

# Water management in Household farming systems

## Unit 4: Health and Nutrition

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# Food Security Perspectives

## Some definitions

**Food Security** exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

**Food availability:** enough food nationally. It can be applied also to homestead level to include all food that can be available through production, purchase, foraging, exchange etc.

**Food access:** Physically within reach and affordable. This relates specifically to a households/group's ability to purchase food.

**Food utilization:** Is determined by the quantity and quality of dietary intake of an individual

**Household food security** is the application of this concept to the family level, with individuals within households as the focus of concern.

**Nutrition security** for an individual is when they are food secured, have adequate care, a healthy environment and access to health services.

**Vulnerability** refers to the full range of factors that place people at risk of becoming food insecure. The degree of vulnerability of an individual, household or group of people is determined by their exposure to risk factors and their ability to cope with or withstand stressful situations. (Committee on World Food Security, 1998, p1)

## International concepts

### A Food Insecurity Framework

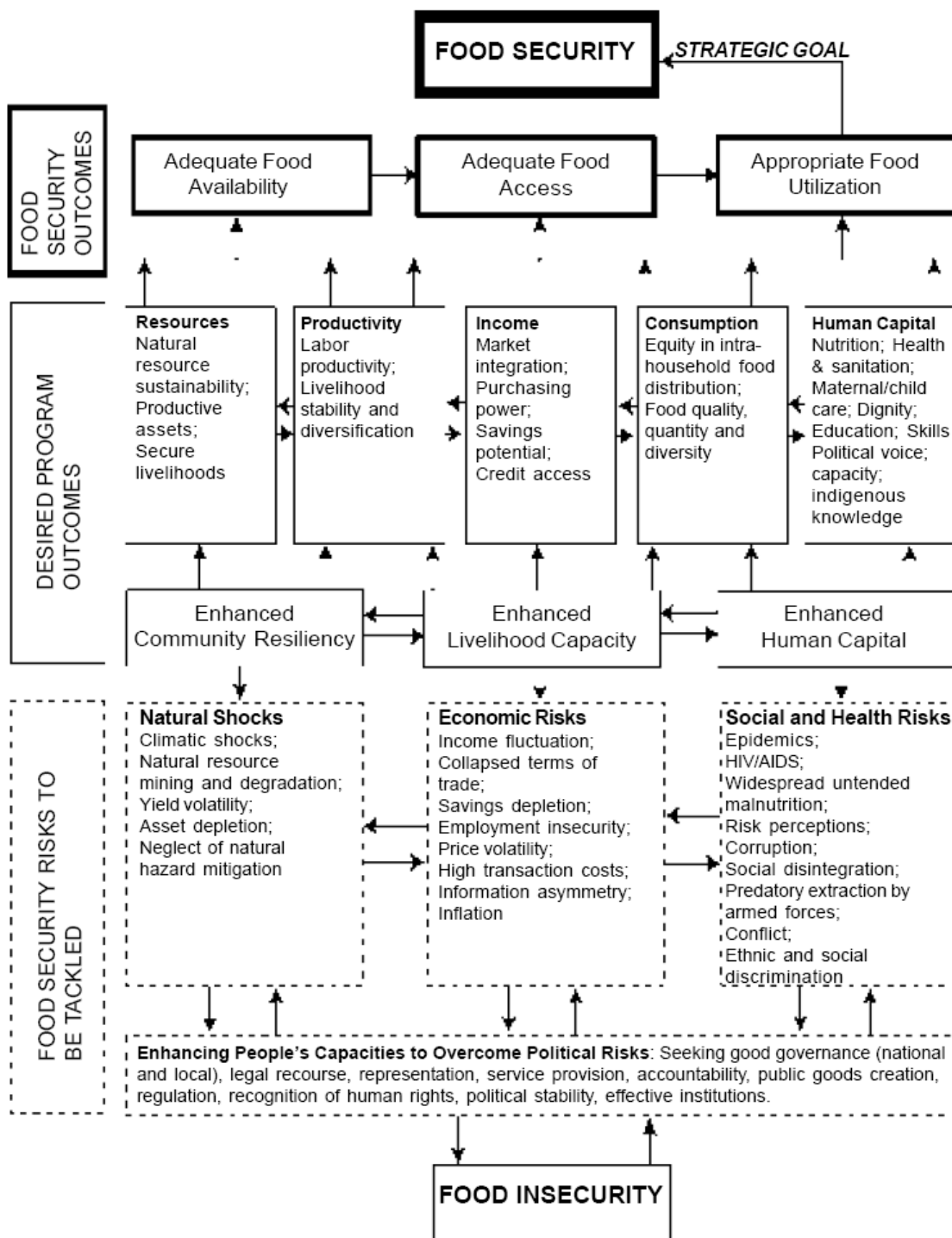
Food security is a concept that has evolved during the 1990's far beyond the traditional focus on the supply of food at the national level (USAID 1995). The definition adopted by the countries attending the World Food summit of 1996 and reconfirmed in 2002 accepts USAID's three key concepts: i) food availability, ii) food access and iii) food utilization. However a fourth concept is increasingly becoming accepted; namely iv) the risks that can disrupt any one of the first three factors. Availability, access and utilization are hierarchical in nature – food availability is necessary but not sufficient for access and access is necessary but not sufficient for utilization. There is also a feedback loop in that adequate and appropriate utilization is an input to achieving adequate access for all (via health, sound nutrition and other human capital effects), while access is required for sustainable food availability (where chronic under nourishment impairs labour productivity and encourages resources depletion). Risk represents a cross cutting issue that affects all components of the food security framework.

In order to produce food security all three elements must also act complementarily. This implies that interventions that aim to strengthen any element must ensure that results will complement or enhance the situation of the other elements of the framework and especially that they will not negatively affect any of them. For example, if food production or an increase in income are achieved at the expenses of proper childcare, then the child's food utilization and health may become even more at risk.

This may require the broadening of an intervention to include activities addressing the other elements. An example here is that when food production is diversified and increased, it is important that families also learn how to utilize the new products and that markets can supply the necessary inputs for production as well as absorb the production surpluses. This can bring about synergistic effects. Better fed people can produce a better work output and increase their capacities to manage their food security.

A conceptual framework that can assist in unpacking aspects of food in/security follows. Such a framework can be useful at the early stages of assessing and planning potential programmes and intervention strategies at community level (See Figure 1).

**Figure 1: A Conceptual framework for analyzing food insecurity**



(from Webb and Rogers, 2003)

Poor households typically make economically rational decisions in the face of a wide variety of **risks and opportunities**. They adapt local knowledge to multiple scenarios and balance possible gains against required investments in the form of their own labour, capital and natural resources. But risks arise in many quarters. Food supply can be affected by climatic fluctuations, soil fertility depletion or the loss of a household's productive assets. Market access can be affected by

