Socio-anthropological investigation related to the acceptability of Plumpy'nut in Cambodia

Research document prepared by

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Preface

This document has been prepared after a request from the William J. Clinton Foundation and UNICEF in Phnom Penh with approval from the National Nutrition Program and the Nutrition Working Group to the Research Institute for Development (IRD France) in Phnom Penh for undertaking a qualitative study on Plumpy'nut (PN) acceptability.

A Memorandum of Agreement has been signed in December 2008 with the National Nutrition Program of the National Maternal and Child Health Center of Cambodia, the United Nations Children's Fund of Cambodia, the William J. Clinton Foundation and the IRD.

Shortly speaking, the IRD team mandate was to undertake an in-depth anthropological analysis of the acceptability of the PN in Cambodia. We will not come back to the objectives of the study in this document. The main point is that planners and deciders want to know about the feasibility of a PN scale up throughout the country, with or without the Clinton Foundation's procurement and technical assistance.

The present document has been completed at the end of March 2009. The author was assisted by three junior researchers (Miss Mony Penh, Miss Houn Kalyan and Mr Steven Pringent) for the data collection.

Quite a few persons, including Helen Lamphere the Country Analyst of the Clinton Foundation, have been supportive for the study as well as for access to key informants at the hospital level. Some NGO members and the National Pediatric Hospital medical employees have been kind enough to facilitate our interaction at the grass-roots level. Nevertheless, the entire responsibility of the finding and interpretations remains ours.

If the outcome of the research aims to provide new elements of reflection that may be useful for the future of the nutrition project in Cambodia, we need to mention that this anthropological research is not an evaluation but a social analysis liable to provide decision makers with supplementary arguments either in favor or against a potential scaling up of the Pumpy'nut program in the country in the coming years.

Frédéric Bourdier

Contents

Executive Summary:

For years, the efficacy of Plumpy'nut has been documented. It is scientifically demonstrated that, technically and medically, this ready-to-use therapeutic food is a product liable to save lives and cure severely malnourished children. There is no need to come back to this point insofar as the nutritive validation. But this established efficiency cannot prevent donors, deciders and implementers of questioning its replicability in other contexts. What has been inaugurated in a situation of famine and conflicts in another continent does not mean that it is going to work out automatically, in a similar way, in Cambodia even if severe malnutrition remains a big concern because of increased risk of mortality.

Both notions of feasibility and acceptability deserve to be scrutinized. The first deals with the external and internal possibilities of implementing a project into a poor-resource setting and the second insists on the capacity of the society as a whole to integrate it in local practices and, reciprocally, for the nutrition promoters to respond as much as they can to population's needs and expectations: if food is lacking or not taken sufficiently, it does not mean that providing nutritive product like Plumpy'nut will be systematically accepted by the targeted population. Each Khmer family has incorporated specific food practices which have been transmitted to the kids since early childhood. Integrating a new item produces a change in food cultural perceptions that have to be therefore negotiated and readjusted properly by health nutrition workers.

In terms of feasibility, political, socio-economic and organizational channels have been put into question. One of the two prevailing concerns for the nutrition actors who contributed to the Plumpy'nut initiative is the implicit duplication of an implementation that deserves to take into account local socio-economic conditions.

The second is the discrepancy between everyone's contributions. Donors give a ready-to-use therapeutic food which is in itself not sufficient because the distribution has to be organized, implementers are supposed to put into operation but mostly at the hospital, where finally nearly nothing happens because most families do not attend regular check up, while caregivers have to deal with a huge managerial acute considerations which are going far beyond the nutritive problems occurring in the household. All in all, a lack of preparation of the Project at the grass-roots level makes the Plumpy'nut initiative hardly reliable from the people's point of view. The family's experiences, strengthened by their practices, are in accordance with the medical staff's statements. The latter is aware of what is missing at the community level but this same medical staff does not have the adequate tools for organizing a constructive follow up. As a result, the following points seriously hold attention:

- PN initiative was implemented into existing programs without additional recognition or compensation. It has added more human resource and financial constraints in a medical sector already suffering from intricate limitations;

- There was a lack of communication and articulation between other chronic and infectious diseases programs within the same hospital. At the end, the caregiver does not always get the reason why the child receives Plumpy'nut;

- An insufficient follow-up has been identified everywhere, even with NGOs. The National Pediatric Hospital and the Svay Reang Referral Hospital do not have Home Care Teams for

the PN program while the NGOs involved in the two other sites could not manage, in spite of their efforts, to articulate a proper referral and tracking system with all malnourished children;

- There has been no sustainable community education and orientation at the grassroots level apart from the preliminary attempts initiated by MAGNA and TASK for reaching the community and making the entire social environment aware of nutritional issues. But this instruction project has partially covered the places where it was supposed to be implemented. And in the places where it has started it has not been handed over to the whole population and key people like Monks and other respected persons from the area;

- There has been a communication breakdown at three levels:

a) Between Implementers and Health Care Providers: poor training, not enough preparation and oversight, decreasing motivation;
b) Between Health Care Providers and Caregivers: insufficient and confusing orientations: is PN a food or a medicine? Is it only for HIV positive children? ;
c) Between Caregivers and Children: on the one hand the child is not is position alone to comply with dosage and time scheduled, and on the other hand the caregiver and the family as a whole have additional constraints preventing them from paying sufficient attention in case the child becomes reluctant to eat Plumpy'nut;

Emerging from these multifaceted interactions, the analysis of the notion of acceptability is necessary but also distressing. At different echelons from top to bottom, and vice-versa, resistances due to social, cultural and economic constraints have been identified. It can always be possible to accuse Plumpy'nut of not working in Cambodia due to children's reaction to the taste but this statement leads to nowhere. Our study reveals that, beyond appearance, accepting or refusing Plumpy'nut is less a personal choice coming from the child alone but more a collective outcome. In other words, the notion of acceptability is the result of a social commitment which, for working more satisfactorily, must encourage the active participation of various social actors including caregivers, other family members, relatives from the neighborhood, key persons having an influence in the community, nutrition workers, and a reasonable number of the staff from the hospital.

In conclusion, the research tends to confirm that the Plumpy'nut initial demonstration does not provide sufficient persuasive elements for scaling up the program throughout the country. Moreover, whatever ready-to-use therapeutic food may be chosen, we can assume that there is little chance for it to be successful if the whole implementation process is not properly done. Logistical and organizational evidences show that the Plumpy'nut project has not been sufficiently and adequately prepared. The preconceived idea that it could work without too much following up is seriously incorrect. The implementation has been perceived as a course of action supposed to go smoothly, in a motorized way, with minimum supervision. But it cannot go ahead like that. The study identified quite a few "unforeseen" social factors that deserve to be taken into account if deciders want it to continue. If it was the case, this decision will imply a new contextual formulation of the PN strategy.

Abbreviations and acronyms

ART	Antiretroviral treatment
CAH	Children Angkor Hospital
CCRH	Chea Chunmeas Referral Hospital
FRC	French Red Cross
HBC	Home base care
IGP	Income Generation Product
IPD	In Patient Department
NNP	National Nutrition Program
MAGNA	MAGNA Children at Risk (Czechoslovakia)
MOU	Memorandum of Understanding
MSF	Médecins sans Frontières
NCHADS	National Center for HIV/AIDS and Dermatology and STDs
NPH	National Pediatric Hospital
OI	Opportunistic infection
OPD	Out Patient Department
PN	Plumpy'nut
TASK	*Trotrum apiwat sokepiap neak kreykrow* (supporting the health and developing the poor)
UN	United Nations
RUTF	Ready-to-use therapeutic food
SRRH	Svay Reang Referral Hospital
WFP	World Food Program

1) Introducing Plumpy'nut

In one of his latest books, *The End of Poverty*, Jeffrey Sachs developed a very powerful economic message which is still kept in mind by scientists, national deciders, international aid agencies, multilateral bodies and non-governmental organizations. He argues that we now have the tools to stabilize the billion people who remain in extreme poverty, so that we can then help them onto the bottom rungs of the economic ladder, where they have a chance to prosper (2005). His statement perhaps suffers from an "acute optimism" for observers and analysts who are aware of the non-economic roots underlying the mechanisms of inequalities and power in the world. But technical knowledge for fighting poverty is, if not sufficient, at least necessary and available. At this stage, a significant component linked to the amelioration of deprived people's life conditions is associated with nutritional improvement.

If addressing the long-term challenges of poverty and food security is fundamental, it should not be forgotten that addressing the needs of malnourished children requires specific and targeted strategies to ensure children under five having access to the minimum nutrition they require (Médecins sans Frontières, 2008b). Based on this remark, the French NGO MSF strongly supported UN recommendations call for children with severe acute malnutrition to receive treatment through community-based nutrition programs, without being admitted in any health facility or therapeutic feeding centers, unless the child has a medical complication. This revolutionary method not only reduces general costs but also frees the doctors to attend the sickest children. Following this indication, PN has been given for HIV positive patients (both children and adults) in the Kompong Cham referral hospital and in the "Amitié Khméro-Soviétique" (AKS) hospital of Phnom Penh. But the PN demonstration did not provide significant results and MSF France has stopped procurement for Cambodia after a sixteen month period.

In 1998, André Briend, a French pediatric nutritionist affiliated with the World Health Organization (WHO) created a product called Plumpy'nut. It is a high energy food bar comprised of peanut paste, vegetable oil, milk powder, powdered sugar, vitamins and minerals that could be prepared locally in the poor countries. The fortified peanut butter has two year shelf life in an unopened package. One of the critical and innovative advantages is that this ready-made paste, whose nutritional components are exactly similar to the F-100[1], is that it does not need to be given in a public health center. It easy to store it and it can be administered to the child by a home caregiver (Briend, 2001). For the first time, malnourished children had a possibility to be treated at home rather than in hospital settings: such nutritional reformulation management also includes public health, economic and political improvement in the sense that it may have positive implications for the health delivery system in general (Briend, 2002). Let us notice however that this last point still remains an assumption which has, according to our knowledge, not yet been scientifically validated by independent studies.

One of the primary manufacturers of RUTF is the French private marketing company Nutriset whose mandate is to design specific nutritional products and increase their access and availability to improve the nutritional status of children and other vulnerable groups in the developing countries (Zeilani, 2008). They also encourage local productions, as it has already been done in Ethiopia and other neighboring states. Exportations of ready-to-use therapeutic food (RUTF) with Plumpy'nut packets in developing countries have been done in Africa, in

[1] Serge Breysse, personal communication, February 2009.

sub-Saharan countries affected by famine, drought, or prolonged conflicts. At that time, the most hopeless challenge for the aid agencies was to prevent large numbers of children from dying of acute malnutrition. In order to counteract the huge amount of severely malnourished children and to mitigate the thorny logistics of implementing the already existing classical therapeutic foods that were more difficult to prepare (Collins, 2002), Plumpy'nut offered a totally original platform for the emergency relief programs: easier to administer, appropriate packaging, less nutritional and medical units needed for supervising. All this was supported by continuous quality improvement with good implementation of corrective actions and, last but not least, a therapeutic item labeled with a "humanitarian ingredient" can benefit facilitation of procedures to get supplies in needy countries and receive tax free exportation.

a - Importing a new product into Cambodia

A contextualized success story on another continent

It is important to know about the African legacy of the fortified peanut butter if we want to understand its further extension attempt in South-East Asia, specifically in Cambodia.

Without going into detail because there is an abundant literature in that respect available on internet, the most laudatory testimonies have been reported both in the media, field articles and NGO reports. Certain words used to describe PN have been extremely influential: here it was mentioned as a "miracle food" (Clayton, 2005), there as an "undisputed hero" or a "life-saver" (Wines, 2005). Authors referred to what was happening at that time in Niger. But as journalists, they sometimes did not hesitate to emphasize a particular event to the detriment of the local context which was undermined and presented in a sensationalist way. Most of the time writers who turned into propagandists delivered a eulogy to the product as if it was the "last hope and redemption", with a rhetoric not very far from religious discourses. In other descriptions, authors let us imagine a crowd of riotously dressed mothers clasping wailing, naked infants queuing in front of a feeding center for receive the Plumpy'nut.

Our intention is not to insist on this propaganda aspect because, behind words, it is to some extent justified in that given context. Since the Plumpy'nut packets came into the hands of relief organizations during the Darfur crisis in Sudan, they have been revolutionizing emergency care for severely malnourished children who were old enough to take solid food by taking care out of the crowded field hospitals and straight into homes or shelters. Similar situations occurred in Malawi, Ethiopia, Dominican Republic and Mozambique but, again, in a particular context of famine, drought, total lack of national governance and internal warfare.

Moreover, the therapeutic food PN is beyond question. It is scientifically documented that it can definitely help children recover from their malnutrition. The prescription given to the mothers is based on the weight of the child and the degree of malnutrition. Watch him wolf them down. Wait for him to grow. Which he will, almost immediately: by eating PN, badly malnourished babies can each week gain one to two pounds, or roughly 454 grams to 907 grams. But it should be mentioned that these statements took place in given socio-political and physical environment. If we want to understand globally - and throughout the developing countries - the ongoing dynamics underlying the various levels of its acceptability, we have to remember that PN has experienced great success in situations of crisis, for children had nothing else to eat and where PN stood for the only way out to survive.

Towards the East

When PN started to be be exported to African countries, a set of conditions were prevailing. All parts of the countries where relief agencies were involved in emergency action were characterized by a tremendous intensity of political instability, social disorganization, agricultural catastrophes, human tragedies, food insecurity, etc. For the societies living there, it was neither a normal situation nor a common prevailing occurrence characterizing their past and probably their future. It is therefore not difficult to make a correlation between two components: a certain state of alarm and an apparently indisputable acceptance of a RUTF whose food properties are not far away from those that already exist in Africa (having in mind that groundnuts as a solid preparation have been long incorporated into feeding practices in many African countries).

When PN was recently imported in Cambodia, the social configuration of the country was entirely different: no famine, no war, no political instability, no acute drought, not much insecurity (at least not a single one liable to justify, as in some parts in Africa, a massive migration flow of people running away or fleeing despair the countryside).

Of course food availability in sufficient quantity is still a major issue in most of the 24 provinces and nutrition deficiency remains a major problem including for the youngest generation. In spite of significant data available (Ministry of Planning, 2002), efforts have been put on paper, and sometimes in practice, in order to reduce malnutrition incidence and prevalence (Council of Ministers, 1997) with help of the World Food Program (WFP) and other international agencies and NGOs. But in spite of these alarming drawbacks, the Cambodian situation cannot be compared with what happened in other countries in times of crisis. The Khmer Rouge and its immediate effects are no more. On the other hand, but without overemphasizing national indicators of socio-economic development showing a better gross situation, the small southeastern Asiatic nation caught between the two giants Vietnam and Thailand shows some significant improvements in terms of life conditions. Needless to say, the so-called sustainable positive changes do not affect all the strata of the whole society. Inequalities remain high between an emerging upper middle-class people and a large amount[2] of Khmers mostly living in rural areas and in the growing number of slums mushrooming in the capital city.

