and settle together in a place not entirely unknown. This was, for instance, the case for the first wave of Mano refugees who arrived in Guinea (Figure 5, page 17). In other instances, families may have to split, run away from the conflict, without precise destination, join with others during flight, and end up somewhere in an entirely unknown, and maybe hostile place, together with strangers. A refugee crisis is thus by no means a uniform phenomenon, but a mix of 'vintages and waves'.^{42,43} Rarely, if ever, the entire population flees. This may be the case when mass migration is decided and imposed by the authorities.* Often, certain strata, for instance merchants, leave first. In other situations women and young children flee while the men try to safeguard land and property. Or young men flee to escape conscription. Or only those with money to pay for transport can leave. Or members of certain ethnic or minority groups flee.

The pattern of flight can take distinct forms which create differing refugee situations.^{42,44} In the place of settlement, refugees have to deal with local people, local authorities, maybe fighting factions, &c.⁴⁵ Each of these may be more or less sympathetic or hostile, and give support or further threaten and abuse. It is often when people become internally displaced persons or refugees, that they are identified by churches, NGOs, UNHCR, &c as needing emergency assistance. The host area may benefit from stable authorities and public services – for instance, when people flee to a stable neighbouring country – or the host area may equally be destabilised by conflict.

Whatever the precise situation, when refugees settle, they start reconstructing household units and social networks, often with a composition different from the original ones, and linking up with the host society.⁴⁴ They also establish economic links,³⁰ on a monetary or non-monetary basis, with the residents of the host area: they purchase food on the market, exchange commodities for food, labour for food and shelter, &c.

The image of refugees as passive victims is by no means correct; refugees are actors.⁴⁴ Fleeing is often the result of a conscious – and rational – decision.^{42,43} Most refugees develop, both individually and collectively, creative coping mechanisms, which are often effective in giving them access to food, shelter and water.⁴⁶ Of course, there are situations where refugees are completely destitute and exhausted; where they arrive in such numbers that all local capacity is overwhelmed;^{7,12} where they arrive in enemy terri-

* This was the case for many of the Rwandan refugees who arrived in Goma in 1994. The political and military authorities had decided a collective flight to the former Zaire.

tory and cannot get help from the local residents. These dramatic situations receive most attention and media coverage. But even then, most refugees develop their own more or less effective coping mechanisms.

THE CENTRAL ROLE OF SETTLEMENT PATTERNS

The interactions between refugees, their hosts and other actors (government, UNHCR, relief agencies, &c) result in a 'settlement pattern'. Each settlement pattern has specific characteristics: camp or open settlement, large or small concentrations,¹³ freedom of movement or confinement, economic freedom or prohibition of income-generating activities, &c. These factors will have a bearing on the refugees' well-being, autonomy and possibilities for self-reliance.

'Settlement pattern' is thus a wider concept than a 'non-camps vs. camps' dichotomy, which refers mainly to the physical environment and the way the refugee community is structured. Socio-economic relations with the host society are also an important factor, arguably the most important one, and it can be ranked on an 'integration – segregation' scale. 'Non-camps vs. camps' and 'integration – segregation' are somehow linked, but not absolutely. Even within one refugee situation, different settlement patterns can be recognised. This has been done for Guinea (Figure 15, page 58), but could also be done for the Rwandans who fled after the 1994 genocide or for other refugee situations (Figure 52).*

Settlement patterns are determined by many factors. In Guinea, factors favouring self-settlement included the cultural proximity between refugees and hosts; the gradual arrival of the refugees in successive waves and their spread over a large area, the relatively good general condition of the refugees; the concentration of refugees; the availability of land;⁴⁷ the non-directive attitude of the host government, partly because the refugees were not considered a threat to national security; the initial organisation of assistance by agencies already working in the region before the arrival of the refugees; and the limited media attention.

* Figure 52 is a selection based on personal experience (Guinea, Sudan, Honduras, Zaire, Burundi, Uganda & Kenya), and completed with some data from the literature (Zaire,^{7,65-67} Tanzania,^{24,68-72} Burundi,^{69,73} South Africa,^{74,75} Uganda,^{76,77} Kenya,^{17,78} Sudan,^{9,19,30,79-83} Honduras,^{3,84} India,⁸⁵⁻⁸⁸ & Thailand.^{8,89-92}).