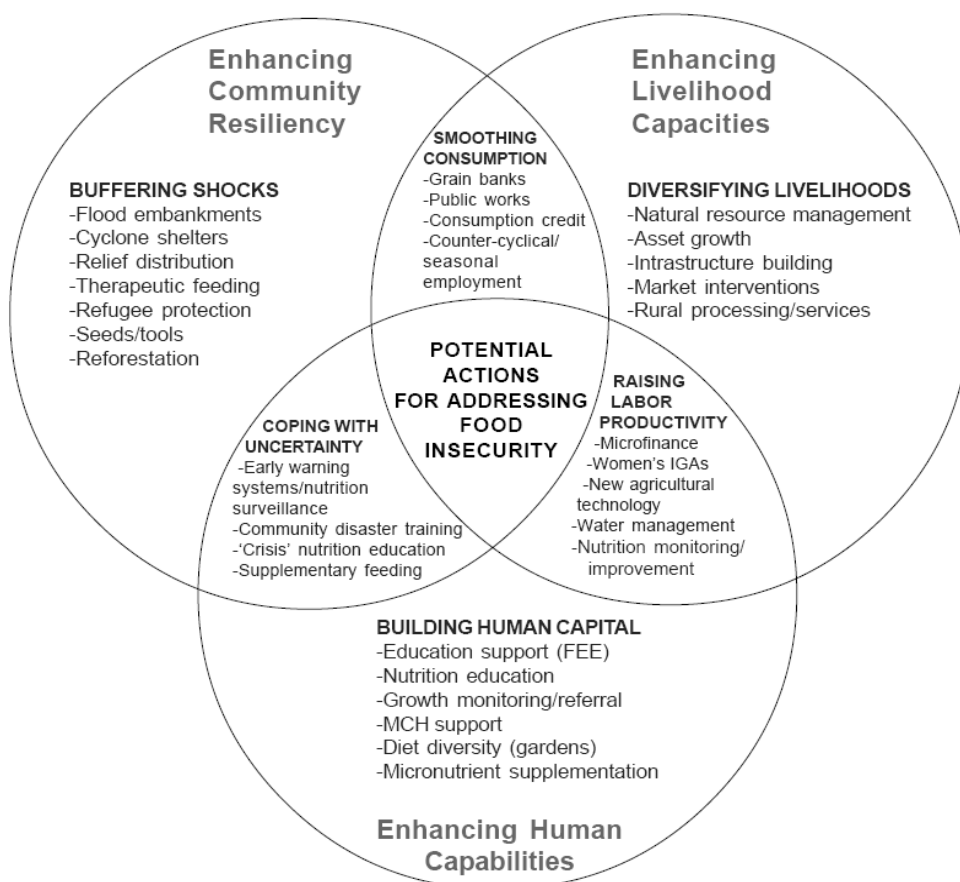
changing global terms of trade, market disruption during crisis, or non-farm employment insecurity. Food access can be negatively influenced by physical insecurity (conflict, morbidity), loss of coping options (loss of part time employment), or the collapse of safety net institutions and arrangements (stokvels, social security systems. Food utilization is often impaired by epidemic (cholera) or life threatening disease (HIV/AIDs, TB, and Malaria), lack of appropriate nutrition knowledge or culturally prescribed taboos that affect access to nutritious foods according to age and or gender (Webb and Rogers, 2003).

Reducing **vulnerability** rests on helping communities better predict and manage the many risks they face on a daily basis. As households move closer to extreme poverty and destitution they become risk averse: according to the World Bank (2001) “any drop in income can push them below the survival point. The poorest households try to avoid this even if it means foregoing a large future gain in income”: the effort poorer households put into meeting short term needs often rules out investment behaviours that would have a larger pay off in the longer term.

## Multiple Interventions

There are a number of points or aspects of interventions/actions that are possible. See Figure 2 below for a framework of potential actions to address food insecurity.

**Figure 2: A Framework for Potential Actions Addressing Food Insecurity**



(from Webb and Rogers, 2003)

Income diversification has been shown to be positively associated not only with wealth accumulation, but also with an increased ability to withstand shocks, at least in terms of partial consumption smoothing: which is a form of spreading risk. (Barret et al. 2001, cited in Webb and Rogers 2003). Agricultural intensification generally focuses on potential multipliers between agricultural productivity and the rest of the rural economy, as a vibrant non-farm rural sector allows for greater farm specialization and higher demand for farm products. Livelihoods interventions generally focus on the importance of spreading risk where households seek to protect themselves from the vagaries of climate and shocks.

This dual characteristic of livelihood diversification (generator of wealth and smoother of consumption) has led a number of organizations to promote income and asset diversification as a key strategy for countries facing repeated income and consumption shocks (Barret et al. 2001). This assumes that food insecure households in risky environments can in fact diversify. There are however real entry barriers to more diverse learning rural communities. These relate to a lack of capital, a lack of access to credit for those without collateral, lack of information lack of expertise and high opportunity costs of participation in any new endeavour with unknown returns. Interventions that overcome at least some of these constraints are critical if vulnerable households are to acquire the financial or physical capital they need.

In this regard, public works can be important in reducing opportunity costs while enhancing public and private assets that are essential to enhanced agricultural productivity: road infrastructure, watershed management, micro-dam construction and water management systems. Microfinance schemes can support training, start-up capital and initial assets required in new income generating activities (IGAs), as well as support rural processing, cottage and local transport service industries. (Webb and Rogers, 2003)

Recent successes in agricultural productivity have included reducing costs through new technologies and lowered post-harvest losses, introduction of livestock and egg marketing, encouragement of dietary diversity through home gardens and diversification into cash crops where market outlets allowed. Success has to be measured in all cases not simply in terms of production but also if it can be sustained.

In addition to financial and physical capital effective livelihood diversification requires human and social capital accumulation. Asset and income diversification are built on enhanced labour productivity for which skills and nutrition are prerequisites. It has been estimated that every US\$1 invested in early childhood nutrition programmes in developing countries could potentially return at least US\$3 worth of gains in terms of academic achievement without even considering the other social and economic impacts (Behrman and Rosenzweig cited in Webb and Rogers 2003). This underpins the importance of nutrition interventions for the **Under 5 year** category, as the most crucial target group.

School meals may not in themselves address a child's malnutrition. However, combined with possible complementary services such as deworming, consumption of macronutrient fortified foods, immunization and health and sanitation education schools can play a major role in the socialization of appropriate food security behaviours. Girls in particular are more likely to attend primary school if parents know that at the end of each month they will gain food rations that offset the loss of the girl's labour at home. Similarly in periods of crisis, parents may respond by removing children from school. This practice can be offset by appropriate short term interventions of supplying food or assisting with costs related to sending children to school.

While the negative impacts of HIV/AIDS on food security are clear, the required response is less so. A public health approach alone is insufficient. The empirical evidence that supply of food can assist directly in resisting or delaying the onset of AIDS remains sparse. Food however, may at least have a buffering role to play. Offering rations through clinics and providing take home resources for foster families through schools, could help to maintain income flow. The rations cover at least part of the cost sustained. Of course, any action in this area raises questions about targeting, as well as exit strategies. Given the long term nature of the epidemic, activities built around short project cycles may not be an appropriate response (Webb and Roger, 2003).

Focusing on asset building and protection measures, income diversification activities and certain kinds of food insurance capabilities (grain banks, consumption credits and meals in schools) in HIV-affected areas, would serve to reduce some of the uncertainty that increases as more adults fall sick.

### **Emerging Themes and Challenges**

- ♦ Most of the world's poor are rural and will remain so. The urban-rural gaps in poverty, health and literacy are large and, on the whole, not narrowing.
- ♦ The extremely poor spend almost three quarters of their income on food. They receive over two thirds of their calories from staples and earn perhaps 10 – 50% of their income growing them. The control of farmland tends to safeguard against extreme poverty.
- ♦ The rural poor require access to competitively marketed inputs, service and research, roads and other infrastructure that normally only governments can supply.
- ♦ Water yielding assets are increasingly important.
- ♦ The heavy biases against the rural poor and women in acquiring human assets, especially health and education are generally still in place.
- ♦ The poor's shortage of assets compels them to live mainly by selling their labour power. So increasing the market value of that power through choices in asset building and technology that are employment intensive, is vital.
- ♦ Rural technologies face two tasks; increase in output/ productivity and improvement in sustainability. On the whole the former has been best achieved by bio agricultural research and the latter by improved land and water management technology. The two are strongly complementary, though separated by fashion and institutional barriers.
- ♦ The poor need technologies to increase output from their assets and markets or exchange those outputs to best advantage.
- ♦ Coalitions of the poor among themselves and with others, provides the best hope for them to become integrated with a process of sharing wealth and development more equitably.
- ♦ Overall development assistance must be raised and the share going to agriculture must reflect it's importance in generating livelihoods. The challenge is to develop and foster genuine co-operation, good governance and a policy framework within which the rural poor can participate. (IFAD,2006)

### **Overall recommendations**

1. Focus on hotspots; where a significant number of people are afflicted.
2. Follow a twin track approach to hunger reduction; short term food aid with longer term productive capacity
3. Enhance productivity of small holder agriculture; productivity, sustainability and income earning capacity
4. Make trade work for the poor; the need for "policy space" to protect the poor within the liberalization of world markets
5. Increase investment in agriculture and rural development;
6. Create an environment conducive to private investment; stability, good governance and transparency in government.