There is an extensive local literature on nutritional issues in Cambodia. It is worth mentioning that UNICEF was the first UN to be implemented in the country with a clear priority for children nutrition. Soon afterwards (even before Oxfam during the Vietnamese occupation) when the country was open to the International NGOs, one of the main preoccupations has been to deal with this acute problem, most of the time in collaboration with UNICEF (1994 & 1996) not only in cities but also in rural area like Kompong Chnang and Kampot (Lutheran World Services, 1997; GTZ and PDRD, 1996). Important research findings have been translated into expected innovative actions and policies (Cambodia Development Resource Institute, 1997) followed by government decisions (Cambodia Nutrition Investment Plan 1998-2008 (1997). Another interesting set of information does exist in terms of food security issues (Food and Agriculture Organization of the United Nations,1997 & Ministry of Agriculture, Forestry and Fisheries, 1996), supported by detailed statistical enquiries (Ministry of Agriculture, Forestry and Fisheries, 2000) and scientific investigation mainly focusing on children in particular geographical settings (HKI/ Cambodia, 1997 & 2000; Longfils P, 2000).

[2] Some long term observers like François Ponchaud would say an “increasing” (Cambodge soir, mars 2009)

In spite of this very abundant, reliable and well-documented literature, the social mechanisms liable to explain the socio-economic disparities in terms of access to food and choices are paradoxically insufficiently documented in a country where so many donors, investors and aid agencies are moving around. Anyone who has the opportunity to visit a public hospital, a health center managed by a NGO, an orphanage or even a normal private clinic will easily envision the importance of nutrition issues in significant geographical areas of the country, but lack of information regarding the life conditions and the way people, even the poorest, manage their life altogether and deal with food practices prevent us from having a more global approach targeting the roots of both malnutrition, undernutrition and even overnutrition. Nutrition is not something which can only be measured and evaluated with objective indicators (weight, height, size…).

But again, there is no general endemic famine: we are not in a desert, surrounded by enemies, where no local food can transit. Cambodia may not be the country of abundance but it is a place where it remains possible to live with a certain consideration for the future. Above all, since 1994 the author of these lines who has been living and working in some of the most remote places, even at a time when groups of Khmers Rouges were still roaming around in the north-east, has hardly observe anybody, or heard about someone, dying of hunger, and ready to eat whatever one may propose to him/her. It does mean at all it never occurred in Ratanakiri Province, or somewhere else in the country, but it is not common.

b- Previous findings and orientation of the present study

Other investigations dealing with PN

First, a preliminary review of the world-wild literature shows evidence of enquiries and analysis based on successful implementation programs of RUTF. If some of them deserve a thoughtful attention in terms of positive results (Diop El Hadji Issakha *et al*, 2003; Emergency Nutrition Network, 2005), and particularly those linking HIV and severe malnutrition (Thurstans, 2008), their outcomes cannot be blindly replicated in other places like Cambodia due to the absence of any reliable comparative indicators prevailing in the beneficiary countries. Again, and we do have to insist on that fundamental dimension, nutritional, socio-demographic and politico-economic components are not the same and these drastic differences avoid any abusing generalization and comparison.

In Cambodia, a few quantitative enquiries have been done since 2007, following the Plumpy'nut program pilot implementation (NNP/Clinton Foundation, 2007). It is worth mentioning that those studies came afterwards and not before the latter pilot implementation. It could have been appropriate to wait for other quantitative enquiries to have a look at the various criteria that need to be taken into consideration before implementing a project, even a pilot project. The main rationale behind this attempt would have been, for instance, to estimate the pitfalls and the socio-cultural contexts liable to obstruct or slow down the project.

In other words: understand before acting. An identification of a few considerations associated with hospital management, social interactions between the health staff and the patients or the caregivers, and cultural food conceptions, to quote but a few, would have given relevant insights of potential drawbacks that may become visible later on. But it has not been done, even if some persons that we met, both from the government and other agencies, were to some extent aware of this preliminary knowledge. But rather than going to the field,

discussions were confined and centralized at the office level, and it seems that after a long period of conversations and extensive meetings, a "wait and see"[3] policy has been adopted. We will come back to this essential point in our analysis focusing on acceptability.

A first set of quantitative inquiries was launched at the four sites (see below) where PN was officially implemented under the auspices of the National Nutrition Program and the Clinton Foundation. The first insight after 6 months implementation (National Nutrition Program *et al*, 2008) is strictly quantitative. It focuses on admission, children's characteristics, and weight acquisition but hardly gives, if we rely on the documents we have in our possession, any human details on social processes going on at the hospital, at home or with home base care teams. A more complete document has been recently released by the same partners (National Nutrition Program *et al*, 2009) who, in addition to technical issues to be solved, remain hesitant as why many children rejected PN. But as we shall see in our analysis, can the notion of acceptability be restricted to taste? Socio-cultural and economic factors deserve to be scrutinized in order to understand how the situation is going on at the grassroots level. In that respect, it seems that some of the leading agencies (NNP, UNICEF) are expecting to develop a more comprehensive analysis of the notion of acceptability which, till recently and before this present anthropological research, remains at a recommendation stage (ibid, 2009).

A second set of independent investigations has been done by MSF France whose Cambodian team implemented in April 2007 a protocol for the use of PN in two hospitals in Phnom Penh and in Kompong Cham within their HIV-positive cohorts in OPD and IPD, including children and adults receiving antiretroviral treatment (Breysse *et al*., 2008). Deploring that the causes of malnutrition have not been investigated before a patient starts taking RUTF, they do recognize that malnutrition in the Cambodian context can be from several origins, including real wasting syndrome from HIV and TB disease but also patients facing a range of socio-economic problems that can hamper the treatment therapy. More interestingly, after having tried the "Thai Fish Plumpy", with a completely different taste from PN, MSF France has no choice but to admit that the personal acceptability of the product is not sufficient in itself to explain the lack of adhesion of the RUTF (Médecins sans Frontières, 2008a). In other words there are other reasons, like a proper following up, that we are going to review in this text in so far as they deserve to be taken into consideration. In conclusion, they raise concern of the feasibility of such an additional food therapy strategy due to the limited percentage of persons in their study who recovered from malnutrition. They look towards a global approach of nutrition and a better adjustment of protocols that should be more in phase with the real needs of the local population, keeping in mind that the RUTF is only one element of a broader approach that needs to be depicted. In absence of more detailed knowledge of the population, the relevance of their findings, which are in phase with the previous set of investigations undertaken by the NNP and its partners, reflects the necessity to go deeper through more qualitative questionings, specifically by exploring the complex concept of acceptability with its different ramifications.

Originality of the IRD anthropological research

Before going into details about the adopted methodology in the next chapter, it seems important to point out very shortly the intention of our socio-anthropological research insofar as its theories, tools and objects do have some particularities which influence the scope of the investigation and, more importantly, the nature of the "findings". This is not the moment to

[3] This sentence was referred to us by a Khmer interviewee, a civil servant working in a hospital .

rewrite the acquired concepts in applied anthropology which have been rigorously depicted elsewhere (Olivier de Sardan, 1995) but one of the strengths of its orientation relies with its direct contact with the people. This is not to argue that people may only tell the truth, on the contrary. People do not behave in the same way they speak and they do not think in the same way they speak as well. But at least they live in a social universe with their cultural perceptions and perceived rationalities influenced by economic constraints. If at the best we can identify trends and shared patterns, it would be illusory however to find out the "magic" ingredients that, once revealed, could be applied in guise of a "mere receipt" to the whole population. No miracle solutions can be found for a complex situation, in spite of a probable collective unconscious dominating in a given society (Dujardin, 2003: 191). On the other side, donors and planners are willing to track out a universal model of good practices. In response to this attempt, there is nevertheless the temptation prevailing in some disciplines, and among development experts, to provide a linear presentation of a particular society by assembling the persons in the same way kids put together a puzzle. Our scientific position cannot approve this unjustified statement and subsequently our research will not go in that direction: we argue that diversity does exist in a given culture and one of our aims is to track the complexity of this diversity. Food and nutrition, as we shall see, are not mechanical features that fall under these considerations. Further, they are socially and culturally constructed.

In that respect any event, whatever it is, has its own meaning and can only be understood in a particular socio-cultural context. Any attempt to figure out an element from a system, out of its social environment, will be misleading. For instance, what some observers can be tempted to call "superstition" in terms of food habits remains a superstition only for the observer but not for the local population having cultural common senses to accept or refuse that food item. But on the other hand, we cannot start by saying that there is a basic cultural fundamental incompatibility between PN, other RUTF and the Khmer deprived families. If by chance something is not going so well, there are some reasons, elaborated by people, to make their choice going like that. And this is what we have to look for.

Most of the partners for development do expect under the guise of visibility for a project and for an intervention (like the PN implementation) presentable, measurable, and objectivable realizations with quantifiable indicators. But social scientists are more familiar with the social reality, with the real changes like modification behavior, improved autonomy, power relationships transformation, strengthening and broadening evolution attached with solidarity mechanisms, etc. We know that these components cannot be identified and measurable so simply with the classical techniques used by development evaluators having insufficient acquaintance and familiarity at the grass-roots level. On our side, as anthropologists, we assume a distance with the computable approach and we adopt a dynamic and operational position. We study a process. More concretely, our orientation, going to turn into a scientific design, relies on four aspects: 1) to identify social mechanisms rather than measuring, 2) to assemble and establish links between social factors fallaciously disconnected, 3) to differentiate forms of compatibility and incompatibility and 4) to assess interrelated logics.

2) Following a socio-anthropological methodology

Once the preceding points are taken for granted, we need to explain cautiously - because it has been the core of the research - the concept of acceptability whose meanings are frequently controversial, and the way we manage to get first-hand information.

a- What do we mean by acceptability?

To accept or not to accept. This apparently simple question raises many issues that deserve to be clarified. If the ultimate goal is to know whether the child will take sufficient RUTF or not, there are various other steps that need to be taken into account. First, there is a chain of actors who, at their level, are interfering with the PN implementing process and each one of them may influence the final outcome. For instance, and this point will be developed in the next chapters, if either the health staff or the caregivers are not sufficiently convinced and adequately involved in their assignment, there are chances the project may crack down.

In that respect, restricting an analysis to what is going on at the family level would not enable us to have a global vision as it has been already been demonstrated by some authors with regards to other major nutritious and health issues (Nayar, 1984; Farmer, 1998). A global vision that was also absent from a proper evaluation of the PN trial according to the MSF team in Phnom Penh and Kompong Cham. That is why we accordingly decided to adopt both a top-down and bottom-up methodology. The former starts both at the national and at the hospital level and it analyses how the project has been *de facto* taken into consideration, appropriated, understood, convinced and transmitted to the next echelon (from the National Nutrition Program to the Hospitals and NGOs, from those recipients to their health staff, from the health staff and home base care team to the family and so on). The latter is the feedback of the caregivers responses along with the children adherence which have been provided (or not) in return to the health system, keeping in mind that acceptability should reasonably include not only the compliance of the family who have to persuade the child to eat the PN but also the comprehension of both social actors and implementers with regards to the social dynamics going on among the selected families.

Acceptability must be finally understood as a “total social fact”, to borrow the expression of a leading anthropologist Marcel Mauss (1983). Food acceptability is not a simple question of taste or preference as it has been exaggeratedly written and rewritten for PN in Cambodia. Enquiring about a thematic associated with food requires a broader understanding of the alimentation context in the Khmer socio-economical and cultural environment. And the challenge for accepting a new product in Cambodia is not the same as in turmoil places and desperate times calling for desperate measures as it has been the case in Africa. To put it simply, the PN did not arrive in a vacuum. Mothers have developed strategies of maternal care. They have tried their best, with their own socio-cultural perceptions, to adjust what they believe is adequate food for their children. An important ethnographic research has been conducted on that topic in the central part of the country. The author has demonstrated the complexity of the knowledge related to food practices (Crochet, 2001). This does not mean, again, that people are “right” by doing this and not willing to change, but it remains essential, for the scope of our research, to have an idea about how PN can have a place in the whole already existing cultural feeding process for the children.

b- Reaching the people: a qualitative approach

Methodology and location

Four sites have been chosen to start a PN delivery program in Cambodia. We have been working in all of them. Two are located in Phnom Penh, one in the southern Province Kandal at the capital Takmao and the last one in Svay Reang Province, 120km east from the national

capital. The initial demonstration of Plumpy'nut took place in two referral hospitals: the Chea Chunmeas Referral Hospital (CCRH) in partnership with the Czechoslovakian organization MAGNA in Kandal Province and the Svay Reang Referral Hospital in association (SRRH) with New Hope for Cambodian Children. It has been initiated at the same time at the National Pediatric Hospital (NPH) in cooperation with the French Red Cross (FRC) and in a private clinic run by a religious organization called TASK. In addition, the Children Angkor Hospital (CAH) in Siem reap, which is not part of the protocol like MSF, launched a PN project at around the same time. All those medical structures were already working with another children nutrition program before PN but only two of them (MAGNA and TASK) have home base care teams.

Qualitative investigations have been systematically privileged according to anthropological theoretical scientific statements. We met, developed intimate relationships, followed the people and let them speak about what they perceived as their own concerns, within a framework that we intended to get in for the purpose of the research. We hardly performed focus group discussions because no adequate spontaneous situations occurred to rely on them, or rapid assessment procedures (quick quantitative enquiries) because we were not convinced of their adequate relevance for a scientific research. Contrary to the previous studies made by National Nutrition Program (NNP, 2008 & 2009) we did not conduct either quantitative enquiries and we avoided preparing ready-made questionnaires. This is because they do not highlight the complex mechanisms that we are willing to understand. It does not mean that quantitative measures should be systematically prescribed. On the contrary they could join in complement with the qualitative. But some have already been done last year and our contribution needed to show something else. Moreover, according to our scientific discipline, quantitative measurements are rather restricted to a descriptive point of view but they cannot reach a demonstrative point of view. In fact, more constructive interpretations of the data depended in the short term analysis emanated from the qualitative work.

The methodology has been based on personal interviews, participatory observation, stimulated gathering consultations and, but very rarely and under strict conditions of practicability, focus group discussions.

The personal in-depth interviews constituted the core of our working strategy. They have been done in agreement and along with key persons belonging to the chain of social actors depicted above as well as with some naïve informants, taken on a random basis, who might provide significant comparative perspectives. At the family level, the exact number of families with whom personal free and semi-direct interviews has be conducted was 39. We found this number sufficient to scrutinize a chronological regularity of the answers. The sequential number of the interviewees for each site varied however according to the importance of the site (see appendix 1) and the facility to reach people.