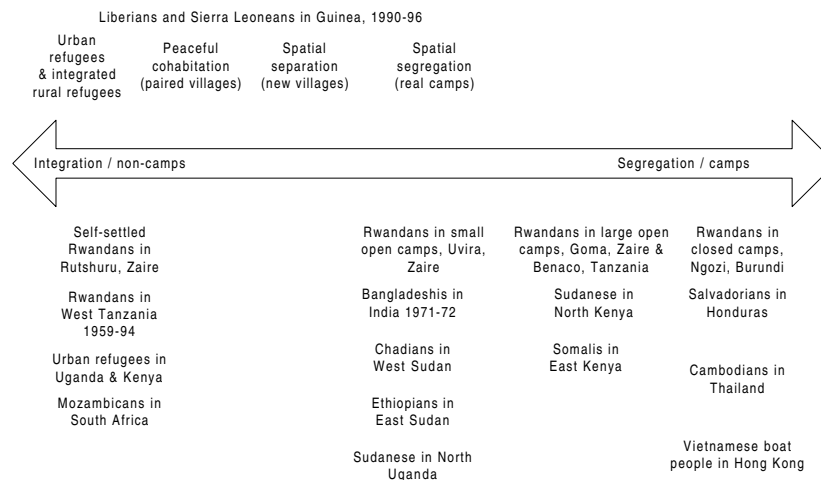


Figure 52: Range of refugee situations

In other refugee situations, factors favouring encampment included: the desire of the host government to segregate the refugees from the host population;^{48,49} the desire of the political leadership of the refugees to control the refugees; the attitude of humanitarian agencies, partly to facilitate assistance delivery,⁵⁰ partly for reasons of financial accountability;^{48,51} and the lack of land.

The settlement pattern has an obvious bearing on the refugees' chances of developing self-reliance (Figure 15, page 58). In general, as refugees are more segregated, they become more dependent on outside assistance, they have less opportunities for self-reliance, assistance will be more expensive, the situation will become more hopeless in the long term humanitarian 'sanctuaries',⁵² and there will be less opportunities for refugee assistance to benefit the host population.

However, such a generalisation is an over-simplification. Within the refugee community, effects of encampment may well be different for the majority of refugees who have some assets to become self-reliant and a minority of 'vulnerables' who lack such assets. Within the host population, the presence of refugees may well affect differently those able to employ refugees and those who have to compete with refugees on the labour market: the 'hidden losers'.⁵³

In each case, the role of the government, UNHCR and relief agencies, their policies and agendas, are among the most decisive elements in determining how refugees settle. Encamped refugees may be more convenient for

the outside actors in terms of service delivery and financial accountability.
But what can and should be the role of outside aid in refugee situations?

Box 7: Refugee rights: protection & assistance

There is a distinction between refugee protection and refugee assistance.^{58,59} Protection concerns the human rights of the refugees, in the comprehensive sense of the 1948 Universal Declaration of Human Rights,⁶⁰ the 1951 Convention and the 1967 Protocol relating to the Status of Refugees.⁶¹ These international legal texts are recognised by most states as the basis for their own refugee policy, and for the international mandate of UNHCR. Assistance concerns the aid given to refugees: food, shelter, health care, education, allowances, &c.

The 1951 Convention deals with the criteria for granting refugee status, and with the judicial status and the rights of refugees in the country of asylum. The 1951 Convention stipulates regarding gainful employment: (1) "The Contracting States shall accord to refugees [...] the most favourable treatment [...] as regards the right to engage in wage-earning employment"; (2) "The Contracting States shall accord to a refugee [...] treatment as favourable as possible [...] as regards the right to engage on his own account in agriculture, industry, handicrafts and commerce [...]"; and (3) "Each Contracting State shall accord to refugees [...] who hold diplomas recognised by the competent authorities and who are desirous of practising a liberal profession [...] treatment as favourable as possible". It also stipulates: "Each Contracting State shall accord to refugees lawfully in its territory the right to choose their place of residence and to move freely within its territory [...]" and: "The Contracting States shall accord to refugees lawfully staying in their territory the same treatment with respect to public relief and assistance as is accorded to their nationals". The governments of the host country have thus two obligations, and UNHCR has a double mandate: protection and assistance.

Most countries signed the Convention and Protocol and theoretically grant refugees these rights.⁶¹ However, in practice this is often not the case. In many countries, refugees are confined to camps, and the authorities impose restrictions on movement and income-generating activities. In other countries, no such restrictions are imposed, but receiving refugee assistance is made conditional upon registration and settlement in a camp. Refugee camps are often located in marginal areas with few possibilities for income-generating activities. The right to assistance and the right to gainful employment then become mutually exclusive. Refugees have to choose between the aid-umbrella or self-reliance.

In Guinea, between 1990 and 1992, all refugees who arrived in the Forest Region were entitled to assistance. Refugees thus gained, both in theory and in practice, the right to gainful employment, and to assistance. Self-reliance and assistance were thus complementary. From 1993 on, UNHCR made settlement in designated areas ('real camps') a condition for registration and assistance (Box 1, page 51). At the same time, the level of assistance was stepped up (Table 10, page 55). In practice, many refugees registered and officially resided in these camps, but they moved out in search of employment. Support for income generating activities – access to land, agricultural inputs, loans and grants, &c – came very late and remained modest at most.