7. Combine poverty reduction with increased provision of global public goods; the creation of markets for environmental goods and services, to better understand trade-offs (e.g. carbon trading) (FAO,2006)

## South African Perspectives

South Africa is a middle income country with gross inequities in **income distribution**. A high proportion of the population has low incomes. Most households rely on purchased food. The National Food Consumption survey of 1999 (Mauders and Labadarios, 2000) reported that 33% of sampled households engaged in crop production and 25% in animal production. The Labour Force Survey of that period (Statistics South Africa, 2000) reported that only 5% of surveyed households relied on agricultural production as a main source of food and an additional 10% engaged in agriculture to supplement food supply.

While **clinical malnutrition** is not all that common, chronic malnutrition (measured as food poverty and low energy availability) were estimated to exist in 43% and 55% of the population respectively. Further;

- ☞ On average, rural and urban households had only 8-10 food items in store respectively (dietary diversity)
- ☞ Stunting among children of 1-9 years of age was estimated at 22%,
- ☞ Sub-clinical vitamin A deficiency in children between 6-71 months is estimated at 33% and an anemia for the same group, 21% (Dept of Health, 2005)
- ☞ A subjective hunger scale showed 52% of households were food insecure, 23% were at risk of food insecurity and only 25% were found to be food secure.

The groups most **vulnerable** to food insecurity are; the rural poor, female headed households, disabled, elderly, retrenched or evicted farm workers, AIDS orphans and households with HIV sufferers, cross border migrants and the “street homeless” (Hendriks and Maunder, 2006)

Misselhorn (2006) has described the real food security crisis in South Africa as “**a creeping vulnerability rooted in structural socio-economic and political conditions eroding livelihoods, resulting in malnutrition and reducing resilience to environmental hazards**”. This is echoed in other documents related to South Africa’s lack of progress towards reaching the Millennium Development goal to “reduce by half the proportion of hungry people, by the year 2015”. Analysis shows that the main reason for slow progress has been the impact of economic downturns, weak governance, HIV/AIDS, conflicts and other factors, quantified in that order (DFID, 2002).

### Food insecurity trends

Possible shocks and stresses to household food security in South Africa are likely to impact negatively on a large proportion of households already facing vulnerability to food insecurity, increasing hunger and malnutrition. Of these **rising food prices, increasing reliance on food purchases, the widespread reliance on wage income and HIV/AIDS are the most significant**.

Rising food prices have a disproportionate and devastating impact on the ultra-poor low income earners in urban and peri-urban areas, low smallholder farmers in remote areas and unskilled farm workers), who already spend a larger proportion of their income on food than wealthier groupings. Continued monitoring of the impact of trade liberalisation and food prices is essential.

## Figure 4: Food Prices; Mail and Guardian (2007/04/10)

### Johannesburg

Food prices are set to sky-rocket, as a devastating drought has forced maize farmers to their knees. The drought, along with competitive international markets, has led to soaring maize prices in South Africa.

As the maize price hovered around R2000 a tonne during the past month, consumers held their breath to see if the sky-high maize price would have a significant effect on food prices.

But it is now becoming increasingly clear that South African shopping trolleys will be much lighter this year than last year

“I think a difficult year lies ahead for South Africa,” said Johann Kirsten, a member of the National Agricultural Marketing Council. “We are heading towards the same situation as in 2002/2003, when food prices spiked significantly. It took almost three years for food prices to fall again.”

Because of the bad harvest, South Africa will have to import almost one million tonnes of maize to meet its commitments. Kirsten said, because of this, South Africa is constrained by high international prices.

The commodity has been trading internationally at record highs, driven by the world's move to produce more biofuels made from maize. Futures trader Rudi Swanepoel predicted that, because of this, there would be no relief in the immediate future concerning the high maize price, because world demand for grain was just too high. “It will stay high for at least another two to four years,” he said.

Though the agricultural marketing council's report for the first three months of this year is only expected in mid-May, Kirsten said the council's last report, released in February, already rang alarm bells.

The report, which focused on food price changes between December 2005 and December 2006, said food prices increased by an average of 7,88%. This was more than the 3% to 6% inflation target of the South African Reserve Bank. The council said super maize meal prices increased by more than a third. Beef mince increased by 14,86% and brisket beef by more than a fifth. Cooking oil, another essential item, rose by 19,51% and rice by 11,96%. Egg prices rose by 19,59%.

While seeking wage income is a risk aversion strategy that diversifies rural livelihoods, replacing or significantly decreasing agricultural production against wage income may seriously increase vulnerability. Kirsten et al (2003) have shown that agricultural production may not decrease malnutrition rates significantly, unless home production exceeds subsistence. Once production leads to some income, an income replacement effect is seen where the cash generated is used to supplement cereal based and nutrient deficient diets. Aliber and Modiselle (2002) showed that dietary diversity may increase with “subsistence” related production.

Further, diversified small holder production can fulfill multiple livelihood needs and combine as one of a number of livelihood options

## Figure 5: Smallholder Agriculture in South Africa

Research shows that small-scale producers are often highly productive and make a valuable contribution to the economy. Some rural households can secure more than half their total livelihood from the land, and others regularly sell surpluses to earn sizeable cash incomes. Natural resource harvesting from communally held resources also makes a significant contribution. Hard evidence indicates the real potential for a revival of small-scale agriculture.

Delali Dovie, of Wits University, for example, recently found that maize yields in Thorndale village in Bushbuckridge averaged 4,3 tons a hectare. The net value of cropping for each household was more than R4000 a year, from an average of 1,86ha under crops. These are comparable to yields and returns from commercial farms. More than 22% of the harvest was sold for cash. The value of crops constituted about 15% of the total value of household livelihood activities, with livestock contributing 22% and woodland resources another 19%. Land-based livelihoods thus made up about 56% of total livelihood value.

Smallholder agriculture is labour-intensive, uses few external inputs and is potentially productive. It does, however, require an enabling economic environment (credit, inputs supply, extension services, markets) that is largely absent at present, as in the past. Government's land reform and rural development policies have failed to address this challenge to date.

(Cousins, B. 2005)

## Figure 6: HIV/AIDS in South Africa

"A policy that implicitly supports a nutritional alternative to ARVs could distract attention from the appalling lack of progress in access to AIDS medications. The roll-out of ARVs in South Africa is painfully slow: **this is the wealthiest and one of the most stable nations on the continent, yet of the 840,000 people who require ARVs, estimates for the end of 2005 suggest that only around 200,000** (up from 104,000 in September 2004) [had] access. (Hodgson I, 2006) This figure increased to 224, 895 patients enrolled on ART by Oct 2006. (Department of Health)

More than 230 000 HIV-positive children live in South Africa. "The high HIV prevalence among South African children is a major cause of concern. When the 2002 results were released there was a tendency not to acknowledge that so many South African children were infected with HIV.