Participatory observations have been employed separately but in our case more simultaneously with long-term interviews. This technique could apparently be associated with a passive approach but it requires in reality an active technique of knowing how to get a proper understanding from what we see and observe either without interfering or with subtle interference. Such a methodology has been utilized within health structures and, whenever possible, in the communities and in the family settings when caregivers provide PN to the children.

The stimulated consultations could be used theoretically whenever particular missing knowledge is needed. An interesting way to obtain what we really need to know is to stimulate a situation (or a conversation, or both) liable to enable the people to react towards it.

In that matter, the unplanned reply from the enquired person could be strengthened by the repetitiveness of the stimulation, thereby avoiding anecdotic and temporal impulsive feedbacks that may generate a discredit in such innovative methodological analysis. Honestly, because of some imposed conditions of the enquiries by some mediators (see below), we had insufficient opportunity to use in profit this line of attack.

As it has been mentioned ahead and in spite of their popularity, we have been very cautious about the methodological relevance of the focus group discussions. Such collective discussions could have been done only when, and if, people spontaneously gather and decide without excessive intervention in order to avoid the desirability effect to talk about issues which appear essential for themselves. But such opportunistic situation did not occur during the enquiries, apart very rarely within the family and among civil servants working at the hospital. It could have been possible to organize this in a more formal way but it was not a top priority and the time schedule for the research did not allow us to do it repeatedly.

Strategies and difficulties to obtain information

Having a well developed methodology written on paper is not sufficient to get the knowledge we are expecting to have for completing our research expectations. What we need is a strategy, or a plan, to manage for having access to information.

The fieldwork has been grossly divided in two parts. The primary set of enquiries has been done in the four sites with the health staff involved in the PN project. We have been mostly initially welcome, probably due to our official assignment in the program, but our presence was not so much positively expressed in the course of time. In a particular location, a few social workers who had to follow the recommendations of their organization, were not in high spirits with our method because, evidently unaware of the nature of the anthropological investigation, they got the impression that we wanted to put our nose everywhere and even behaved as an evaluator or an expert doing rough monitoring. This happened only in one place but this mitigated interaction deserved the quality of our findings.

Fortunately in other places the whole team did their best to be in phase with our expectations and did not hesitate to spend time with us without limited constraints that could have been justified. One of the major drawbacks that we observed, but less within the sites having an NGO with home based care teams, has been the difficulty to meet the civil servants at the working place. They received us very politely because they were aware of our mission but otherwise they could not spend too much time with us, first because they had something else to do at the hospital and second because as in other public institutions, all the staff from the general director to the nurse have side activities which allow them to earn a more decent living than the insufficient salary they get from any public institution.

A second set of enquiries and observations has been made in the families. We met very few of them in the hospital because they hardly come. In Phnom Penh with TASK and in Kandal Province with CCRH, it has been possible to have access to the care-givers and the children trough the Home Based Care Teams. The solution was facilitated at the private clinic run by TASK because all the family beneficiaries were living in the same district, not very for from the others, in comparison with the two Referral Centers and NPH having a huge geographical disparity of patients, specifically in Svay Reang nearby the Vietnamese border.

The access has been in some cases quite difficult and time-consuming because in absence of any phone contact the health staff, we never know if the care-giver living 50km away from the hospital will be at home when we arrive. This unpredictability has been a negative key point for the interlocutors who have to accompany us (social workers, home base care assistant...). They were not thrilled at bringing us to faraway and remote places. The idea of having a discussion with a PN family was not sufficient motivation either, and we can understand their point of view. Time and cost have been restricted factors: apart from the possibility for us to pay the gasoline for the motorbike and financial compensation for the time spent, it was most frequently perceived as a burden to accompany us to the field. The only exception was to join the HBC team when they have their own working mission to go here or there. It was during that occasion that we have the time for observing what they were doing concretely and how they were addressing the PN issue with the families.

This advantage has its own inconveniences in the sense that we were willing to meet the family independently of the HBC or the medical staff based the hospital. It has been possible to be alone with the patients in most of the medical institutions (but they hardly come) but there have been complications to be on our own with families, care-givers and children at one site. The workers, having received orders from the top, did not allow us to be with the families without them, arguing - among other things - that it was their concern to know what we were doing and that anyway we could not interfere too much in the intimacy of the beneficiaries. Almost certainly, even if it has not been openly said, they did not want us to review their activities and put an illusory judgment (something we will never do). We tried to convince them that it was not at all our purpose but our interlocutors could not change their preconceived ideas. We also had little time to teach them what anthropology is and, to be frank, not sufficient energy to extend the discussion which could show them in return the positive feed-back they could get from it.

Once we got in touch with the people, mostly villagers and slum dwellers, the quality of relations have been most of the time excellent. The eminence of the relation, whenever it was possible, allowed us to develop trust, friendship and gave the beneficiaries the impression that they spent a pleasant moment with us. No suspicion occurred as it could have happened with NGOs who sometimes do not hesitate to strengthen their own territories and try their best to protect “their people”.

Families, on the other hand, took time to receive us and to discuss everything, therefore going beyond the scope of the research. This process of letting them going away from what should have been a specific oriented discussion was not innocent insofar as it facilitated our broader understanding of their lifestyle at the micro society level. We cannot claim that we were immerged in the local contexts because we did not spend sufficient time but we could get some explicit dynamics when changing from place to place.

3) The first level of acceptability

We had some feedback from some personalities involved in the PN implementation process in the country. Such information is definitely far from what is going on at the family level but we need to consider it in the sense that the nature and the degree of conviction of actors in charge of the PN initial demonstration may have several repercussions at a lower level. In other words, if deciders, project managers and operators are not convinced - or still reluctant - towards what they are supposed to do, how can they convince the medical staff and how can the latter negotiate with the beneficiaries?

a- At the national echelon

Some of the informants[4] told us that the decision to implement the project took a lot of time, and energy, in terms of meetings and consultations at the national level. If most preliminary discussions were definitely important in order to inform the various partners about the rationale of the PN project, some of them - but a minority - was skeptical about the sustainability of project relying on a RUTF that will be available through external donations. The second thing is that the product was totally new in Cambodia where existing nutrition programs, with long term monitoring and evaluation have been going on for long. The question was therefore why not to strengthen the prevailing forces in the country and adjusting them for the benefits of the acute malnourished children?

Other questions were to wonder whether up to what extent importing PN can be the best long term solution, even if there was already the ongoing perspective to initiate a local production and to establish a local marketing procurement and supply via the local company Hagar (see in the conclusion). The question of feasibility was therefore put into question. Such matters were nevertheless not shared by everybody in the sense that a certain percentage of actors who participated in the initial phase of the implementation process perceived the PN availability as a welcome opportunity to their nutrition programs which were already difficult to follow, difficult to monitor and evaluate at the local level.

For instance, one institution privileged the practical aspect of the PN that it can be given directly to the family, therefore allowing the staff to work in other important health related issues, “At the beginning, we thought that PN could act as a substitute for other medical items like F-100 which necessitate a more complex medical and logistical organization”. Others comply with the idea to develop a grass-roots approach that includes caregivers from the family in the chain of actors: “We thought it was a way to work more closely at the community level and to involve more concretely the concerned population”. On the other hand, others did not have the same opinion with this confident statement, arguing that it was not a good idea to trust poor, deprived and ignorant peoples: “How can we be sure that they will understand the recommendations and, as a matter of fact, not diverting this opportunity to use the PN for an Income Generation Product (IGP)?”

Meanwhile, once the protocol for the initial demonstration of Plumpy’nut for the treatment of acute malnutrition became finally accepted and signed in December 2007 (one year after a large donation of the RUTF was formally authorized in a MOU signed by the Prime Minister Hun Sen and Bill Clinton), most socio-medical actors at various levels, specifically those working with the government, complained *in anticipation* about the bureaucratic and

[4] According to the ethical standards in Social Science, we will not mention the names of the persons in order to respect anonymity and confidentiality.

administrative work they would have to do, not mentioning about countless meetings where, according to some of them, similar things will repeatedly put forward. In fact, it happened but not in the same *anticipated* degree. The so-call bureaucratic and administrative work was not so heavy: there was a need to register beneficiaries' data and to report them regularly (every two months normally) to the Clinton Foundation based at NCHADS. The burden of office work was not so high with the NNP but nevertheless it was considered by a significant number of medical and paramedical workers as a supplementary activity from which they did not receive any gain and *recognition* in return. Of course, not everybody mentioned this economic aspect, but some persons involved in the initial demonstration were, and still, have in mind - but without proper verification – that a few persons at the higher level, including international consultants, were receiving substantial material advantages in contrast with them, considered as "forced volunteers".

b- In the hospitals and in the clinic

The PN project has been initiated in three public hospitals and a charity clinic run by a Christian NGO created ten years ago in a slum area. In spite of similarities, mostly because every health structure has to follow the national guidelines, some differences have been observed in terms of procedures and perceptions. Let us examine them one by one.

TASK

The NGO TASK has a free clinic, run by Khmer nationals in Meachey district, on the way to Kandal Province. They cover an area occupied by a 160 000 population, predominantly living in slums, which is distributed in 8 *khum*[5], inhabited by Khmer families but also by Cham and Vietnamese groups. They receive funds (donations) from Holland, Sweden and the USA. They have different projects dealing HIV/AIDS, newborn babies, vulnerable children and malnourished kids under five years (in priority those having -2SD or -3SD), plus a more recent harm reduction program for young drug users. They were approached by the Clinton Foundation for the first time September 2006. In the beginning, they were quite enthusiastic about this RUTF, having the idea that it would be a supplementary "windfall" for the deprived families. One of the regrets mentioned by the paramedical staff it that the Clinton Foundation came only a few times to the clinic and never accompanied them in the community, always declining the invitation by stipulating that they had something else to do. "We just wanted to show them how our work was going on and make them concretely aware of this and that..."

TASK workforce is essentially composed of field workers (four groups with a total of 20 persons) doing home care visit for the following up of most of their projects. Besides, they have community workers teaching methods called "hearth model course" to educate the mothers (three days for one course)[6]. Each community worker is in charge of eight villages and each one of them teaches different group of mothers. This outreach activity provides a certain ease in identifying malnourished kids who can also receive HIV testing and counseling. It has been reported that among 54 detected severely malnourished children, 50 accepted receiving the HIV test and that 17 children have been HIV positive. More generally, there are 50 families per year as new clients who come for counseling.

One of their major priorities remains malnutrition. Once identified as a case, he is referred to the clinic for proper diagnosis, or to NPH if he needs to be hospitalized and the mother

[5] A *Khum* (commune) is a group of villages (*Phum*)
[6] Approximately 1000 mothers are approached in that way.

receives food provision (mostly with rice, fish and soybean) plus money (5000 riels) to accompany the child to NPH if needed.

After a few months dealing with PN, TASK became less enthusiastic with PN. The first time we met them in January 2009 the organization had four requirements in contradiction with the PN protocol: 1) it is not suitable to tell the family that PN is a medicine, not a food; 2) it is unrealistic to ask the caregiver not to share with other siblings; 3) it is not adequate to expect the child to eat PN alone, separated from other foods; 4) claiming the exclusivity of PN in a "rice country" is also inadequate. There should be a compromise... Without entering into details, we will see in the next chapters that those logics are not isolated remarks but well-founded and widespread interpretations.

One of the responsible of the PN initiative for TASK suggested that PN promoters should definitely change the taste since Cambodians are not familiar with this kind of taste. Nowadays, the head of the project wants to stop PN program because she has another option besides PN. From her personal point of view, PN has not been successful for most children, including the poorest. As a confirmation, she claims that most of the families take PN back to them. Nowadays, there are no more PN in stock and she will not accept to receive others. Before that, in the last weeks, TASK did not want to keep PN in stock and that is why they gave PN to all children willing to take it, irrespective of their nutritional status.

Svay Reang Referral Hospital

In the Svay Reang province referral hospital, there are six nurses, two doctors and three staffs normally in charge of the PN program. However, there is only one nurse who acts presently as social worker and counselor. She is the one who distributes PN to the families. As for the three others health centers, the medical staff received a three day training about PN at NPH in Phnom Penh. The first training was dedicated to the explanation of the PN protocol. A second training was organized at NMCHC, also in the capital, for two days in order to strengthen the comprehension of the protocol. For most of them however, it remained very technical and abstract.

The criteria for the children to be selected is a weight/height measurement (at least, *-2SD)*. PN started in Svay Reang Hospital in 2008. All in all, there are 121 families household who had taken PN to eat at home. Nowadays in February 2009, there are only 14 families still receiving PN in the hospital but for most of them there are chances it will be short-lived. There is no home base care (HBC) team in Svay Reang since all staffs are assigned to other work such as mother child care health and HIV activities as priorities. The hospital director reported that the families who receive PN must come to do a check-up at the hospital every two weeks after getting PN to eat at home. But very few are coming back. PN are given to children who are malnourished after they are weighed at hospital, but according to the protocol when children will reach weight which is balanced to their heights (according to WHO tables), they will be asked to stop taking PN from the hospital. In practice, the majority of the families are supposed to receive PN during four to five weeks and after that they can stop. This is explained to the family but apparently they do not comply.

There are also HIV-positive children receiving PN. HIV test material was supported by NCHADS. But recently there was a shortage of HIV test material, and that is why 14 suspected children have not been in position to be tested after family's voluntary decision to allow it. Most of the mothers and grandmothers take kids to the hospital but in the particular case of HIV positive children, there is a HBC "possibility" (because it does not happen

always) for HIV positive kids. In case the family of the infected child prefers to go to the hospital, they can get PN from the health structure. PN has also been given to older children who are co-infected with TB and HIV (probably with the *Camelia* trial project financed by ANRS France). One institution endorses this responsibility but the information we got was not clear since it was out of the director job assignment.

The hospital used to promote PN through employees at the health centers when they conducted meeting once a month at the Operational District Level. The hospital did not have alternative food complements like Soya Bean and *Spirolina* for malnourished children as it is the case with TASK. But they propose classes to teach mother how to cook porridge for children and to suggest "good food practices". There are in-patients children who come to have treatment at the hospital when they are minus three (-3SD). At the hospital, children must take the nutrition medicine F-100 or F-75 (only for children aged between 6 months and 6 years). After receiving this treatment, the doctor would give PN to children to eat at home. They usually give 50 packages of PN per kid, sometimes more in case they do not come at the appointment day. The main problem in this province is the distance. Many families are from remote villages, with poor road accessibility, and nobody in the hospital is performing outreach activities at the community level.