Refugee policy as a balance between self-reliance & assistance

ASSISTANCE IN LIEU OF SELF-RELIANCE

Many refugees receive professionally organised assistance at some point in their plight: from NGOs, churches, UNHCR, or the host government.* Although UNHCR has a double mandate – protection and assistance – assistance often takes precedence over protection (Box 7). Refugee assistance is usually grounded in the health crisis logic (Figure 47, page 203): distribution of food & plastic sheeting, measles vaccination, basic health care, &c. More often than not, “specialists appear to be too pre-occupied with immediate service demands to take the time needed for reflection”.⁴² Aid workers, of course, reflect on the most effective way of delivering the emergency relief, but they usually do not understand the refugees’ socio-economic position in the host society and their coping mechanisms in that context. Aid workers often assume that refugees have no proper coping mechanisms, or anyhow, that these are not effective. In doing so, they may actually further weaken the refugees’ ability to cope, their self-esteem and their sense of control.

Three examples may illustrate this point. First, in a refugee situation a relief effort is started, a first camp somehow organised, the refugees counted and registered. New refugees arrive in the same area. These new refugees often attempt to settle in the established camp with relatives or acquaintances who arrived previously. It is then common that the assistance administration decides that new refugees have to settle in a new camp, in order not to disrupt orderly registration, and not to overcrowd the first settlements. By acting so, the ‘helpers’ usually do not recognise that they are hampering the reconstruction by the refugees of households, neighbourhood groups, and other social networks.

In other situations, the food available may be insufficient for general distribution to the entire population. NGOs may then decide to target the available food to young children and set up a blanket feeding programme for under-fives, delivering cooked meals to be consumed ‘on-site’. The unintended message to the mothers is that they are unfortunately not able to feed their children, and an outsider has to take over this responsibility.

Third, refugees are frequently confronted with a choice: either to register, settle in a refugee camp, and receive all benefits foreseen by the refugee-assistance programme, or not to register and settle in a camp, and receive no benefits. Roughly this amounts to a choice between outside assis-

* However, a considerable part of the world’s refugees do not receive assistance.¹¹

tance (and giving up most of their own coping attempts) and complete self-reliance (and opting out of the refugee system). A frequent choice is then to split the family: those able to generate income – often the men – settle where they can find employment, and the ‘dependants’ – often the women and children – settle in the camp.* This is a rational choice within the constraints of the refugee system, but has serious social and health consequences, and could be avoided by a more flexible approach to refugee assistance.

Other common features of the administration of refugee assistance, and of refugee camps in particular, are known to hamper or thwart altogether the refugees’ coping mechanisms: the interdiction to engage in trade, and in particular to exchange relief items for other commodities;⁵⁴ the interdiction to resettle in another camp or area once registered somewhere; the possibility of a new refugee census with very short prior notice, with the sanction of being barred from benefits if not present during such census (‘false refugee’); and the lack of precise information on future distribution plans, both on quantities and on distribution dates.

Each of these measures may seem perfectly logical to administrators of refugee assistance, bound by administrative and accountability rules.⁵⁵ For refugees they do not.^{44,51} Refugees may need other commodities than those distributed by relief agencies – clothes, fresh vegetables, &c – and trading with the assets received as assistance may be the only possibility to meet other needs.^{54,56} Refugees may try to reconstruct social networks with relatives they found back; refugees may want to move out of the camp in search of employment, or back home to maintain contact with relatives, or to bring them food or medicine; and refugees may need to know what they will receive and when to plan for acquiring complementary commodities.^{46,57} To them, the rules and restrictions of the refugee administration may seem arbitrary or even absurd.⁵⁵

Such mutual lack of understanding of each other’s rationale and intentions may result not only in tensions and conflicts between agency staff and the refugees,⁴⁴ it may also decrease the combined effectiveness of the assistance and the refugees’ own coping mechanisms.

ASSISTANCE IN SUPPORT OF SELF-RELIANCE

Aid officials view the refugees’ needs in terms of what they physically need

* In many refugee camps, the male/female-ratio of those registered is indeed very unbalanced. This is often interpreted as the ‘men are engaged in warfare in their home country’. It may also be that men are self-settled and women in camps.

to survive: the priorities derived from the health crisis model. As stressed before, such approach undoubtedly reduces excess mortality during the initial emergency. However, aid officials should view the refugees as actors in a refugee-affected society, with its socio-economic and political realities. Such change could improve assistance, not in terms of its technical content, but in the way of delivering it. Outside assistance would continue to concentrate on provision of water, shelter material, food, health care, &c. These are the functions on the macro- and meso-levels that are disrupted by the conflict and/or overwhelmed by the presence of the refugees (Figure 49, page 205). Nowadays, humanitarian agencies concentrate their efforts on improving the effectiveness of their own intervention. But maximising the effectiveness of relief efforts at the expense of the effectiveness of the refugees' own coping mechanisms may become counterproductive. Service delivery should be designed so as to complement the refugees' coping mechanisms, or at least leave room for them. The refugees' own efforts are essentially bottom-up attempts of reconstructing a 'favourable' social environment: households and livelihoods (micro- and meso-levels).