## Figure 7: HIV/AIDS statistics for South Africa in 2006

AIDS deaths per day	947
New HIV infections per day	1,443
People living with HIV	5,372,476
Total AIDS deaths	345,640
Total new HIV infections	526,771
Total AIDS sick	576,963
Adults with AIDS, not on ART	502,468
Children with AIDS, not on ART	26,883
Adults on ART	154,832
Children on ART	20,050

Source : Nathea Nicolay – estimates from ASSA2003 (AIDS AnalysisAfrica Online June 2006)

“A policy that implicitly supports a nutritional alternative to ARVs could distract attention from the appalling lack of support. (Department of Health, 2006)

More than 230 000 HIV-positive children live in South Africa. “The high HIV prevalence among South African children is a major cause of concern. When the 2002 results were released there was a tendency not to acknowledge that so many South African children were infected with HIV. The estimated 129,621 children aged 2-4 years and 214,102 children aged 5-9 currently living with HIV/AIDS are significant numbers.” ***It is also estimated that “at least 50 000 [South African] children need ARVs now, but that only 20 000 children are receiving them.***

HIV/AIDS can rightly be treated as a shock to household food security; a unique slow-moving and devastating shock that strips households of livelihood assets described by Mdladla et al (2003) as a “creeping emergency” which leaves households significantly impoverished. HIV affected households experience increased food insecurity as:

- Sick members cannot work; reducing labour and income
- Health care expenditure increase
- Care burdens increase and there is less time caring for children
- Dependency patterns are reduced; due to withdrawal of social and communal safety nets from people as they lean too heavily on them
- Dependency ratio increases; more people to look after and fewer who can
- Increased debt; through care of sick people and finally through burial and
- Reduction of assets as a coping strategy.

Responses to these stresses may not be coping strategies at all, but struggles to adjust and survive (O'Donnell, 2004). The effects are likely to be irreversible for the household in terms of food security. These effects may be exacerbated by increased food prices and increased reliance on cash for purchase of food.

## **A Framework for Food Security Interventions**

In South Africa, food security has increasingly become a central focus of many Government and Non-Government programmes. A plethora of interventions not directly falling under the ambit of food security, but which impact on food security, exists. Coherence in strategies and interventions that consciously tackle multiple elements and levels of food security however are sorely lacking.

An example here could be interventions in food gardening, which are being implemented in ad hoc ways by a number of different Government Departments (Health, Social Welfare, Agriculture, Water Affairs and Forestry, Environmental and Tourism, Public Works, Education, Housing, Land Affairs and District and Local Municipalities) as well as Non-Government groups such as World Vision, CINDI (Children in Distress Network), ACAT (African Co-operative Action Trust) and many others. In all cases, there appears to be a lack of clarity around the expected contribution towards food security that food gardens could or should provide. Mostly community gardens are still promoted, although a few initiatives in homestead food production have been attempted.

Below, a food security framework is presented, that attempts to summarise different food security interventions in South Africa, and how they would fit into the international perspectives and their overall contribution towards a more holistic concept of food security. Homestead food gardening is used as a specific example.

**Figure 8: Scope for Food Security Interventions**

Scope for interventions at household level			
Time frames	National/Provincial	Household	Food Security
	<b>AVAILABILITY</b>		
	<i>National and regional food self sufficiency</i>	<i>Local (community and household) food self sufficiency</i>	
<b>Long term;</b> 5-10years	<p><b>Macro-economic policy</b></p> <ul style="list-style-type: none"> <li>- Imports and exports (eg. GATT)</li> <li>- Pricing and tax controls (eg VAT exemption on basic food stuffs)</li> <li>-Distribution and storage</li> <li>-Futures eg. SAGIS</li> </ul> <p><b>Governance</b></p> <ul style="list-style-type: none"> <li>-Commitment, efficiency and co-ordination of government process</li> <li>- on local and</li> </ul>	<p><b>Local production of staples (for food and income)</b></p> <ul style="list-style-type: none"> <li>- Programmes for increased productivity, eg. Improved varieties, use of fertilizer and lime, minimum tillage...</li> <li>- Provision of inputs to facilitate production; eg, provision of fertilizer, seed, loans, equip</li> </ul>	
	<b>ACCESS</b>		<p><b>Intensive Homestead Food Production (1st step; priority action)</b></p> <ul style="list-style-type: none"> <li>- Diversity; vegetables, fruit, small livestock</li> <li>- Continuity; food throughout the year</li> <li>- Rain water harvesting at homestead level</li> <li>- Use, cycle and build up local resources</li> <li>- Minimize exte</li> </ul>
	<i>Vulnerability and poverty, regional and local differences in availability</i>	<i>Food Aid Short term interventions</i>	
<b>Short term;</b> 1-2 yrs <b>Medium term;</b> 2-5yrs	<p><b>Markets</b></p> <ul style="list-style-type: none"> <li>- Local markets; access, pricing,</li> <li>- Transport,</li> </ul> <p><b>Income and Expenditure</b></p> <ul style="list-style-type: none"> <li>- Small businesses; incl value adding and processing</li> <li>- Job creation</li> <li>- Social grants eg pensions and child grants</li> </ul>	<p><b>Emergency food relief</b></p> <ul style="list-style-type: none"> <li>- Environmental and social crisis distribution of food to affected groups</li> </ul> <p><b>Vulnerable groups and individuals</b></p> <ul style="list-style-type: none"> <li>- Targeting of supplementary feeding eg malnourished children, people on medication for TB and HIV/AIDS</li> <li>- Provision of food t</li> </ul>	
	<b>UTILIZATION</b>		
	<i>Nutritional value of food and food safety</i>	<i>Nutrition</i>	
<b>Short to medium term</b>	<p><b>Fortified food and supplements</b></p> <ul style="list-style-type: none"> <li>- Fortification off staples such as maizemeal and bread on a national level</li> <li>- Sale of iodized salt</li> </ul> <p><b>Food safety</b></p>	<p><b>Nutrition education and awareness</b></p> <ul style="list-style-type: none"> <li>- Programmes such as exclusive breastfeeding, importance of vitamin A</li> <li>- Promotion of improved sanitation and food preparation practises</li> <li>- Promotion of eating a diverse range of fresh fruit and vegetables</li> </ul> <p><b>Fortified food an</b></p>	

## **The Integrated Food security Strategy**

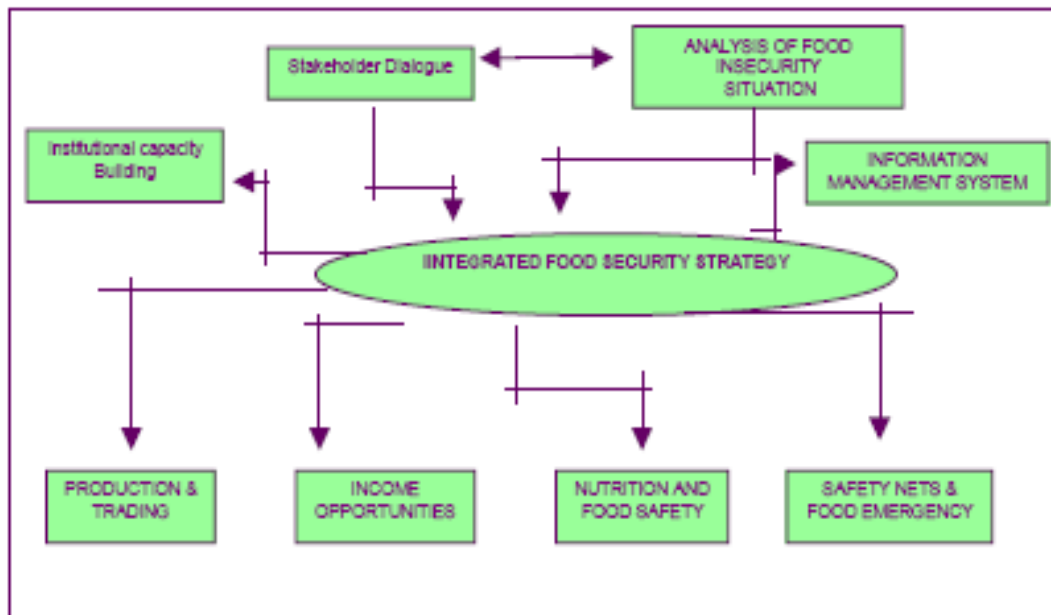
An Integrated Food Security Strategy (IFSS), falling under the Social Cluster of Government services, was put together in the year 2 000 by the Department of Agriculture. This strategy attempted to outline a framework for analysis and interventions as well as linkages between different Government Departments and other stakeholders, their roles and responsibilities. The strategy broadly follows international trends but does not incorporate the issues of risks, shocks and vulnerability.