Actually, it is not difficult to observe that the health staff, in spite of his willingness to fulfill his responsibility, becomes exhausted with the PN framework imposed at the national protocol. Svay Reang is a province with specific constraints which deserve to be taken into account. With the idea that, apart form the encouragements coming from Phnom Penh, they have not received sufficient logistic and human instructions to adequately pursue the project. They do not know how to adequately continue the latter in absence of sufficient material and human resources. In that respect the whole health staff, supported by the director, wonder whether the PN program would be in position to provide extra-motivations like incentive encouragement to the health team responsible for PN. In that case the PN project would be better implemented with HBC, keeping in mind that this HBC has already been accepted for HIV positive children. They reported that the failure of PN is due to the lack of control of the family who get PN for children to eat at home. Nobody knows what happens, caregivers disappear and children are lost somewhere. Last, the only social worker involved in PN thought that if the PN initiative had a *separate* HBC team, there would be perhaps more improvement.

The National Pediatric Hospital

The Hospital based in Phnom Penh can receive children from all the country and, like other centers, is following the WHO guidelines for nutrition, once the NNP has approved or accredited a product liable to be taken. There is an in-patient ward with more than 10 beds, plus an emergency room, where severely malnourished children are staying with a lady caregiver. When we went in, there were more women volunteers from orphanages established in Phnom Penh and in the outskirts than mothers or relatives. It happens that some children stay for long time (more than three weeks) in that place. In front of the in-ward, there is a room with a board mentioning "Plumpy'nut". It is a huge room full of didactic material and toys, with chairs for training and educational purposes. Someone recalls "when PN arrived in the hospital, the material was in English and nothing was prepared for translating it in Khmer. Some staff did it however". It is in this room that the nurse acting as the PN counselor will receive the child and the caregiver once the kid will be about to leave the hospital and come back home. A few hundred meters ahead, there is an out-patient department, run by FRC, for HIV positive children. All doctors who are working there are providing PN (but interestingly

the new coordinator when we meet him in March 2009 was not aware of the existence of the PN initiative in his own working place) for the severely malnourished children but also, in fact, with moderate malnourished children as we will see after. Doctors reported medical complications with hives, vomiting, allergy and diarrhea, either separately or combined. It did not happen frequently but they could testimony directly or through interviews with the caregivers. But no clear data could be given beyond the occurrence of these side-effects (how they have been perceived and associated with PN by the care-givers? What have been their social impacts when it occurred at home?)

The goal was initially to provide PN to -2SD. After a while, they changed their policy, coming from the top, and provided also to some -3SD. According to a doctor, the reason behind this is because they have to let the families go back to their houses. Many of them are from very poor socio-economic backgrounds and the mother who accompanies the child at the hospital cannot be far away from her home where she has to take care of the whole family. In that respect, they have to hurry the departure, even if not always recovered from -3SD, and subsequently providing them PN at home is a substitute.

At the beginning of the program, 20 to 30 children were included in the PN initiative. In the course of time, nearly 10% of the children who took PN had HIV/AIDS but this figure deserves to be checked in so far as we did not have access to the of official data. As in the three other institutions, the new number of children selected for PN decreased progressively and even the doctors were not sure in 2009 how many children were regularly receiving the PN therapy: they have a record book where all children are registered but the majority never come back, if we except those who are receiving ART and have no choice to come back at the out-patient department because of their HIV status.

One the main challenges of NPH for being in agreement with the PN initiative is to comply with the statement that it should be said to the family that PN is a medicine, not a food. Of course, all workers and doctors are aware of this but it does not suit the people's behavior well. They suppose that the families are having difficulties accepting a medical edible product without "food references". Further, those in charge of the project advocate a "fresh policy" in terms of communication and contact with the families, but claiming on the other hand that most of the health staff are "so busy" with other duties. Following this is not an uncommon reflection, but could PN not be considered as a priority?

The Khmer PN representatives in the hospital deplores that the project only provides PN but nothing else. There is also an insufficient articulation between the various protagonists and at the end of day it seems that everybody has forgotten what the others are also doing for the PN initiative. As a matter of fact, we could observe that even a medical employee who has been permanently working in the in-patient ward for years never entered the PN room located one meter away from his place. He however had in mind that some of his discharged children would receive PN later on. Further, the same person had never seen a PN readymade packet and did not have a clear knowledge about its purpose. The only elements he could tell us was that if the product was there, it was definitely something appropriate for nutritional improvement. But he remained skeptical about why this RUTF was used at home but not at the hospital apart from the possible complications it could give to a child already facing extra severe health problems. For him, it remains a presumption which had not been clearly debated in his service.

Focusing on the way PN has been implemented, some employees from the hospital wonder about the viability of the PN initiative. After past experience, they recognize that the counseling is too short and insufficient. If the child is going to be discharged from the IPD,

the caregiver receives the counseling just before leaving. There is no preparation and they suspect that the accompanying person will not be automatically the caregiver once the child will reach his/her house. Above all they infer that, once discharged, the family has other priorities in terms of survival and preoccupations with other members of the family. If the child is an out-patient (either HIV positive or negative), those in-charge of the OPD assumes that the counseling is a bit well suited in comparison to the one given at the IPD but they lament that no proper follow-up has ever been prepared and implemented. Children are not properly checked once they live the hospital. Most of them disappear.

MAGNA

This international organization has developed an integrated framework where health and nutrition issues are combined. It is worth mentioning that MAGNA's biggest operational project in Cambodia is in the Province of Kandal, where in July 2007 MAGMA had opened a project of rehabilitation with the local referral hospital Chey Chumneas. On their website, it is declared that after a year-and-a-half of operation on a rehabilitation project of the pediatric ward, Chey Chumneas hospital fully serves around 70 children per day. This includes HIV positive children coming to the hospital for their regular ARV treatment and medical check-up, general patients visiting the doctor with common health issues and hospitalized patients. Most of the children are from poor underprivileged families from around provinces: people whose living standard is on the edge of survival. More than 59% of children who come to the hospital for general medical check-ups are when health problems emerge and are identified and diagnosed with the problem of upper respiratory infections (daily that is more than 24 children). Finally 27% of all hospitalized children are children with acute pneumonia, which are around 45 children per month. Pneumonia which is an inflammation of the lung, is characterized by coughing, fast and difficult breathing.

According to a member from the Cambodian team, the fact that a high percentage of children suffer from malnutrition in Cambodia is partly due to the lack of education, and to a large degree due to the lack of available information on the part of the mothers, relatives, and the children's caretakers. What is important to remember is that a significant part of the MAGNA team are social workers. In that respect, the NGO adopts a policy to be in touch with the families in their living places.

In Takmao, Kandal Province, MAGNA is in charge of a nutrition program which started in late 2006, targeted with HIV positive children both on OIs and ARTs. In 2007, the program was extended broadly to generally malnourished children regardless of their HIV status. Since then, PN has been introduced. In October 2007 MAGNA Children at Risk has launched distribution the Ready-To-Use-Therapeutic-Food Plumpy' nut in Cambodia. Quite a few quantitative data has been reported by the NGO in other documents and we will not come back to this point (National Nutrition Program, 2008 & 2009). For a long time, MAGNA has been the more active institution (among the four) in terms of children receiving PN during the last eighteen months. In the beginning there were more than 200 children getting PN, but the number of children decreased progressively and during the period of our research it comes down from 30 to 20 beneficiaries.

Regardless of the nutrition promotion, the organization is operating in *Kandal Steung, Saang, Takmao, Kien Sway, Kho Thom, Laea Em, Tahi (Takeo) and Kompong Speu.* As in the other hospitals (and the clinic), the PN distribution flows through the pharmacy located in the hospital. Since the program started, there are about 377 children who have been followed up, as the rest has been referred to other clinics when they did not give up the treatment for

specific reasons that will be depicted in the next chapters. The nutrition program is operating under the below framework:

1. First social workers must conduct community outreach. They visit the house of the people and educate them regarding nutrition and the risk of being malnourished. They also motivate people to share the information and discuss with their neighbors

2. Once family notices their child get sick or seems to be malnourished, they can bring him to the referral hospital and enroll in the OPD. After, as it is done in other places, the health staff takes the child body weight and height measurement.

3. If the OPD made a diagnosis and found the child in a malnourished position, they refer it automatically (and, this is important, without any delay) to the nutrition ward where they will test the child's blood and provide medical treatment. It is worth mentioning that a member of MAGMA told us that they did not lack any medical supplies.

4. Last, the medical doctor sends the children with his records profile to the counseling room where the person who accompanies the child will receive accurate information and advice on nutrition, including the food basket preparation and, sometimes, PN packages.

But in spite of having Home Base Care activities which constitute an important component for their nutrition project including the PN, the result is deceiving. There is no correlation between outreach activities and increase of PN acceptability. After trying their best to implement seriously the PN initiative, they realize that it can work on a large scale only with the children affected by severe malnutrition, not moderate. Further success of the project becomes a problem if it is addressed to the children who are not starving. The second nutritive element which is proposed is called *bobor pisse* and, according to the HBC team, it works well. It is a basket full of food that families are accustomed in the socio-cultural context of Cambodia (rice, oil, bean, fish...). Once cooked, those items for consumption provide a complete, balanced and nutritious meal. And according to their observations, families are more familiar with it.

4) The second level of acceptability

The second level of acceptability is associated with its introduction at the family level. It depends on the way the product is given and presented to the family. We just mentioned how MAGNA theoretically identifies the needed families after education sessions or when the families decide by themselves to go to the hospital. But having a perfect framework is not always sufficient for a satisfactory follow-up. In fact, the quality of relations between the health staff and the patients is a vital point that deserves attention when it comes to the point of undertaking a qualitative analysis related to the concept of acceptability. A second point which has been apparently neglected in most previous studies is the interference between the social environment (the place where a child receiving PN is living) and the family. In other words, the PN is given to families but what about the relations between them and the other people living in the neighborhood?

a- Between family and staff

TASK gave PN to the kids based on their weight. The National Nutrition Program and the Clinton Foundation advised the organization to ask the mother to give PN to the children at least three packages per day. NNP/Clinton Foundation asked them to tell the children to eat only PN without mixing with other food. But a social worker from TASK responded that sometimes mothers who received PN allowed their children to eat PN with bread. The staff added that only one child (in the more than one year) seemed to be successful in getting PN accordingly. The family followed the received instructions and the child ate PN regularly without mixing with any other food. At the beginning, the target was to givePN to the severely malnourished children. Then the staff started giving it to HIV positive kids. However the children with an HIV positive status and -3SD acute malnutrition were referred to the NPH with whom TASK is having a good collaborative network. But the referral system does not work: the in charge of the project hardly saw any families going to the NPH once she enquired to the NPH staffs about the referral. According to her, there are two reasons why those families could not or did not want to go to receive a treatment at the NPH: first the location, since the NPH is far from their houses. The second reason is linked with their economic situation: families who are very poor and lived in slum areas do not have sufficient money for transportation and do not trust the efficiency of a public hospital where they have never been previously. In order to thwart the distance question, TASK provides financial incentive for transportation but it is not always perceived as a sufficient factor to go to the clinic, “To share their living burden, we support them with transportation every month when they bring the child to the clinic. However, most of them come irregularly, as they explained that they are having other priorities with paddy work or making money by other means. In that case, and to justify their absence, they assume their child has no more health nutritious weakness because he is now able to walk and talk”.

In Svay Reang, the staffs acknowledge that when the children were able to eat PN for a month, they succeed in terms of a weight increase. But this situation happens with a frequency inferior to 10%. In addition, these “successful” children feel more prone to eat rice. But the major issue is that the majority of families who had received PN do not come back for new checking at the hospital, as it has been arranged by the counselor. On the other hand, the social workers who are very few do not have the possibility to care much about the following up. No tracking system has been forecasted. There is no possibility to contact the lost families like phone number registration for each household or even a phone number from their village

(only the NPH established this phone tracking system to some extent). The reason why is simple: when the staff joined the training in the Capital, this idea has not at all been taken into consideration by the trainers. No information as been given in order to prepare any kind of follow-up. In fact, most of the health staff did not think about the necessity of how to look after the PN beneficiaries[7]. Another reason was that the social worker had only HBC for HIV activities and could not extend it to PN. It was consequently difficult to focus much on PN with no human resources available.

In Takmao with MAGNA the access to RUTF has been done in two ways. As we have already mentioned, the social workers have time and resources to embark on an information and awareness work at the community level. Families whose children are having limited food hygiene are more approached individually. They are encouraged, after discussions and negotiations, to go to the hospital for their well being. Not all the families benefit from this outreach opportunity and it happens that some decide to go by themselves to the hospital, most of the time without being sure that the child is suffering from malnutrition. In both cases, after the child's nutrition evaluation, families receive further explanations in terms of nutrition issues and how to give it to their kids.

In the four sites, when a child is identified to be enrolled in the PN initiative, he is supposed to receive a certain amount of packets according to the medical diagnostic (weight and heights, and severity of the condition). If the protocol for receiving PN is homogenous in the health centers, there are however significant differences in terms of translating the protocol into action. First the quality of explanation that the family receives is not always the same. Through interviews, we realized that some families, through the caregiver, are not really sure if PN is just an *option* or something that is really necessary for the nutritious improvement of the child. Most of the time, they did not ask any questions, particularly that one, during the short counseling moment. Maybe they did not dare to ask nurses, counselors and social workers if they had any doubts but in most of the cases it happens that the counseling is neither a dialogue nor a conversation enabling the caregivers to raise their voices. For the family's point of view, it is more a given instruction than something that they can put into question in front of the counselor, considered as the "knowledgeable" person.

The counseling is conditioned with a first test. In Svay Reang, Takmao and Phnom Penh, the counselor gives a portion of PN to the child who has to eat it on the spot. The caregiver and the counselor verify if the kid is in position to eat it or not. Different issues emerge:

1. If after repeated attempts, the child systematically refused to absorb it and find it disgusting, he will not enter into the active file and will receive, mostly with MAGMA and TASK, another food prescription[8]. Theoretically, it is better for the

[7] That is why we found it difficult for our anthropological to contact the lost families who received PN and stopped coming back to the hospital.

[8] TASK has one other option which is called *Spirolina* (but it has been adopted only for a short period as well*)*: it is a nutrition powder coming form a locally based production (Hagar). There are two kinds of *Spirolina*: the first is called *Sow Nutrition* and it used for malnourished children while the second is called *Sow kids* used for HIV-positive children. Now TASK gives 30 packages of *Spirolina* to each family. Families have been asked to give *Spirolina* to the kid one package per day. TASK started this program in January 2009. Referring to this program, TASK is following up the activities every week for each child. *Spirolina* is easy for the kids to eat because its taste similar to Soya bean. *Spirolina* can be mixed with water before giving it to the children. TASK provides Soya bean to the children. They spend 400 USD and 100 USD for Powdered Bean and *Spirolina* per month. TASK gives Soya bean to the children under five years old. The NGO is confident that Soya bean and *Spirolina* are more adapted than PN because after eating the former, they feel hungry and are still willing eating rice.

institutions to provide PN because it is free and easy to carry while the food basket has a cost.