For such a shift to happen, explicit adoption of more holistic theories of health and well-being as the basis for refugee policies seem warranted. In the words of Stoddart & Evans,³⁸ speaking of the social environment as a determinant of mortality, and the non-utilisation of such evidence in health policy in Canada: *"There is thus a clear gap between understanding of the determinants of health, and the primary focus of health policy on the provision of health care services. [...] This disjunction may be partly a consequence of the persistence in the policy arena of incomplete and obsolete models, or intellectual frames of reference, for conceptualizing the determinants of health. How a problem is framed will determine which kinds of evidence are given weight, and which are disregarded. Perfectly valid data – hard observations bearing directly on important questions – simply drop out of consideration, as if they did not exist, when the implicit model of entities and inter-relationships in people's minds provides no set of categories in which to put them. There is, for example, considerable evidence linking mortality to the non-availability of social support mechanisms [...] This is not denied, yet no account is taken of such relationship in the formulation of health (care) policy"*.

The way refugees settle (or are being settled) is crucial for their ability to cope: self-settlement and integration enhance self-reliance, while encampment makes refugees dependent on assistance. There are thus two ways to enhance self-reliance and decrease dependence: (1) to promote non-camp settlements where closer contacts with the host population are possible, rather than camps; and (2) to promote, within a given settlement

pattern, an optimal balance between assistance and self-reliance.

This is probably just as relevant – if not more so – for the internally displaced. Worldwide, there are now more internally displaced persons than refugees.⁶² Their plight is less known, but often their fate is worse than that of refugees,^{3,25} and compounded by the fact that it is more problematic for the international community to assist them inside their own country.^{63,64} Internally displaced people are indeed, even more than refugees, entangled in complex political situations. There is no UN body that has a mandate – equivalent to UNHCR's mandate in refugee situations – to assist them. High-profile assistance of the kind delivered to refugee emergencies is often impossible, and many are unassisted. Low-key assistance that supports and enhances the displaced people's self-reliance along with their hosts' may be feasible. It deserves serious consideration of aid officials and policy makers.

Decisions on settlement pattern officially depend on the host government, but UNHCR and other humanitarian agencies often play *de facto* an important role.⁴⁸ But whatever the settlement patterns, in each there is room for supporting the refugees' social and economic autonomy. When part of the refugees are self-settled and part are in camps, one could support the self-settled refugees to increase their chances of becoming self-reliant, and avoid attracting them to the camps for receiving benefits. For refugees living in open camps, assistance should allow the refugees' own coping, understand constraints and try to stimulate their autonomy (negotiating access to land, giving loans, allowing them to participate in trade, &c). But even in closed camps refugees should be encouraged to develop income-generating activities rather than be completely dependent on aid, or at the very least, be helped to reconstruct familiar social groups, networks and routines.

Refugee assistance needs to combine effective service delivery and support of the refugees' self-reliance. In each situation a balance has to be struck between technocratic top-down management of the situation, and leaving room for the refugees' own initiative. Such a dual approach is not only a question of respecting the refugees' dignity as human beings, but bears upon the very effectiveness of emergency assistance; it is a question of bare survival.

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Chapter 7

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Abbreviations & Acronyms

95% CI	95% Confidence Interval
ANC	Antenatal Care
CFR	Case Fatality Rate
CTC	Cholera Treatment Centre
EMA	Emergency Medical Assistance
EPI	Expanded Programme on Immunisations
FG	<i>Francs Guinéens</i>
FLHS	First Line Health Service
GTZ	<i>Gesellschaft für Technische Zusammenarbeit</i>
MOH	Ministry of Health
MOI	Major Obstetric Intervention
MSF	<i>Médecins Sans Frontières</i>
MUAC	Mid-Upper Arm Circumference
NGO	Non-Governmental Organisation
NPFL	National Patriotic Front of Liberia
PARLS	<i>Programme d'Assistance aux Réfugiés Libériens et Sierra-Léonais</i>
PEV/SSP/ME	<i>Programme Elargi de Vaccinations / Soins de Santé Primaires / Médicaments Essentiels</i>
PHC	Primary Health Care
PMC	Proportion of Malnourished Children at the curative clinic
SFP	Supplementary Feeding Programme
UNHCR	United Nations High Commissioner for Refugees
W/H	Weight-for-Height
WFP	World Food Programme