The goal of this strategy is to eradicate hunger, malnutrition and food insecurity by 2015. The strategic objectives are to:

- Increase household food production and trading
- Improve income generation and job creation opportunities
- Improve nutrition and food safety
- Increase safety nets and food emergency management systems
- Provide capacity building.
- Provide stakeholder dialogue

A broad range of issues were to be tackled: land reform, production of food, procurement and marketing of food products, processing, storage and transportation of food, development and microfinance, infrastructure development, human resource development, education and training, research and technology development, food prices, international trade, fiscal and monetary policies, ailments related to hunger and nutrition, social security grants and food emergencies and access to food legislation.

**Figure 9: Programmes and processes in the IFSS**



<sup>8</sup> Adapted from EU Food Aid and Food Security Programme, Brussels, 1996/99:32-33

(From IFSS, DoA, 2000)

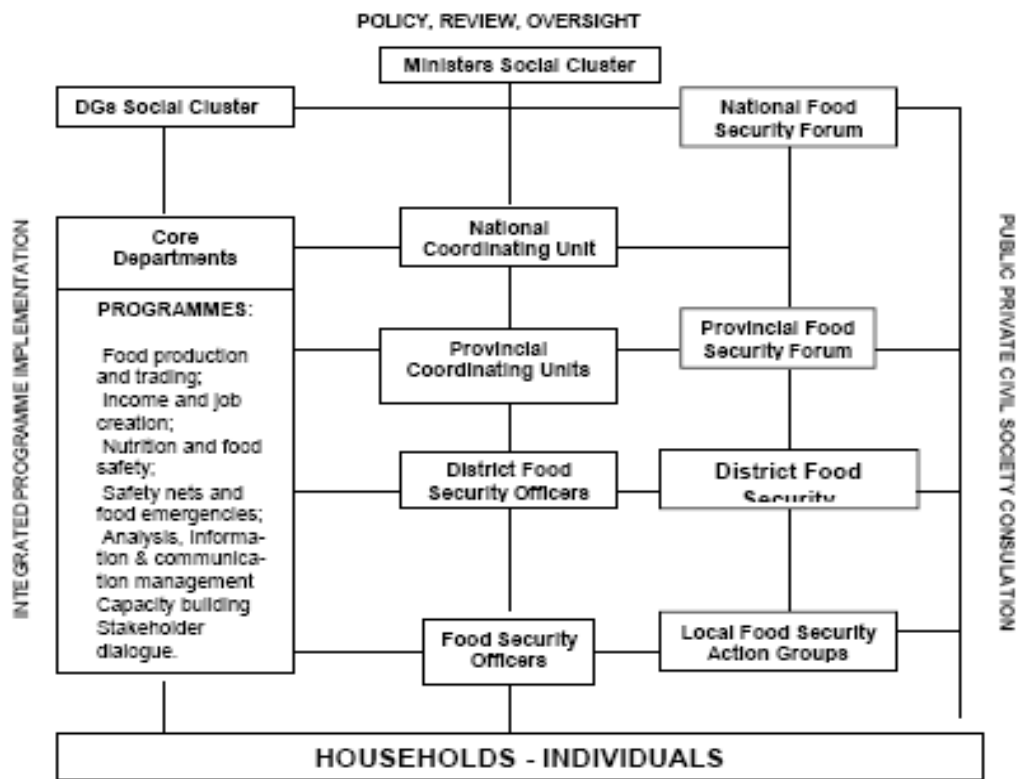
For the production and trading section for example the department of Agriculture is the lead department and an interesting set of interventions were proposed in 2000. These included:

- ♦ Promote small-scale irrigation and other rainwater harvesting technologies
- ♦ Invest in productivity enhancing environmentally sustainable technologies for the agriculture and agro-processing sector, targeting small scale producers
- ♦ Link land/water tenure reform to other farmer support services, including access to markets and financial services
- ♦ Improve access to food production and food processing technologies and any other time and labour saving technologies by food insecure households, particularly technologies for women
- ♦ Improve extension services and shift emphasis to comprehensive extension, where the extension worker responds to the needs of the small scale farmers who often practice mixed farming and undertake a variety of enterprises.
- ♦ Protect the agriculture and food sector against unfair trade practices including dumping
- ♦ Remove import duties through a support scheme that ensures that government expenditure on social development does not diminish and conforms to WTO regulations.

Actual interventions by the provincial Departments of Agriculture have fallen far short of these ideals and have continued more or less along the previous lines of supporting community gardens, field cropping through liming and other support, dipping of livestock and poultry projects.

An institutional framework was also proposed by the IFSS. This is presented below, as it can still provide a potential framework for implementation.

**Figure 10: Institutional Arrangements and Organisational Structures for the IFSS**



(from IFSS, DoA, 2000)

The role of the Provincial Food Security Forum would be to prioritise projects and disburse funds.

District Food Security Committees would be responsible for identifying food insecure areas in the district and compile and recommend projects for funding. They would also monitor and evaluate the effects of these projects.

Local Food Security Action Groups would consist of local government officers, traditional authorities, churches as well as locally based NGOs. These action groups would identify and quantify vulnerable households. The Food Security Officers would provide technical support in compiling business plans and submitting them to the district. The officer would also provide training and counseling to vulnerable groups.

# Integrated Household Food Security

- Sustainable livelihoods
- Resource flow diagrams
- Farming systems

Most home gardens can be improved to do a better job of meeting the household food needs. Improving the home garden often means changing its structure and function. The following questions need to be considered by the household:

- How much food and income is the home garden producing?
- How much food and income would the home gardener like the garden to produce?
- How is the home garden contributing to the nutritional needs of the family?
- What additional crops would the household members like to produce?
- What types of changes need to be made
- What inputs are required for the desired improvements?

A process needs to be put into place to help households to analyse their food and nutrition security issues. The physical factors that must be considered, such as climate, rainfall, land and water availability, soil type, slope of land, pests and diseases, time and labour availability will be discussed in other sections of this course.

Below is an example of a community workshop process that allows such an analysis. The outcome of this process is to provide a list of additional crops, fruit and livestock production options for diversification of food production.

## **Nutrition Workshop outline and process**

### ***Introduction to Nutrition:***

*Each participant names something interesting that they know/ use or do regarding nutrition. Each person offers a different comment that is recorded on newsprint.*

### ***Group discussions on food that is eaten:***

*Participants are divided into groups of 7-10 members. They discuss and record for report back in plenary the following topics:*

- *What we eat every week*
- *What we rarely eat*
- *What we would like to eat but do not have access to and*
- *What we feed the young children (ages 1-5yrs)*

### ***Input from facilitators on food groups:***

*Using the LIRAPA handouts (discussed in the nutrition section below), facilitators go through the go foods, grow foods and glow foods; this is done through a short introduction and then by participants selecting food items they mentioned in their report backs that fit into those categories.*

*Here, because of the information given by participants, categories can be created for diabetes, high blood pressure and weaning foods as well. A discussion is held on traditional foods and their role and value in modern society.*

### ***An analysis of gaps in nutrition and how these can be rectified:***

*Participants analyse their selection of different food groups and looked at what they eat regularly. They then offer suggestions of where they may be missing food types that may provide them with a more balanced diet.*

*A list is made of the food types people would like to try and grow to augment their present range of food types. Each individual puts their name against the food type they would like to include in their homestead systems.*

### ***Input on new things to try:***

*Facilitators introduce, through discussions and sending around samples and or photographs, a few vegetables, herbs and fruits that could add variety to the diet of the participants.*

*Participants are then each given a chance to choose a small sample of seed for each type that they want to try and grow at home. Their names are recorded and their progress in terms of production from these seeds will be monitored.*

*A list for orders of fruit trees is put together.*

### ***Evaluation and future learning topics:***

*The workshop is closed with a brief evaluation and asking for suggestions from participants for further learning around nutrition.*

Below is a small case study for the Potshini Community in KZN, where this workshop was held. It gives an idea of the kinds of outcomes that are possible for this workshop.