2. On the other hand, if the child swallows it without difficulty and, more again, if he wants extra (!), he is automatically selected for the PN initiative. Interestingly this case happens frequently at the beginning of the trial when only a very portion of PN is given, and therefore considered as sufficient to be accepted on a long-term basis. But in the course of time, the quantity of PN given after the test increased.

3. Progressively, hospitals became more vigilant about the first attempt to give PN. Most of the counselors realized that a preliminary acceptance in the hospital or in the clinic does not mean that it will be eaten in the same way afterwards. The quantity indicator was considered as a *tchikabal* (‘headache”) for some counselors who have no tools to evaluate its acceptability.

4. Last, medical advice is given to the caregivers. This is associated with the PN prescription and restrictions. For instance, it is said that PN should not be eaten when the child is sick, specifically when he has fever and cough. This statement is however not always explained and quite a few caregivers are not sure about what kind of fever should be applied or not. It is also recommended (sometimes strongly, sometimes as a suggestion) that a PN packet should not be eaten in a single time because it can create digestive problems. In that case, PN is presented as a potential threat and does not encourage the family to univocally trust the RUTF.

It should be noted that this last point, part of the counseling process has been done sometimes before the first testing. There is neither sufficient data nor adequate observations to sustain this reported statement, but one could imagine without much difficulty that insisting on the potential side-effects of the PN can generate more hesitation to give it with complacence to the child. In some cases, when the caregivers knows about the constraints, they had less desire to encourage the child to eat it, mostly the babies, keeping in mind that it can be an additional problem in the coming days.

Needless to say, another factor strengthening the quality of relations between children, caregivers and health practitioners is the existence of a HBC team. Apart from the follow-up, the prospect that social workers reach the household does increase the level of intimacy and trust as we have repeatedly observed during our field visits. The notions of sharing time with people, listening to them and letting them speaking about what they want to know can be more adequately done at home rather than in a hospital where people have little willingness to stay, mostly in public centers which they do not rely on in many respects. Unfortunately such outreach activities, even if positively recognized by everybody in the four sites, are poorly implemented. MAGMA and TASK are well equipped, not because they are the best but for the reason that, having external funds, they do have human resources and financial inputs. Only under these prerequisite conditions, they can regularly go to the slums and the villages. But being confronted with the huge amount of people they are covering, they are not in position to visit regularly all of them. In addition, they do have other programs related to health and nutrition which are not articulated with the PN initiative and those programs are nowadays considered more of a priority than PN.

b- Within the community and among the family

You said community?

The concept of community in Cambodia has been always taken for granted both by the government, agencies and even NGOs working at the grass-roots level. If we follow their way of thinking, the country is populated by human beings living nearby and that particularity of living together makes sense for social actors involved in development issues to use the term "community" as a coherent and stable entity. Moreover, the rationale goes beyond this notion of "being together" and most of the time the concept of community is perceived as a homogenous body sharing concerns and joining hands in hands in order to promote a "*samaki*" (solidarity) mood. This romanticized version of community is counterbalanced by a socio-economic reality which is frequently quite different in day-by-day life and according to the socio-cultural and financial constraints existing in local contexts prevailing in the country, in a slum or in a village. The anthropologist Soisick Crochet has been the first to raise serious issues about the way this concept is misunderstood, re-appropriated and manipulated by development actors (Crochet, 2000a & 2000b). Her analysis is relevant for our study on PN because, here again, the food therapy is not presented as a product that, under some conditions, should involve the whole society. Consequently at a micro level it is not inserted into the social environment and the family's neighborhood.

First, no community leaders have been involved in the PN project. Neither the *mephum* nor the *mekhum* (at least those we met) have shown any awareness, and subsequently any interest, regarding this nutrition project. The religious leaders and the monks as well, who are important key persons in the villages and in the day-by-day life never interfere in that respect, while they voices are generally highly respected in Khmer society. It is worth remembering that Buddhist people show respect to them every morning by providing food offering and a symbolic link could have been established in that respect. It does not mean that their contribution could have been essential, but it would have been relevant to integrate some of them, at least to let them know, about the expected improvement for the well being of the children in order to adopt a more global and sustainable approach.

Second, most of the time, if we except the education and nutrition session provided at the grassroots level by MAGMA and TASK, the PN initiative establishes a relation restricted between the family (but rarely the whole family as we will see in the next chapter), the child and the field visitors from the hospital or the clinic. What happens in the attempt of setting up a new feeding practice with a child does not concern the rest of the village whose members are unaware, and frequently surprised, by a foreign product (the cover of the packet is not written in Khmer) that nobody knows. We insist on this unilateral relation because some caregivers have the impression that without a proper social environment aware of this therapeutic practice the children may have the feeling that they are isolated from the other kids who are supposedly not allowed eating it.

Interestingly, a doctor from the NPH who is dealing with HIV positive children in the OPD realized that the children who were keener to take the PN were the ones living in orphanages in and around Phnom Penh. At the beginning she observed that the caregivers who were women volunteers in these orphanages started to ask for more PN each time they used to bring one child into the OPD. They explained that a collective process had been established in the orphanage: once a child started to eat PN, he had chances to eat more if the PN is shared with his fellows. Eating PN becomes a kind of game and it becomes an attracting activity for the whole collectivity of children who are living together, doing things together. Of course

this behavior does not fit with the original PN protocol restricting PN to the malnourished children and not to the others but it is worth mentioning that it seems to work more easily like that. Being aware that the NPH pharmacy is having in stock quite a few PN packets that they are not sure how to move to malnourished children, some doctors accept prescribing a significant amount of PN to the volunteers based in the orphanages. “At least, as one said, they are not wasted...”

The notion of a “shared product being more accepted” by children living together has only been reported accidentally in a particular place (NPH) and we did not have the opportunity to observe what is going on in that respect in the few mentioned orphanages. Moreover this information remains incomplete and we do not know if such social dynamics worked punctually or if they had a sustainable effect during the whole period when selected children have to take the RUTF. One the other hand, Steven Pringent who participated to this collective research does not agree with this statement. He argues that most of the time the child eats PN alone, at home. He hardly observed that the RUTF was shared with siblings or with friends. Peer sharing, according to him, cannot be a significant explanation for the PN failure.

It remains nevertheless an attention-grabbing idea, showing perhaps the necessity to develop a collective approach and not to isolate the children under PN. One has to remember that in Africa, even if there were definitely other causes demonstrating the positive outcome of PN delivery system, the PN has never been given to a single isolated child but to all children victims at the same time of famine. We know that the situation cannot be compared but one has to remember that in the Cambodian cultural context, foods and other absorbing items (here, the fact that PN is not a food but a medicine does not come under scrutiny) are parts of a social comprehension going beyond the simple notion of taste as we are going to discern in the next chapter.

And the family?

Another important level to examine is what is going on in the family. First, our findings reveal that the parents are a missing link. One element that has regularly been detected during the interviews with the families is that it is always the child who is asking for PN, and not the mother (or someone else) who tries to make him remember to eat it. The child seems relatively free to ask for PN whenever he wants. In the same way, he is totally free to consume it according to his proper manner (mixed with another food item or alone) and without restriction for the quantity whenever he appreciates it. In that case, it was eaten too much, sometimes ad nauseam. This is precisely because the child is free to take as much as he wants and that he may become sickly. Finally it appeared in the majority of the interviews that parents, including the caregiver if it is someone else, have very little capacity to interfere. They do not have any inclination to force the child to eat PN in case he is not willing to take it regularly. When the child refuses it - and it happens frequently - the parents respect his decision without knowing why. But they propose rice.

In addition, the PN is most of the time considered by the mother (and evidently by the children) as a cake which allows putting on weight, as other sweets, but not as a medicine. In that respect, the notion of dosage does not exist, forgetting about a very few families who have incorporated and accepted this idea. The child, as soon as he starts to take his “treatment”, is free to decide when and how to eat the PN and nobody will prevent him to overuse it or misuse it. He can also give a part to someone else, in case another kid requests him. To the contrary, one can assume that if the mother or another relative was controlling the

child in a more rationale way and trying to influence him to respect the dosage, there are chances that the sickly dimension of the PN could be mitigated. But it is not the case. And the lack of compliance with the dosage is one of the main drawbacks of this PN nutrition project.

One the other side, poverty, even if it does not appear to be one of the main explicative factors, deserves to be mentioned. In the day-by-day life, we have to keep in mind that a family has a series of problems associated with low economic background and other urgent priorities to deal with. It is not uncommon to meet some mothers and fathers in the morning who did not know how for sure they will manage to make a minimum of income in order to buy the staple food for their children and for themselves. The parents have to go here and there, not always with a clear expectation, but just trying to get something, looking for opportunities. In some cases, women are alone with more than three children and the domestic work cannot wait. Having no choice but to focus on distressing events which can deteriorate the life of the whole family in a moment, Plumpy'nut is forgotten and there is hardly any time to be attentive to a proper daily dosage.

Parents, along with the community, therefore do constitute a real missing link for the PN promotion. Even if caregivers are theoretically designed, the PN comes directly from the hands of the health staff to the children. Some persons are supposed to be the mediators but, at least the majority we met, they nevertheless remain totally inactive and inefficient in terms of dosage control and related areas associated with the PN (regularity, manner of taking it,, mixing with other food items, etc.)

In the end, when the parents notice that the child does not eat PN, they do not know what to do. Like the majority of the health staff, they claim that it is because of the taste. Not only the parents but the health staff are not aware about any thinkable strategy to counteract the "naughty" child, apart from insisting and re-insisting the caregiver to be more straightaway, but without sufficient proposed readjustments.

5) The third level of acceptability

With the exception of MAGNA to whom we did not ask the question, it is interesting to know that each time we asked medical and paramedical workers, irrespective of their status and roles in the PN project, if they have ever tried the PN, most of them said yes but not a single one appreciated it and could finish it. Asking them if they have ever tried to experiment with this RUTF with their own children, very few who had the idea to carry out this experience observed a specific appetite of their children towards PN. Such an issue is not a revealing indicator but it shows nevertheless an unconscious lack of interest for a product supposed to be promoted that, in a normal nutritive situation, everybody could also have eaten.

a - Between caregiver and child

Who is the caregiver?

We just mentioned in the previous chapter the absence of a "real" caregiver liable to regularly follow the child. However, one is always theoretically designed either at the hospital (the one who accompanies) or with the HBC team who do his close contact with the child is more in position to suggest that this person that can effectively act as a caregiver.

In most cases, the mother and the grandmother are selected. The caregiver is requested to inform the others (in the family, the neighborhood) but it is rarely put in practice. First because they are the ones who stay more frequently at home and, above all, women are supposed to cover a greater responsibility for children's consumption. If to some extent this common sense occurs frequently, it should not be systematically taken for granted. In a detailed and attentive study, Soisick Crochet observes that an equal share towards child care happens when both parents are at home, when there are a lot of children to take care of or if the mother is more prone to work outside in comparison with her husband (2001). Khmer society does not assign only women to kid education and does not exclude fathers from their duties towards children. Most of the time, a complementary attention is negotiated within the family; mostly if the household includes other women like grandmothers, aunties, and other female children who usually endorse a significant part of their time to the care of their younger sisters and brothers.

Under these considerations, it is clear that the caregiver - in his broader sense - is neither only the mother nor restricted to only one person at the family level. Moreover the person who accompanied the child to the hospital will not be automatically be the one who will give priority support to the child once they come back home. We noticed cases where the lady who brought the sick child to the hospital was a neighbor, and most frequently a relative or a close friend of the family. Because they accompanied the child, they received the label of caregiver even if most of them were not supposed be the real PN caregiver, either because they do not live in the same house or because another close person will be more in position to fulfill this role. It is worth insisting that the function of caregiver is not always limited to a single individual. In reality, the persons who take care of the children at home can be more than one. There is also a turnover that generates a more complex social interaction between the children and the supplementary members of the family unit.

Mentioning the father, in the case that he stays at home, we hardly met anyone either at the hospital or at home following the child dosage control. The question of male involvement has

been explored in relation to diverse fields as interpersonal violence, development, sexual and reproductive health, parenting and families, work, and economic control. In the Khmer society the male domination, frequently more subtle than it may openly appear, leads to gender inequality in the family. The Cambodian society, through traditional practices as well as with the written classical codes of conduct called *Chab Srey*, stresses that men are superior to women. This causes men to misuse their power and make pressures on the rights of the other family members, especially women. This leads to inequality, violence and freedom restraints in family. A woman accused the husband's absence for PN in similar terms: "We have three kids and I just delivered the fourth one in the last three months. My husband works as labor seller in the *Chbar Amove* market and I sell lemons in the same market as well. My second child is malnourished. I bring him to hospital every month and I am the only one feeding him everyday. My husband doesn't care at all".

We can take this statement abruptly but it can be more constructive to contextualize it. This is partly because this man, and by extension because most men have not been included and approached by the health workers that they do not have the tools to know what and how to do in that respect. Generally the father, at least those we met, do not participate in the PN project and we have hardly identified a single one who was designated the main caregiver. But this does not mean that all males in household refused and did not want to contribute to the nutritional improvement of their child: they have generally been neglected, or ignored, by the PN project focusing its priority on women and paying specific attention to them as the top-priority caregivers. One husband argues that his wife did not inform him about the child problem because she considered it was her "business" not his "business".

Interaction between the caregiver and the child

We already noticed that in the great majority of the families, the child enjoys an important freedom - according to some health staff, an excessive one - in terms of food practices. Food habits follow however a certain way in modern Khmer society and even if it remains illusory to draw a food cultural pattern blindly followed by everybody, some tendencies can be identified.

Most children and adults in Cambodia eat at least two meals per day consisting of rice and vegetables. Fish, the most common protein source, is eaten regularly, sometimes more than once a day. Meat, for the poorest, is reserved for celebrations. Besides there are quite a few compliment foods, like colorful candies, Chinese cakes (*Nom Chin)* which are referred as packaged cakes. The average cost is 100 riel per package, and it is normally produced by Vietnamese, Thai, or Chinese companies. This sweet product has been largely and successfully introduced and most children take them regularly. There is no restriction in terms of quantity: a child can take as much as he wants and there is a mutual stimulation to compete among them. All in all, it is an adopted delicacy that can be eaten without restriction, even if it may affect their health due to excessive intake and nutrient deficiency.

As a daily practice, and mostly in urban settings where parents can afford it, is to encourage fruit absorption along with candies. One does not influence the other but according to local knowledge they are supposed to interact more optimistically. Definitely, mango (*svay*) is considered as the "best fruit of the country", but in addition families expect their kids to take apple, grape, orange, breads, soybean milk, or cow milk, as they believe those foods are high calcium and multi-vitamins to help their children growth fast and to be smart. Most of these products are quite new in Cambodia, including cow milk which was not used before.