# Potshini Farmer Learning Groups – Case study

## Background

Potshini is a rural area in lower Drakensberg, in the greater Emmaus area of KZN. Through the relationship set up with the ARC minimum tillage programme and more recently the SSI (Smallholder Systems Innovation) programme at the UKZN two farmer learner groups have been set up in the area. Thus far they have received three day training in organic gardening, which was mainly theoretical. Some members of the learning groups also went on a cross visit to Matshepo Khumbane's home in Cullinan (Gauteng) where she worked with them around their personal mobilization in food production for their families. She covered a diverse range of topics including nutrition, use of trench beds and rainwater harvesting, family activity charts and planning their production process.

Members of the groups mentioned that they "like" the Farmer to Farmer approach used initially by the ARC, where they set up demonstrations and small experiments at their homes and learn mostly through and with each other.

Thus a more hands-on, interactive learning process has been designed with the WRC programme focusing on participatory development of learning materials for water management in homestead farming systems. The process consists of running 1 day workshops at the homestead of one of the learning group members and rotating the venue every time. It consists also of some practical implementation and demonstrations at this homestead, as well as a joint analysis of the farming process there. Learning group members are mentored in the process of conducting rigorous experiments and all members are encouraged to experiment at their homesteads. Once a season, the groups get together to celebrate the progress of their members, report on their experiments and plan for the coming season.

## Introduction

The learning process is aimed at building on and concretizing what the learning group members have already been exposed to. Most people in Potshini do not have homestead gardens and have been doing dry land cropping, mainly in their fields. The learning process is part of a community process to introduce intensive home gardens in the community. The availability of water and fencing has been seen as major physical constraints.

Learning group members are drawn from all groups within the community, including the youth group that is also involved in a wetland rehabilitation land care project. The community health workers are involved and new members who are keen and active are still being accepted. Care is taken to include the poorest and more desperate families in the community that show an interest in food production. **There are presently 64 members.**

Learning Group members reviewed their learning so far. They have made a list of ***what they know already***:

- They are primarily maize growers and some are still trying the no-till method introduced by the ARC. Some are not convinced.
- Most of the people who have been involved in the SSI programme from the beginning already have small gardens (in anticipation of receiving underground storage tanks) and are using some knowledge gained from training they have had thus far.
- Thus to summarize they are maize growers and cattle farmers, know something of no-till methods and have a limited knowledge of gardening

They have also come up with ***a learning agenda*** for these workshops. It is summarized below:

- Water management; roof water harvesting underground tanks, drip irrigation, brimming system (MaTshepo) and trenches with hand watering
- Livestock; chickens, goats and cattle (at the end of the learning process); health and grazing management
- Water storage and water conservation
- Fruit production
- More vegetable production knowledge and garden layout
- Crop health management; homestead gardens and community garden
- Health and nutrition: HIV and AIDS
- Fencing/making fence
- Computer literacy

***Support needed*** was summarized as:

- Support and mentoring
- Guidance on experimentation
- Cross visits
- Help with writing proposals

The Okhahlamba Municipality has been closely involved, through their LED officer Hlengiwe Hlongwane and has agreed to support this process by providing funding for the fencing of home gardens (10mx20m plots). The local Agricultural Extension Officer, G.G. Mabaso, has also followed and supported this process and will be part of the training team for the learning groups; as will Michel Malinga, the field worker for the Farmer Support Group and SSI team, Thabani Madondo the Community facilitator for SSI, Erna Kruger the researcher for WRC and Micca Mabaso the research assistant for the WRC team. Planning meetings involving all will be held regularly.

The following initial chronology for the workshops was decided upon in the first planning meeting (7 June 2006):

## Outline of workshops (proposed dates for running workshops in brackets)

1. Nutrition (22/06/2006)
2. Seedling production (14/07/2006)
3. Fertility (28/07/2006)
4. Demonstration of fruit tree planting + delivery of trees (25/08/2006)
5. Pest and disease control, including windbreaks (07/09/2006)
6. Garden layout; run-on and bed design. Reflection on organic vs inorganic and till vs no-till options (11/10/2006)
7. Irrigation; including demo of foot pump (26/10/2006)
8. Processing, value adding and seed saving + Celebration!

It was decided also to use the Care International Lirapa manual: "How to get the best from your garden" as the basis for learning sessions. Specific sections are to be translated into isiZulu for the purpose.

The WRC team is also assisting members of the learning groups to purchase cheap fruit trees that will be ordered in bulk from the commercial nurseries in the Western Cape. Types of fruit to be purchased include: peaches, plums, apricots, pears, grapes, oranges, naartjies and lemons.

## Nutrition workshop outline and process

### **Introduction to Nutrition:**

*Each participant names something interesting that they know/ use or do regarding nutrition. Each person offers one comment that is recorded on newsprint.*

### **Group discussions on food that is eaten:**

*Participants are divided into groups of 7-10 members. They discuss and record for report back in plenary the following topics:*

- *What we eat every week*
- *What we rarely eat*
- *What we would like to eat but do not have access to and*
- *What we feed the young children (ages 1-5yrs)*

### **Input from facilitators on food groups:**

*Using the Lirapa manual, facilitators go through the go foods, grow foods and glow foods; this is done through a short introduction and then by participants selecting food items they mentioned in their report backs that fit into those categories.*

*Here, because of the information given by participants, categories were created for diabetes, high blood pressure and weaning foods as well.*

*A discussion was held on traditional foods and their role and value in modern society.*

**An analysis of gaps in nutrition and how these can be rectified:**

*Participants analysed their selection of different food groups and looked at what they eat regularly. They then offered suggestions of where they may be missing food types that may provide them with a more balanced diet.*

*A list was made of the food types people would like to try and grow to augment their present range of food types. Each individual put their name against the food type they would like to include in their homestead systems.*

**Input on new things to try:**

*Facilitators introduced through discussions and sending around samples and or photographs a few vegetables, herbs and fruits that could add variety to the diet of the participants.*

*Participants were then each given a chance to choose a small sample of seed for each type that they wanted to try and grow at home. Their names were recorded and their progress in terms of production from these seeds will be monitored.*

**Evaluation and future learning topics:**

*The workshop was closed with a brief evaluation and asking for suggestions from participants for further learning around nutrition.*

# Workshop Report (extracts)

(fuller detail will be available upon translation of the original newsprints)

## **Attendance:**

37 people, 16 men and 24 women, (almost all learning group members and a few others).

The workshop was held at the local primary school.

## **Group discussions on food that is eaten:**

- *What we eat every week*
- *What we rarely eat*
- *What we would like to eat but do not have access to and*
- *What we feed the young children (ages 1-5yrs)*

### **GROUP 1:**

**Always:** Phutu (maizemeal), amazambane (potatoes), cabbage.....

**Rarely:** Eggs, cheese, peanuts, fish, cornflakes, rice

**Need:** Beef, chicken, salad

**Children < 5 yrs:** Porridge (watery maize meal), mdogo (ground maize drink), phutu , beans

### **GROUP 2:**

**Always:** Phutu (maizemeal), rice, cabbage ...

**Rarely:** Amasi (sour milk), spinach, tomatoes, onions

**Need:** Meat, cakes cooldrinks, fruit (especially apples), carrot beetroot, spinach, sweet potatoes, eggs, amadumbe (taro)

**Children < 5 yrs:** Porridge (watery maize meal) with milk and margarine, eggs, amasi (sour milk)

### **GROUP 3:**

**Always:** Above mentioned plus imifino (wild spinach)

**Rarely:**

**Need:** Apples, oranges, lemons, guava

**Children < 5 yrs:** Sorghum Porridge

**GROUP 4:****Always:** Maize, potatoes, beans, isijingi (porridge mixed with pumpkin), cabbage**Rarely:****Need:** Flour, rice, meat, vegetables, fruit, indlubu (jugo beans)**Children < 5 yrs:** Milk, amasi, eggs**GROUP 5:****Always:** Above mentioned plus tomatoes, and ujeqe (steamed bread)**Rarely:** fish, meat, isijingi (porridge mixed with pumpkin)**Need:** Meat, salad, vegetables cheese, bread, fruit**Children < 5 yrs:** Juice (SweetAid)**Traditional Foods**

- Isijabane: Mixture of maize meal and imifino(wild spinach) cooked together
- Isijingi: Mixture of maize meal and pumpkin cooked together
- Intshuku: Type of herb used as imifino
- Isinjela nkobe: Maize, sorghum, bean mixture
- Ujeqe : Steamed bread
- Isikwamba : Sorghum (amabhele), ; ater sifting the umqombothi (sorghum beer), use the dregs for porridge
- Aqebelengwane: Maize cakes (pancake type)
- Umbhaqanga: Maizemeal porridge and potatoes  
wamazambane
- Umcaba wamabele: Sorghum porridge

**Foods good for people with Diabetes (Ushukela)**

(Here there was initially a bit of confusion around “ushukela” and “hai’hai”, diabetes and high blood pressure, as people associate them with each other.

Intshuku (local herb), garlic, chilies, inhlaba (aloe),

People buy “permanganate to drink

Should not have sugar, salt or fats.

**Foods good for people with High blood pressure (Hai’hai)**

Symptoms were described as when it is cold outside, but the person is sweating, their

heart beats faster and faster and they want to urinate all the time.

Inhlaba (aloe)

Ginger and garlic (which is also good for asthma)

### **Blood cleansers**

Beetroot

Cheese and milk

Ukuphalaza (traditional method of clearing stomach and bowels through vomiting and enemas), umfusamvu

### **Food given to children < 5 years**

Mothers milk initially; then augmented with

Soft porridge; to which Rama margarine could be added

Amasi(sour milk)

Eggs (when available)

Pumpkin, beans, potatoes,

Juice (Sweet aid) and Umdoko (maize drink – not fermented)

In a discussion held some mothers said they feed their children in the traditional way, but when they go to the clinic the doctors say the children have “Kwash” – meaning they have kwashiorkor.

Children are seriously lacking in fresh food intake; such as vegetables and fruit.

They rarely are given meat.

### **An analysis of gaps in nutrition and how these can be rectified:**

The discussion revolved around peoples’ understanding of how things have changed, so that children are now considered malnourished. They did not really have any suggestions, but said in the times that they grew and processed their own maize, children were healthier. Facilitators suggested that the maize itself has changed; modern varieties are not grown for their nutritional value, but for other characteristics, such as standability and uniformity. It means that feeding the same food to the children will now mean that they suffer from shortages and are malnourished.

Also food like margarine has almost no food value – as it only resembles butter, but does not have the same nutritional value.

SweetAid; is only sugar and colouring and is in fact bad for children.

It was clear from looking at the food groups that most of what people eat falls into the category of go foods, or fill-up foods that are high in starch but have little else. They mostly eat refined products (whiter sugar, white maizemeal and white flour)

There is a general lack in the diet of : fruit, green and orange vegetables and roughage. People would like to be able to eat a lot more meat than they do now.

*Facilitators note:* People did not know the pitfalls of eating a lot of refined food and a lot of sugar. They did not know the difference between Rama and butter. There seemed to be little appreciation that new foods and tastes and textures had to be introduced to the children at weaning. There may be value in working with the Community Health workers and mother and grand mothers to give input on some of these topics.

#### **LIST OF FOODS NEEDED TO PROVIDE A MORE BALANCED DIET**

(and especially for children < 5 years).

This list was prepared by the participants

- Amadumbe (taro)
- Indlubu (jugo beans)
- Peanuts (amatongomane)
- Sweet potatoes
- Carrots, beetroot, spinach
- Salad, lettuce
- Garlic
- Tomatoes
- Onions
  
- Eggs
- Meat; beef and chicken
  
- Fruit: Apples, oranges, lemons, pears, guavas, grapes

**Participants put their name on a list for being supplied with starter material of some of the crops they mentioned (see end of document)**

### **Input on new things to try:**

The facilitators brought a small selection of herbs, greens and fruit for people to try. The rationale was that these could augment in the diversity of foods and condiments people use as well as add to the diversity in the gardens, to create more balance. Participants chose from these what they wanted to try (see listing at the end of this document).

Crops included:

Garlic chives:	A good garden companion, insect repellent and natural insecticide. For people it is a natural antibiotic and blood cleanser
Fennel:	A good garden companion (used traditionally also to ward off evil spirits) and encourages the presence of predators. For people it is a blood cleanser and aids in digestion
Parsley:	Strong smelling plant, companions to most vegetables. For people it is extremely high in iron and vitamin A.
Mustard spinach	Masihlalisane: known mustard spinach, enjoyed by local people- the purple variety adds colour to the garden and is attacked less by certain insects.
Spring onions:	Bunching onion, eaten green – a good garden companion and no waiting for the bulbs to form. It is eaten green and provides a good source of vitamin A and C
Wormwood	Mhlonyane; a traditional medicinal herb for flu, fevers and colds. It expels intestinal worms. In the garden it is a potent insecticide and grows into a large bush.
Tree tomato	Also known as tamarillo. It is a fast growing short lived tree that provides tomato like fruit that are exceptionally high in vitamin C and loved by children. The trees are quite tough, but like a lot of water.
Granadilla	A vine that produces good fruit, high in vitamin C.. Again, it starts to fruit within the first or second year and is not quite as fussy as Citrus to grow as long as it has enough water.

### **Evaluation and future learning topics:**

Evaluation comments were all positive and a bit rushed as our session took time and people were getting impatient to go.

New learning topics included

- How to deal with ants and termites

**-How to deal with sparrows**

**List of crops required and participants requesting planting stock; 22 June 2006**

<b>Crop</b>	<b>Names</b>
Amadumbe (taro)	Cebesile Hlongwane, Mshozi Cebekhulu, S. Khumalo, Samuel Mabaso, P.S. Mbhele, S.P Madondo
Izindlubu (jugo beans)	Vimba Zondo, John Mabaso, Mbaza Mabaso, G. Mdakane
Amatongomane (peanuts)	Khetiwe Shabalala. Zane Madondo. Lingeni Mduba, Fikile Nzimande. John Mabaso, Cebesile Hlongwane, mthokozisi Hlongwane, Guni Dladla, Samuel Mabaso, Bongwiwe Vilakazi, Mbaza Mabaso, Mshozi Cebekhulu, Sthabiso Mthabela
Ubatata (sweet potatoes)	Mshozi cebekhulu, Vimba Zondo, Mrs Mduba, Mangazile?, Winile Hlatshwayo, Lindiwe Zikolala, S. Mdakane, T.M Dladla, Samuel Mabaso, John Mabaso, Mrs S.P Madondo, Zanele madondo, Bongwiwe Vilakazi, Duamsile Bhengu, Cebesile Hlongwane, Ntombifuthi Mabaso, Nokuthula Hlongwane
iSalad (lettuce)	Thethiwe Buthelezi, Mdombi Mbhele, Sibongile Mntambo, Thobile Hlombe, lindiwe Zikalala, John Mabaso, Cebesile Hlongwane, Bongwiwe Vilakazi, D Bhengu, Ntombifuthi Mabaso, Winile Mabaso, Nokuthula Hlongwane, Lingeni Mduba
Igarlic	Norman Mduba, John Mabaso, Sthabiso?, Fikile Nzimande.