It shows that adoption of new food items can be accepted either through media messages, informal communication and verbal exchanges in the open markets (*psar*) and education awareness promoted through different channels (schools, village, etc.). In a rural atmosphere and in slum areas where parents are poor and hardly manage to get more than one dollar as a daily income, parents are likely to encourage their children to eat agricultural bananas or rice cooked at home. Conversely, they cannot forbid their children to take extra food because as "universal" children they love to taste something different with colorful and nice designs. The widespread success of ice cream sellers, mixing ice with other edible products like beans is a revealing indicator that this new emerging food item is becoming a part of the everyday opportunity liable to break up the daily routine. In the same way, one who goes to any of the villages or slum areas will be in position to observe everywhere children who ask their parents' money (100-200 riel) to buy Chinese cakes or other sweets at the first grocery store close to the house.

In Cambodian society there is no specific definition or regulation in terms of food distribution among girls and boys except for breast feeding practices where people treat their son and daughter a bit differently. Baby girls receive less breastfeeding (time period and quantity) as the old folks believe that as long as they breastfeed the girl, she may become stubborn when grown up. But the baby boy deserves long breast feeding for proper muscle and body development.

If therapeutic treatment programs with RUTF allow the vast majority of seriously malnourished children to receive treatment at home under the supervision of their mother or another caregiver, instead of being treated in hospitals with F-100, urban or rural families already have their own ways of feeding their child, associated not only with constraints but also with cultural practices linked with social representation related to food properties and consumption practices. For instance, the notions of "cold" and "hot" items (irrespective with the temperature of the foodstuff), even if not so systematically current as in other Asiatic countries like India, have some concrete implications for suitable food regimens according to the season, the moment of the year and the life conditions. Some items are also "windy" and should be either encouraged or avoided according to a particular life context and the health of the child. Everybody does not share the same knowledge towards these considerations and some families are less strict in terms of regulation. Moreover norms can be broken by children. It can be easily observed that children are like "kings" or "princesses" at home. They can pick up and select food they do or don't like and parents rarely have a control over them.

Caregivers do not alter this fundamental flexible relation between the child and the food he wants or refuses to eat. In addition, they have more freedom when they are free from their parents' eyes, once they are at school for instance or playing in their social environment. On the other hand, arguing that the prevalence of malnutrition in children in Cambodia is frequently due to a lack of knowledge on the part of caregivers is insufficient and in many aspects a wrong statement. Caregivers are here but they *deliberately* interfere only a little with child behavior. In most cases, they suggest initially but they rarely insist on it. It does not mean that they have in mind that the child is *per se* a reasonable person, but a certain attention is devoted to providing him/her free will and self-determination. In other words, the notion of forcing the child to do something against his/her will does not appear to be a common adequate response to make him/her changing his/her behavior.

These very general statements, that should deserve better attention for an in-depth study focusing on food practices, are valid when the child is supposed to be in a good health. But what is going on when the child is sick or has a visible disease? Above all, if a clear distinction among various nutrition deficiencies is not systematically recognized (for instance

there is no Khmer terminology for kwashiorkor, prolonged protein deficiency), the relation between insufficient food ration and weight lost is commonly acknowledged, specifically during bridging the agricultural gap in the provinces. There is also a heart-rending testimony of the past during the Khmer Rouge regime where all survivors have witnessed rampant famine with so many people, including children, died of severe malnutrition. Due to that historical context, it is nearly impossible to find a middle-age adult who will not be in a position to depict the emaciated silhouettes appearing everywhere at that time due to food scarcity. Soisick Crochet quoted a regular comment stipulating, "...he has always been sick, very skinny, and we could see only bones and the big head" (2001: 600).

However the notion of hunger (*khlien*) is not a prevailing notion that can be taken into consideration for a persistent state of undernutrition. It is used and reused every day for the very moment when the person and the child feel that is now time for eating. This idea of *regularity* is quite common in Cambodia - and probably more than in European countries -, but not for a potential lack of food that can lead to some nutritious diseases. It can lead to weakness, abdomen disturbance and other punctual affections but not to something which will affect the body on a long term basis. The sensation of satiety sout (*chh-aet*) is overcome by taking rice, the staple food,[9] and if available, by eating some meat (*seko, chiru, moan...)*.

Terminologies that categorize food and medicine are different but there are bridges. For instance, food refers to something which helps to maintain a human being's body. It can be mostly rice, noodle, meat, fish, and vegetables. The remainder, at least in the places under scrutiny for this research, is derived from fish, maize, root crops, fruits and vegetables. Though, we have often heard that it not recommended giving too much food for a child who is already sick because he/she can get dizzy. In that case, sugar cane absorption can ameliorate the situation. On the other hand, most people are aware that a few drugs (either traditional or modern) are available on the market with the reputation of promoting appetite (Crochet, 2001: 601). The same author has recognized that the link between chronic food disequilibrium and body slenderness among the young child was not recognized. But when the child starts to have an abdominal distention associated with upper and lower limbs atrophy, the terms thin or skinny (*skâm*) are utilized. Among different causes attributed to this unwelcome physiognomy, quite a few mothers establish in priority a direct relationship between lack of sleep and the physical appearance, arguing that if the child is so *skâm*, this is because he cannot anymore have a proper nap, even a short one.

On the other hand, medical drugs are often understood as something like a kind of capsule or tablet used only to cure diseases and not to maintain proper health. Of course food is considered something which can improve health but rarely something that can cure any disease. Contrary to what is prevailing in other countries like India where food preparations are sophisticated medicines and vice-versa, this is less the case in Cambodia. In Khmer context, people do not make a clear association even if paradoxically they practically still find it hard to totally separate these terms. As proof, the caregiver participants that we met have well accepted the idea that PN was a medicine or a packaged cake, *Nom Kanghchorb*, rather than a supplementary food. It shows that a medicine which has a food appearance does not enter into contradiction with their cultural perception under the condition that the health staff took sufficient time and explain it to them.

With regards to the child, the most encountered risk is that they may not take the medicine as they are wary of its shape (big) and taste (bitter) which make it difficult to swallow. This is

[9] Some studies in the country (see bibliography) have shown that it accounts for 68-70 percent of daily calorie intake. And 21.8 percent of household expenditure on food (including own-produced supply) is spent on meat, egg, fish and 15.5 percent on rice.

why a strategy deployed by the parents in case children shout or cry each time they are offered a medicine is to husk the and to mix it with water or sweet flavor product. We are going to insist on this point in the last part of this chapter dedicated to the socio-cultural practices used by families and the child to eat PN.

b- The child response*: *a sufficient self-explanatory answer?

In Svay Reang, the director assumed that among the majority of the 121 families who received PN, most of the children stopped eating PN after one week after they started getting it. The main reasons put forward are the taste, the quantity but also the smell of the PN which make the children in the surrounding rural areas not like it. Afterwards, the hospital gave PN to the children between 6 to 10 years old, by asking the mother to give the RUTF 3 times per day. The social worker, who was not scrupulously following what has been advised in Phnom Penh during the training, instructed all families what is allowed and not allowed. A short list of "good practices" (coming back every two weeks for checking at the hospital, not mixing PN with other food, not providing PN when the child gets sick, eating if possible half of a PN packet a time, insisting children eat it by themselves and to keep PN in good quality in a cool and secure place where the flies cannot come in, not sharing with siblings and not exchanging with other candies) has been prepared but unfortunately without adjusting the training to the socio-economic and cultural settings of the families who are simply not in position to follow the do-and-don'ts, most of the time without always understanding the rationale behind it. But a single nurse acting as social worker and counselor cannot handle alone all the responsibilities of going to the field, doing her job in the hospital and making the link with the other paramedical staffs.

In fact, nobody can put the responsibility merely on medical and paramedical personnel, working at the hospital who are most of the time aware of the difficult situations faced by many families. Due to the absence of any additional – and reliable - logistical, material and human resources that could encourage the health providers to do their work as expected, it is easier for them to ignore (claiming that they have no time and that they have so many duties to think about, which is frequently true) or to be simply not interested in knowing ways that the families try improve their children's health. This evident but apparently forgotten point has its own value: it is difficult to imagine somewhere in Cambodia (and probably in the world) a parent who will not pay attention to his child, even in absence of adequate medical structures. Self-medical practices are prevailing everywhere and do constitute the family's first attempt to respond to a medical disorder, whose cause is generally unknown and consequently subject to various interpretations. We did not study in detail the nature and the diversity of these self-medications but the only statement we can assume through our preliminary observation with undernutrition is that auto-medications do constitute a significant part of the therapeutic trajectory. In that respect, local strategies do exist and deserve to be reported, at least to identify the social dynamics underlying them and to remember to what extent the families try their best to do what they think is relevant whenever any kind of ailment occurs.

Families have their own traditional know-how but at the same time they can innovate and adjust some proposed prescriptions in case they do not work as it was supposed to work initially. Some strategies liable to facilitate PN consumption have *de facto* been reported. The most important one is associated with water and cooling operations. It happened many times among the 39 interviewed families that the mothers were convinced that the PN provided a kind heating reaction at the throat (*kdao ko*). Such effect was perceived as a negative point. It

justified also the fact that children did not want to eat it anymore. And simultaneously the mothers understood their rejection. But in many cases when the caregivers tried their best to reverse the child's decision, they would ask the kid to drink a glass of water and more frequently to mix the PN with hot water. Such advice has been sometimes proposed to the caregivers by a person from the health staff. The idea is that the PN increases heat in the body, dries up the throat. The water can mitigate or counteract these undesirable effects. It has been also advised by the paramedical workers to put the PN in the fridge or to dilute it with ice but most of the time these "expensive" solutions are totally unfeasible insofar as most families cannot afford to have a refrigerator or to find ice in the neighborhood.

This first attempt to adjust PN according to a new requirement (perceived as more adequate by the population) shows at least that caregivers try to some extent to have a control of PN consumption. A glass of water is considered to be the more reliable and accessible way to facilitate PN consumption. It can also facilitate its extension. Such widespread initiative deserves to be highlighted because it comes directly from the people: either the health staff or, more spontaneously, the caregivers and even sometimes directly the child if he grows up. On the other hand NNP/Clinton Foundation does not support this idea because one of the advantages to take RUTF is precisely to avoid water pollution risks that can hamper children's health with diarrhea and other microbes transmitted with non boiled water. Such careful hygienic PN Protocol is well suited in African contexts where water is not to be found in abundance, but this is not at all the case in Cambodia. Water is everywhere. It is not surprising that children and caregivers add a liquid solution with the RUTF, just because it is easier to absorb it like that.

Another second strategy is associated with PN integration into daily food practices. NNP/ Clinton Foundation introduced PN as a rich nutritional component that can act as a substitute for food that the children usually take. Once more, let us remember that if nobody can deny that food shortages and severe malnutrition are to be found in the country, food is nevertheless available and, at least in and around the four places where we investigated, most families have access to basic manufactured and locally grown food products. Not a single child relies *only* on PN. Everybody living in Cambodia is aware that rice is definitely, and everywhere, an important component of the prevailing food practices. With the exception of babies not yet accustomed to it, everybody either a child or an adult will not feel "full" without taking rice, irrespective of the absorbed quantity of food that have been taken and which is not rice. Even if the symbolic and nutritional importance given to the rice is more visible among adults, it happened frequently during the interviews that rice was nevertheless having a privileged place in comparison to PN. And this is true whatever the level of undernutrition (-2SD or -3SD). There have been reported cases of children who exceptionally love PN, who were able to eat more than four packets a day and subsequently not willing anymore to eat rice. But they do constitute exceptions and cannot be taken as a significant indicator for a widespread accomplishment.

In that context where rice remains the main and preferred staple food, none of the families that we met had the intention of reducing rice intake in order to improve PN consumption. On the contrary, access to rice was perceived as a way to accept PN, even if it was in a more reduced proportion in comparison with the prescription suggested at the hospital or by the HBC team. The PN combination with rice is therefore the result of a decision taken by the child and approved by the family. It happens in many cases that rice can be replaced by other products with whom the child is fond of. Soybean can be one of them. It can be also chocolate, various kinds of soup with vegetables and noodles (with whom the PN will be soaked) and other delicacies (sugar and season fruits) that are usually taken at any time in the day.

Before closing this chapter, we need to insist on situations when the child likes and appreciates PN. We just mentioned isolated cases of children who became PN eaters. TASK told us they got one girl like this ("a Plumpy'nut model eater"), NPH reported a few others. But in general the child acceptance does not reach this bulimic, insatiable state (which is not an indicator of success for the PN initiative) and remains at a moderate stage. In the OPD for HIV positive children run by the FRC at the NPH in Phnom Penh, some doctors reported children who have taken sufficient quantity of PN and who were asking more, even if they did not need to continue. Another positive point occasionally observed by the medical staff is that some ex-malnourished children regain a normal appetite that had been previously decreasing. We do not have the exact figure of those "successful" children but everybody does recognize that they constitute a minority.

A confusing factor exists as well. There is an association between HIV/AIDS and PN. This relationship prevented some families from using the ready made product. Two main situations happened. First, there have been cases when the child who received PN was automatically believed to be HIV positive by the neighborhood. It generated various kinds of discrimination whenever the social environment, aware of his PN diet but not of his HIV status, started to identify the child as a HIV positive person and took the initiative to avoid playing with him. Second, there have been families whose child was probably malnourished: they received advice from another family whose child was already receiving PN to go for a check-up in the hospital but it created strong resistance and conflict: the latter condemning the former for unduly accusing their child of being HIV positive. In many aspects, this amalgam between PN and HIV is not rare and some families believed that PN is linked with HIV/AIDS. It has been noticed in three sites out of four. This point clearly reflects a proper miscomprehension of the utility and the utilization of the PN. Here again, this is not the point to accuse someone and to defend the other: on the one hand the families recognize that they did not receive sufficient clarifications and, once they receive clarifications (by us for instance), they got the impression that they have been misled. But on the other hand most of them never expressed their doubts and nobody dared to ask information in front of the HBC team and at the hospital.

Another interesting factor during the field interviews was that some (but not all) children started building solidarity among their peers. It has been observed in the neighborhood and at school a willingness to share food[10] especially a "strange" one like PN. Frequently this sharing with the schoolmates takes the form of a test but does not last for long. Some caregivers thought that this test was meaningful for the child in the sense that a shared item can be later on more easily acceptable at a personal level. Some of the HBC teams, willing to respect the official guidelines, were nevertheless reluctant with this practice because it may divert the project from its original aim, specifying that *only* the malnourished children are eligible to take it: arguing that the PN cannot be shared like that among others who didn't receive a formal medical diagnosis mentioning any magnitude of malnourishment.

But the social reality cannot always be translated in the same way it is depicted in a book, in spite of the treaty to be perfectly and scientifically written. And this is precisely this social reality that deserves to be taken into account, including when a mother claims with rightness that, "... (my) son after testing the PN (...) appreciated the taste because he has shared a portion with his neighbor friends but I prevented him to do so because I was told before by the social workers not to give to others kids (...) but after he did not eat. Soon I realize that I

[10] In most common cases, PN is culturally re-considered as a food but not as a medicine for the children.

made a mistake: I should not have listened to the social workers because what they said was not appropriated with what is going with my child."

Those last considerations, that could be have been strengthened by more information and observations that have been collected in the four sites, lead us to assume that one of the major drawbacks of the PN initiative is that it relies more on a proper implementation and adequate supervision (but supervision that would take into account socio-cultural realities and ongoing mechanisms underlying human behavior) at the grassroots level than on wrong-doings accusing most of the time - and without sufficient justification - caregivers' passivity and children' irascibility. We will return to this issue in the conclusion of the research that we are now going to resume by articulating the main points.

6) In the guise of a conclusion: questioning the future

Before assessing altogether some of the key findings that have been depicted in detail in the previous chapters, a few issues which have not been so far incorporated in our analysis deserve attention. The choice to insert them in the final section of this research document is justified by their structural complexity which goes beyond the PN implementation itself and that remains associated with socio-economic trends and national policies supposed to be implemented in the Khmer society. Without going into detail, we will just mention the most important ones.

a- Additional internal and external factors for a sustainable horizon

Socio-medical research in Cambodia and in other countries have long demonstrated that whenever any health or identified nutrition problems occur, this is first because of economic constraints, life conditions, poor health services and socio-cultural intricacies preventing caregivers from solving health and nutrition issues with efficiency (Lutheran World Services, 2002; Dujardin, 2003, Bourdier *et al*., 2005). In the same way, we may wonder whether RUTF alone is in position to act in favor of malnourished children. Can the PN project act alone by providing some long term efficiency against rampant poverty? S. Collins once argued the necessity of changing the way we address severe malnutrition (Collins, 1994) and this is what NNP/Clinton Foundation intends to do at the medical intervention level. But it is clear that some broader socio-economic issues deserve to be addressed at the same time, and probably before, in the given context.

In emergency situations in African countries, PN could act as a food substitute in absence of other locally available foods. The situation is quite different here. The attempt in Cambodia to insert PN into the health delivery system is supposed to generate a sustainable program throughout the country in absence of acute famine but in order to eradicate an endemic state of malnutrition in all provinces. The capacity of absorption of the PN scaling up program in the health and nutrition local structures poses however important questions that we have passed in review in the previous chapters: material and human resources are already insufficient in the public health system and we hardly see how a home base care assistance liable to strengthen PN activities could be implemented all over the country, keeping in mind that this community-based approach has already encountered serious difficulties in the four sites selected for the initial demonstration.

Further, in spite of its good intentions, is it worth encouraging a program based on external donations (Bennet, 1987) without having a definitive guarantee for national governance? This is not our intention to develop this reflection but we may convey planers, deciders and implementers to think about the ambiguous relation between ethics and a kind of propaganda that has been analyzed in another context but whose reflections remain valid for the PN implementation (Marlin, 2002). In terms of local manufacturing and distribution, the prospect to develop a joint venture with Nutriset has been for many years in the pipeline with the Hagar Soya production unit in *Russey Ko* (Phnom Penh). The Nutrition Program Advisor Enrica G Aquino questioned the notion of sustainability in terms of marketing process (it is not cost-effective if the distribution is restricted to Cambodia and not in the whole Mekong Region). She provided updated information for their priorities with *Spirolina* and other easily made products that can be added in the common national diet. Let us point out that most NGOs (and not only MAGMA and TASK) dealing with nutrition are encouraging these new

food products, mostly with soybeans and local rations added in a “food basket” insofar as they perceived these packages more adequate for the country and the populations.

b – Major challenges

For a better transparency we will separate the main identified challenges, being aware of their intimate interactions in the day-by-day life.

- Poverty and livelihood issues

The majority of poor Cambodian families’ relies on agriculture and crop harvesting. Many are petty farmers (Ministry of Agriculture, Forestry and Fisheries, 1996; Food and Agriculture Organization of the United Nations, 1997) who own their paddy fields but a significant number have lost their properties because of family’s illness from HIV/AIDS, other severe diseases (Helen Keller Worldwide, 2002) and land speculation. Many families have no choice but to join the slums of the capital city while others stay in the countryside, encountering with poverty and livelihood crisis, working for wealthier landowners. Men choose selling their labor as their main survival options while young women try to get jobs in the garment factories located on the outskirts of Phnom Penh. Increased poverty is a significant factor which contributes some major drawbacks of the PN program, in the same way it has contributed to a relentless recession in the field of HIV/AIDS (Moatti *et al*, 2003). In our study, we could observe both women and men considering being equally poor, either rice producers, petty sellers or daily wage laborers. Short term daily survival is the priority. They cannot devote much time to taking care of their children. Whenever possible, they leave them to a grandmother or elder sisters and brothers. Even if the local culture recognizes that the mother is the one who can provide good service, warm love, and full attention for children’s development, the social reality becomes different due to existing economic constraints. Utilizing crude words, families, relatives and women have the tendency, with little choice to escape from it, to leave child’s attention behind/aside not only to fulfill stomach’s needs for everybody but to make life possible to go on.

- A non suitable program implementation and an insufficient following up

The main weakness of the PN initiative is the inadequacy of the structures which are supposed to withstand it. The project has been integrated into the prevailing programs and institutions already involved in health and nutrition issues. Theoretically it does not sound like an irrelevant strategy insofar as creating a vertical program would have added administrative and bureaucratic complications. But in the Cambodian context such a horizontal insertion has been considered by most health actors as an additional charge, a supplementary burden that they have no choice but to acknowledge (or to disregard at a certain degree). One has to remember that public health facilities are tremendously lacking of human and material resources, specifically those that do not receive - or have never received in the past - any support from an external agency. The PN did not occur in a vacuum: existing problems related to the functioning of the referral hospitals may have been identified but nothing (excepting “recommendations” and official support from the NNP) came to strengthen their activities and their interactions with the patients. The Clinton Foundation provided the PN packages, encouraged some monitoring but did not give additional incentives and logistical supports for project implementation at the grassroots level. This was left to the responsibility of the local institutions. If the existing structures thought that they could absorb the designed project because more or less had in mind that it would work out “mechanically”,

"automatically" and without too much social considerations, most of them including the ones supported by NGOs realized step by step the growing complexity of an apparently simple fact consisting of absorbing a sweet product. The translation of a project into action demonstrated that it has not been so easy. Internal dynamics influencing the therapeutic trajectories had to be depicted and documented in order to develop adequate follow-up of the children from the beginning to the end. But this has not been done.

- *Inexistent dynamics for social mobilization activities*

Social mobilization is the process of bringing together allies from various sectors to raise awareness of and demand for a particular development program as well as health seeking behavior. The process mobilizes allies at different levels in society to assist in the delivery of resources and services, to strengthen community participation in sustainability and self-reliance, and to bring about transparent and accountable decision-making. Social mobilization is the glue that binds advocacy to planned and researched program communication. With no quarantine but as assumption, social or community mobilization may possibly change the fact. But so far the absence of financial and logistical support from NNNP/Clinton Foundation to the site implementers provided various challenges and obstacles. The sites implementers have their own budget line to promote the nutrition program. But their current financial resources have been limited and already broken down to support their annual work plan and activities. Agreeing to pilot a PN program was another engagement for them. They should have required more human resources and fieldwork activities for follow-up action and to put into practice convincing manners, as the PN is an original product that cannot be given without preparation.

- *Lack of support and collaboration at the community level*

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We already mentioned that neither a single local authority nor a religious leader representative has been involved for providing any kind of support at the community level. In the four sites where the PN trial took place, we rarely got a testimony related to co-operation between social providers, organizations, villages and religious leaders. The nutrition program with this new component has not been widely introduced and mainstreamed into the community development goal. It has been something let alone. In a country where about 90 per cent of the people are Buddhist, the respect for monks' advice may have some influence. Even if it is probably not a crucial determinant it could have been a necessary human interaction. By partnering with religious and village leaders it would have created cost effective and fruitful outcomes to fight against a malnutrition problem as it has been done more successfully and for a long time in other development sectors (Midgley & Hall, 1986). Below the leaders, *so*cial workers are key elements to bridge the message and mobilize people's participation in a program. The challenge is that so far, those officially involved in the PN initiative could not stay with and pay everyday attention to beneficiaries and the nearby villagers. It was only a very small part of their work. They could have found local partners, supporters, collaborators in order to forge alliances with caregiver's family members in case something had to be said, exchanged and clarified. But it hardly happened. Individuals have been left alone.

- *Insufficient participation among family members*

Our fieldwork investigations, strengthened by hospitals' declarations, report a poor contribution from the family side. From the beginning, women were theoretically supposed to play a crucial role in the PN initiative because they are the ones who bring the children to the hospital in case of emergency, most of the time after having experimented with home remedies and other self-medications (the hospital is not the first priority). But once they do finally come, they receive the responsibility to be exclusive caregivers not only because they accompany the child but because it is assumed that their principal role in the family is to ensure their children remain healthy and grow normally. This is not the point to deny it, but women haveother duties like helping their partners to make additional income, doing other domestic works, and these obvious issues prevent them from being fully involved in the PN process from the beginning to the end. Being fully involved means to attend the appointment dates at the hospital, which is sometimes far and costly to reach because transportation is not systematically reimbursed in the four sites. Being fully involved means also to be in position to devote time at home with the child in order to be sure he would respect the dosage but the current reluctance of the child makes the mothers, frequently alone for supporting this, in a situation where they prefer to delegate what the child has to do by himself. And the child, by definition is not yet mature person, simply cannot do it reasonably. Mothers have received prescriptions which have been generally understood but life circumstances do not allow them to put the idealistic recommendations in practice.

Poor communication

The three levels of communication - the first between those in charge of the program and the employees, the second between healthcare providers and caregivers, and the last between the caregivers and care receivers (children) - suffer in different degrees, and according to the site, of various shortcomings. The identification, segmenting and targeting of specific groups and audiences with particular strategies, messages or training programs have been done promptly at the initial phase before launching the program. Effective communication in a two-way dialogue, where senders and receivers of information interact on an equal footing and where this interchange of knowledge and experience leads to mutual discovery, has not been seriously undertaken. If it has been done as some health workers claim, it has been poorly understood by these health workers who did not get proper tools to communicate with the families. At the beginning planners, experts and general practitioners (with some positive exceptions coming from the NGO side and a few doctors from referral hospitals who took time to speak openly with the outpatients families) have not been sufficiently trained as "field workers" to listen to people and learn about their concerns, needs and possibilities. In return, some families did not go ahead when they were willing to have access to more PN. They thought that is was a privilege and not a right to require more. They were simply waiting for the order coming from the top. We have already debated about the lack of communication between the caregiver and the child who, if we rely on visible appearances, seems to be the one who decides what to eat, without enough attempts from the mother to convince him/her to respect the prescription. In many cases, among the 39 families, most of them were convinced that if at least the child could eat a little, it would be better than nothing.

A non reliable nutritive socio-cultural option

The acceptability of the taste is the last issue, probably overestimated by the health staff and in other studies (Breysse *et al*. 2008), but which nevertheless exists. It is true that many children refuse systematically the PN during the first test at the hospital. We could not get the percentage of this initial failure because they have not been properly reported in the referral

centers but they already eliminate quite a few candidates. We may also wonder whether the RUTF would be more accepted if it did not have the same taste. The experience of Thai Fish PN undertaken in Kompong Cham demonstrates that it is not the case (Médecins sans Frontières, 2008a). Among the 39 families we interviewed, most of them mentioned the taste, the appearance and the quantity to be absorbed on a daily basis as a mitigating factor. But not always the crucial one. In absence of hunger and due to the presence of other familiar food products, the Plumpy' nut did not find its place within. This is the main point. The normal diet is not always sufficient, and this is precisely why they receive RUTF, but the notion of complementary food remains elusive according to the families, and more again for the child. For him, it can be considered as an additional component but not something which can replace the rest of the food he is acquainted with. Rarely the PN is clearly assimilated with a dessert or a candy. Moreover, if mothers and caregivers can make the difference between a medical product and a dietary item (a difference that should be moderated and which has been challenged by some operators in NPH and among people working in other places), it is not surprising that this proposition (PN is a medicine, not food) comes to be irrelevant for the child insofar as he has never experienced a "medicine" like that. PN has to be considered as a supplementary food and the best way to discourage the kids to eat it regularly is to continue introducing Plumpy'nut, through the care givers, as a medical product.

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The final words that can be put on paper do not consist in definitive recommendations but in temporary outcomes from a socio-anthropological analysis, limited in time and partnership, that probably did not cover various angles that would have deserved to receive particular attention. We did not focus, for instance, on a cost-effectiveness perspective (Ashworth & Khanum, 1997), which could have given additional comprehensive instruments for evaluating the Plumpy'nut initiative. In agreement with NNP, UNICEF, and the Clinton Foundation, we insisted on the notion of acceptability but it has not been restricted to child' adherence: it was enlarged to deal with the complex relations occurring at level between implementers, health medical staff, villagers and slum dwellers, families and caregivers.

It is important to be adamant that we have been willing to investigate a *process*, not a result derived from a static investigation method. In other words, the PN implementation is a dynamic approach having its proper evolution. What has been observed and discussed with the local populations is therefore liable to change and be revised. But our interpretations are scientifically valid in the socio-anthropological perspective. The analysis cannot claim to provide a *definitive* result but it reflects nevertheless a particular crucial moment of the implementation of the project in a given socio-cultural setting whose properties have to be taken into account. In such circumstances, the present study has attempted to insert these properties that could be eventually transformed into social indicators.

Our interviews and observations, corroborated with a non negligible literature review, show that the PN initial demonstration does not provide sufficient persuasive elements for scaling up the program throughout the country. If RUTF has been accepted by some rural and urban children, the majority of them did not attend the trial from the beginning to the end. Data from all the sites show that it has been doing better with children under -3SD (severe malnutrition) than with children with -2SD (moderate malnutrition). We have to keep in mind that many children have been loss to follow-up. They never came back to the distributing hospital, or have not been visited by HBC teams, to take new PN packets. We do not know if it is because they did not want anymore to eat the RUTF or if there has been additional

reasons overlapping the process. Other factors that we already mentioned may have prevented the family from going regularly to the referral places in which no tracking system has been established. Under these considerations, the huge portion of the population who abandon the project prevent us from having a comprehensive analysis of what happened to them, simply because we could not reach them at all, unless we have an additional six months.

There are logistical and organizational evidences showing that the PN project has not been sufficiently and adequately prepared. Probably the initial idea was to confirm that it could work without too much follow-up. Giving the product to the selected families was the key starting point from which a “natural” process was supposed to go on smoothly with minimum supervision. But it has not been the case at all, and our study reveals quite a few unforeseen factors that deserve to be taken into account if NNP/Clinton Foundation or other development partners really want this generous adventure to continue. The decision remains in their hands but everybody has to measure the importance of the necessary logistics behind the program if it has to continue (better articulation, adjustment of the chain of actors in the health system, accompaniment, follow-up, community involvement, cultural acceptation of the product, addressing poverty, etc.).

But is it worth modifying all these components in the Plumpy’ nut context (who will organize, who will pay, who will do this and that, etc.) or is there another better way locally more adapted to combat malnutrition?

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Appendix 1

Socio-demographic characteristics of the enquired families

No.	Hospital	Sex	Age	Home Location	Urban / Rural	Distance from organization (km)	Household occupations	Number of family members
1.	Magna	M	3	Takmao disctrict	urban	2km	Garment factory/car driver	2 parents 3 children
2.	Magna	M	2	Takmao district	urban	5km	Farm labor/agriculture	2 parents 3 children
3.	Magna	M	6	Sa Ang district	rural	More than 10km	Construction/agriculture	2 parents 12 children
4.	Magna	F	8	Kandal stung district	rural	30km	Agriculture/breeding of cows	2 parents 3 children
5.	Magna	M F	4 & 5 months	Kandal stung district	rural	30km	agriculture	Grand mother 2parents 4 children
6.	Magna	M	5	Takmao district	urban	2km	Growing flowers	2 parents 3 children
7.	Magna	M	3	Takmao district	urban	5km	Business (looeuk do, looeuk èvan)	2 parents 3 children
8.	NPH	M	3	Tuoul Kork	urban	1km	tailors	2 parents 2 children
9.	NPH	F	2	Meanchey district	urban	10+	Construction; room for rent	1 grandmother 2 parents 2 children
10.	NPH	F M	1 1	Toul svay prey 2; P.Penh	urban	5km	Primary school teacher; tailor	2 parents 5 children
11.	NPH	F	1+	Tuoul kork	urban	10km	NGO worker (mother)	2 parents 1 daughter
12.	Magna	M F	4 7	Kandal Steung	peri urban	10 km	agriculture workers	2 parents 1 grandmother 3 children
13.	Magna	F	8	Kandal Steung	peri - urban	10 km	cultivator	2 parents 2 children
14.	NPH	M	18 months	Chbal Ampeu	urban	3 km	casual worker	2 parents 6 children
15.	NPH	M	5	Cbal Ampeu	urban	3 km	woman selling vegetable	2 parents five children
16.	NPH	M	6	Chbal Ampeu	urban	3 km	uncle is construction worker	maternal uncle grand mother one child
17.	NPH	M M	6 2	Chbal Ampeu	urban	3 km	women domestic housewife and men casual worker	2 parents three kids
18.	Svay Reang	F	3	Svay reang commune	urban	1km	Husband agriculture officer for government; Wife: red cross volunteer HIV project	2 parents 1 daughter
19.	Svay Reang	F	1+	Svay chrum district	rural	18km	Construction (husband)	2 parents 2 children
20.	Svay Reang	F	5	Svay chrum district	rural	16km	Has land and truck; farmer	2 parents 4 children
21.	Svay Reang	M	2+	Svay chrum district	rural	15km	farmers	2 parents 1 son 1 aunt her 2 children
22.	Svay Reang	F	3	Svay chrum district	rural	20km	Farmers; agriculture	2 parents 2 children
23.	Svay Reang	M	1+	Svay chrum district	rural	20km	agriculture	2 parents 3 children
24.	Svay Reang	M	2	Svay reang commune	urban	1km	Doctor (husband), pharmacist	2 parents 2 twin brothers

25.	Svay Reang	M	7	Svay chrum district	rural	20km	Very poor, stay at relative's house	2 grandparents 1 mother (widow) 1 uncle 1 child
26.	Svay Reang	F	6	Svay chrum district	rural	20+	No job, very poor	1 mother (widow) 1 child
27.	Svay Reang	M	5	Svay reang commune	urban	2km	Father is a primary doctir at health center	2 parents 4 children
28.	Svay Reang	F	2	Svay reang commune	urban	1km	Husband: officer	2 parents 1 daughter
29.	Svay Reang	F	3	Svay reang commune	urban	1km	Business (rich)	2 parents 1 daughter
30.	Svay Reang	M	1	Svay teap district	rural	30km	…….	……
31.	Svay Reang	F	9	Svay chrum disctrict	rural	25km	Very poor, no house.	Only the grandmother; other siblings went to kampot
32.	Task	M	5	Meanchey district	peri-urban	1,5km	Parents dead; relatives grow vegetables and help the grandmother	1 grandmother 2 kids at home
33.	Task	M	8	Meanchey distriict	peri-urban	2km	labor	2 parents 2 children
34.	Task	F	3	Meanchey district	peri-urban	2km	labor	2 parents 1 daughter
35.	Task	M	1+	Meanchey district	peri-urban	1,5km	Collecting dishes; potery	2 parents
36.	Task	M	9	Meanchey district	peri-urban	3km	Growing vegetables	2 parents 2 children
37.	Task	F	9	Meanchey district	per-urban	1km	The mother is blind and divorced. Receives help from relatives	1 mother 2 children
38.	Task	F	1+	Meanchey district	peri-urban	1km	Potery (tweu jongkraan)	2 parents 1 daughter
39	Task	M	5	Meanchey district	Peri-urban	1km	Moto driver	2 parents 2 children

(Cont')

No.	Hospital	Is the child HIV positive?	Is the care provider a relative (not the parent)?	When did the child take Plumpy Nut?	Other comments (for SD, it was at the beginning of PN inclusion)
1	Magna	no	no	11/08	-3SD (severe malnutrition)
2	Magna	no	no	11/07	-2SD
	Magna	no	no	07/08	-2SD
4	Magna	no	no	08/08	-2SD
5	Magna	no	no	09/08 10/08	-2SD -2SD
6	Magna	no	no	06/08	-2SD
7	Magna	no	no	01/09	-2SD
8	NPH	?	no	10/08	
9	NPH	no	no	2007	
10	NPH	no	no	2007	
11	NPH	no	no	2007	
12	Magna	no	no	September 2008 October 2008	
13	Magna	no	no	October 2008	- 2SD
	NPH	?	no	August 2008	
15	NPH	?	no	July 2009	
16	NPH	yes	yes	December 2008	- 3SD
17	NPH	yes, both	no	September 2008	- 2SD
18	Svay Reang	no	no	02/09	
	Svay Reang	no	no	02/09	
20	Svay Reang	no	no	02/09	
21	Svay Reang	no	yes	01/09	The son was "addicted" to PN, from parent's opinion
	Svay Reang	no	no	01/09	
23	Svay Reang	no	no	01/09	
24	Svay Reang	no	no	08/08	
25	Svay Reang	yes	no	2008	
26	Svay Reang	yes	no	01/09	
27	Svay Reang	no	yes	2008	
28	Svay Reang	no	no	02/09	
29	Svay Reang	no	no	02/09	
30	Svay Reang	no	no	2008	
31	Svay Reang	yes	no	2008	
32	Task	yes	no	2008	For TASK, all the children have finished the PN program. No more PN providing since the end of 2008.
33	Task	yes	no	2008	
34	Task	yes	no	2008	
35	Task	no	no	2008	
36	Task	yes	no	2008	
37	Task	yes	no	2008	
	Task	no	no	2008	
39	Task	yes	no	2008	

Appendix 2

Plumpy'nut family profile
(Four case studies)

We have just taken four families, randomly selected from NPH (the only hospital who provided us the list and the contact information of the patients), but with different profiles. The interviews are incomplete and we just include here a portion of the interview. The intention to transcribe this fraction of conversation is to give voice to the caregivers. With regards to the children, two could eat PN, the third one was in position to a little bit of PN and the last one has stopped eating without completing the whole prescription. Three mothers and one father have been interviewed. The translation has been done scrupulously and the spoken language has been deliberately kept, without any attempt to clean it.

1° (woman, family 10 in appendix 1)

"I have five kids. The younger are twins, girl and boy, and they are taking Plumpy'nut. They are one year old. My husband is a teacher at primary school but his salary is very low. I am doing cloths and sell them wherever I can in the area, not in the market because I have no place. Both my children like eating PN very much. They eat from one to three packages per day. They eat only PN (they do not mix with something else). They use to eat PN instead of snack. I told to another lady about PN, its nutritive advantages, and she was later willing their children to eat PN. But my kids do not share PN with others... However, I decided myself to distribute the PN with poor children living in the Slum area. They do not have access to it and I know that they are also having insufficient food to eat at home. So I felt pity on them. (...). At the first time my children did not take frequently PN and I was guessing that they would prefer something else to it. But I insist on giving PN to both of them in order to make them familiar with the taste. I eat myself also in front of them: they are babies, so they can imitate easily (...). Nowadays, after two months my children seem healthier than before. They just ate PN during the last two or three months but they get accustomed. Now, the National Pediatric Hospital continues to provide me about forty packages of PN at a time. Sometimes, however, I mix PN with the water because it is easer for the children to absorb it. They are so young and even if is a past, normally kids prefer soup. My children never face with any physical reactions because of eating PN. Most of the time, they could finish one package a time. I have been told by the medical staff that after eating PN, children must drink water... The reason why I want my children to eat PN is because I understand that my children are malnourished. I receive a clear explanation at the hospital, and I saw them taking measurement and weight. The prescription is not over and I will encourage my children to continue eating PN. I have been told that PN contains different vitamin medicines which make children feeling hungry and eager for eating more porridge and rice. Sometimes, it is true that I could not catch the information that was given to me in terms of taking care while eating

PN. It was a bit confused for me and I could not understand the words and the expressions they used. But one point that I remember clearly is that the staff and the nurse counselor asked me to spread information about PN to all families living in the neighborhood. I got this recommendation when I took my children to the hospital and I think it is a good idea."

2° (woman, family 8 in appendix 1)

"I got the information that my child could be malnourished from a doctor who lives near by the house. He told me also about Plumpy'nut. This doctor encouraged me to take my son to the National Pediatric Hospital, not very far from my place. So I did this, but I was not aware that my son was sick. He did not show any regular weakness as well. My son is still very young and is three year old. Many children of his age are like him but not sick. But I follow the doctor's recommendations because he is a knowledgeable person. So I went to the hospital (...). Right from the beginning, my son likes eating PN very much. Sometimes, he pointed PN and asked me or his father to give some more. My son eats PN in the morning two times: at 8 and 10 am. My son always drinks water after eating PN, but I do not give it mixed with any liquid. I take care to give PN to my son and I do not allow him to eat by himself. I follow him (...). After one month the counselor told me to come back for checking at the hospital and I went there because I feel worried about him and I also want him to take PN because he is so thin! Hi is much thinner in comparison with other children of the same age living in the surroundings. I understood that PN is like a medicine. But it is a bit surprising because the taste and the appearance do not look like a medicine. I told this to a doctor outside the hospital, asking whether PN was a medicine or not. This doctor did not know himself (...). My son eats PN alone, I do not have to force him and he does not mix with other food at the same time. He also eats rice 3 to 4 times per day. I give PN to my son to eat 1 to 3 times per day. Normally, only when the child feels very hungry he can finish one PN a time. Until now he has finished 30 PN. It means that he has nearly respected the prescription. Just a few packets are missing, but I do not think that it is so important. One idea that I would like to add: before, I thought that PN was like a medicine, but now after a while and after having tasted myself I realize that it is like food with something more because normally we do not have a food taste like that".

3° (woman, family 11 in appendix 1)

"As soon as my daughter was referred to the hospital, she was given Plumpy'nut. At first she likes eating it but now after two weeks, I think that she is going to stop eating PN. I am working for a local NGO and I came to know about PN because I was working with the children nutrition program through TV promotion. My NGO does not involve with PN but I have heard about it from a colleague of mine who is also a friend. Since my friend told me that after children eat PN they will gain weigh and size and are more likely to eat

other foods like porridge, I decided to refer my child to the National Pediatric Hospital where PN is available. At first, my daughter could eat PN 1 to 3 packages per day but nowadays she can only eat a maximum of 2 PN. She cannot finish one package of PN a time: only half of it. I notice that my daughter seems to feel that it is something close to what is called Tanlaon (...). Now my daughter hardly eats PN after the first two weeks. I give PN to her during the period I am breastfeeding. I do not know if I should give least breastfeeding in order to make my daughter more prone to take PN (...) but anyway beast-feeding must be better. After my daughter eats PN, she wants more water. I remember that the medical workers at the hospital told me not to give PN by mixing it with something else. It is easy to say, but more complicate to adhere. Sometimes my daughter does not want to eat even if I use any methods like putting PN in the fridge or mixing it with something or putting it on bread. So far, my daughter could finish around 30 PN but I can see she is fed up. I do not want to force her anymore. Sometimes, and more and more, she shares PN with neighbors. I am not at home in the daytime and I have asked a nanny to take care of my daughter but she is not forcing the child for anything, even if I ask her to be more cautious, but she is not the mother (...). Now I can see that the taste of PN contains too much oil and bean, and I think it is better to reduce those taste because, as I tasted myself the PN, it is like a medicine, and kids do not like it: they prefer to avoid it. The doctor did the eating test at the hospital before giving PN to eat at home. At the end the doctor suggested that the taste of PN should be familiar to Khmer kids who are used to eat consume candies like chocolate or something else. These are the common delicacies that the kids normally appreciate. The doctor also added that PN should be delivered to most of the poor families in remote areas where people do not have enough food to eat... But even if we are poor, we have food however".

4° (man, family 15 in appendix 1)

"My kid already stopped eating PN long time ago. I have two daughters, one is one year old and the other is three year old. Only my youngest daughter was declared malnourished, not the other. I receive the PN because when I went to the National Pediatric Hospital the doctor said to me that my daughter was minus three. It was very severe. At the hospital the doctor gave something called F100 and after F75. She stayed to the hospital with my wife. But after some days, we wanted to go out because it is difficult to stay at the hospital, doing nothing. So the doctor gave PN to bring home, explaining that it was a medicine, not a normal food. The mother starts bringing this paste at home. In fact, at the first time our daughter could eat PN in the hospital inpatient ward, because the nurse wanted to check if she accepted. She could take it but she did not eat the PN when she came back home. Personally I do not know for sure but my wife guesses that our daughter prefers eating other cakes than eating rice. But she likes Soya bean. The mother tried sometimes to force her but every time she ate PN she vomited. The mother did again and again but not me. But anyway the same thing happened, she was always vomiting. Myself (the father), I want my children to eat more rice and for sure this is what all they want, not PN. At the beginning, it has been argued at the hospital that

once the child eats PN, he will eat more rice. But it does not happen. My wife told me that the medical staff explains a lot in terms of instruction to provide PN but the important thing they forget is that the child simply does not like it. And as parents, we cannot force them. We have to respect their nauseating reactions. Even myself I tried once and I realized that PN is not good at all: too salty, oily and sweetie".

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