**POTSHINI; FRUIT TREE ORDER; JULY 2006**

<b>NAME</b>	<b>TREES</b>	<b>VARIETIES</b>	<b>NUMBER</b>	<b>COST</b>
Nonhlanhla Mdakane	1 Red peach	Nova Donna	1	
	1 Yellow Apple	Golden delicious	1	
	1 Red Apple	Top Red	1	
Thabani Dladla	1 naartjie		1	
	1 orange		1	
	1 White flesh peach	Culemborg	1	
Phumelele Dladla	1redskin peach	Culemborg	1	
	1 Yellow peach	Oom Sarel	1	

	1 Yellow plum	Pioneer	1
	1 red plum	Harry Pickstone	1
Thobile Dladla	1 Yellow peach	Oom Sarel	1
	1 Yellow plum	Pioneer	1
	1 red plum	Harry Pickstone	1
Gogo Dladla	2 White flesh peaches	Culemborg	1
	1 Yellow peach	Oom Sarel	1
Gcini Dladla	1 Yellow Peach	Oom Sarel	1
	1 red plum	Harry Pickstone	1
	1 red apple	Top Red	1
	1 Yellow Apple	Golden delicious	1
Mangazile Zimba	1 White flesh peach	Culemborg	1
	1 redskin peach	Nova Donna	1
	1 Yellow Apple	Golden delicious	1
	1 Red Apple	Top Red	1
	1 orange		1
	1 naartjie		1
Lungile Duze	1 White flesh peach	Culemborg	1
	1 redskin peach	Nova Donna	1
	1 orange		1
Winile Mabaso	2 oranges		2
	1 White flesh peach	Culemborg	1
Hendry Mabaso	2 oranges		2
	1 yellow apple	Golden delicious	1
	1 Red Apple	Top Red	1
Doda Mduba	1 redskin peach	Nova Donna	1
	1 White flesh peach	Culemborg	1
Koilolo Mbhele	1 Yellow Peach	Oom Sarel	1
	1 White flesh peach	Culemborg	1
F.P. Nzimande	1 White flesh peach	Culemborg	1
	1 Brown pear	Beurre Bosch	1
	1 Green pear	Forelle	1
	1 Red Apple	Top Red	1
	1 Green apple	Granny Smith	1
Ntombifuthi Mabaso	1 White flesh peach	Culemborg	1

	1 Yellow peach	Oom Sarel	1
	1 Grape (white?)	Dauphine	1
Sizakele Mduba	1 Yellow peach	Oom Sarel	1
	1 redskin peach	Nova Donna	1
	1 naartjie		
Nomusa Hlongwane	1 Brown pear	Beurre Bosch	1
	1 Green pear	Forelle	1
	1 Yellow peach	Oom Sarel	1
Thethiwe	1 Apricot	Palsteyn	1
Lindiwe Zikalala	1 redskin peach	Nova Donna	1
	1 orange		1
	1 avocado		1
Nelisiwe Mabaso	1 Yellow Peach	Oom Sarel	1
	1 redskin peach	Nova Donna	1
	1 White flesh peach	Culemborg	1
Shodo Mabaso	1 red apple	Top Red	1
	1 Yellow Apple	Golden delicious	1
	1 Grape (white?)	Dauphine	1
Ntombifuthi Buthelezi	1 Red Apple	Top Red	1
	1 Green apple	Granny Smith	1
	1 Grape (white?)	Dauphine	1
Nicholas Madondo	3 oranges		3
	2 lemons		2
	1 Yellow peach	Oom Sarel	1
	1 redskin peach	Nova Donna	1
	1 White flesh peach	Culemborg	1
	1 Yellow plum	Pioneer	1
	1 red plum	Harry Pickstone	1
Wombe Madondo	1 lemon		1
	1 red apple	Top Red	1
	1 Yellow Apple	Golden delicious	1
	1 White flesh peach	Culemborg	1
	1 Brown pear	Beurre Bosch	1
	1 Green pear	Forelle	1

<b>TOTALS</b>	<b>POTSHINI</b>	<b>OTHER</b>
NOVA DONNA Peach	8	18
CULEMBORG Peach	13	13
OOM SAREL Peach	10	16
PIONEER plum	3	12
HARRY PICKSTONE plum	4	12
TOP RED apples	8	8
GOLDEN DELICIOUS Apple	6	8
GRANNY SMITH Apple	2	8
BEURRE BOSCH Pear	3	4
FORELLE Pear	3	4
BON ROUGE Pear (2)+ Pollinator (2)	0	4
DAUPHINE Grape	3	8
PALSTEYN Apricot	1	12
FUERTE Avocado	1	12
CALAMATA Olives	0	4
BARLINKA, Black grapes	0	4
NAARTJIES	3	0
LEMONS	3	0
ORANGES	11	0
PECAN NUTS	0	4
	1	
<b>TOTALS</b>	<b>83</b>	<b>151</b>

## POTSHINI: VOLUNTEERS FOR WATER TANKS; JULY 2006

SUBWARD	NAME	SEEDS SUPPLIED (22 June 2006) <i>Progress on 14/07</i>	BEETROOT and CARROT SEED SUPPLIED (14 July 2006)
CELOKUHLE			
1	Cebekulu, Mshozi		
2	Hlatshwayo, Thulani		
3	Hlatshwayo, Bashongani		
4	Hlongwane, Cebisile	Fennel, parsley, Masihlalisane	
5	Hlongwane, Ntombi		
6	Hlongwane, Phindile		B,C
7	Khumalo, Mtshadu	Fennel, Tree tomato, granadilla	
8	Khuzwayo, Bonginkosi		
9	Mabaso, Samuel	Parsley, granadilla, tree tomato - <i>Planted and germinated</i>	B,C
10	Mabaso, John	Masihlalisane, parsley - <i>Planted and germinated</i>	B,C
11	Mabaso, Joyce		
12	Mbhele, Mdombi		
13	Mbhele, Shoti	Spring onion and Mhlonyane	
14	Mdakane, Khonzaphi		B,C
15	Mdakane, Nonhlanhla		
16	Mduba, Khanyisile		
17	Mduba, Lingeni	Masihlalisane, shaladi - <i>Planted on 05/07; not germinated yet</i>	B,C
18	Mduba, Wombe	Fennel, Shaladi, Tree tomato	B,C
19	Ngcobo, S'bongile	Spring onion	B,C
20	Nqubuka, Nelisiwe		
21	Nzimande, Fikile	Shaladi (garlic chives)	
22	Shabalala, Khethiwe	Spring onion	B,C
23	Ncamsile Mduba		B,C

## IMPUMELELO

1	Bhengu, Dumazile		
2	Bhengu, S'thabiso	Granadilla, Masihlalisane	
3	Dladla, Thabani	Spring onion, parsley, masihlalisane-Planted and germinated, mice eating	B,C
4	Duze, Lungile Hlongwane, Ntombendala		
5	Hlombe, Thobile		
6	Hlongwane, Mthokozisi		B,C
7	Hlongwane, Nomashona		
8	Hlongwane, Nomusa		
9	Mabaso, Henry		
10	Mabaso, Hlengiwe		
11	Mabaso, Masila		
12	Mabaso, Mboza	Spring onion	B,C
13	Mabaso, Nelisiwe	Shaladi (garlic chives)	
14	Mabaso, Nokuthula		
15	Mabaso, Nthombifuthi	Tree tomato- <i>Planted not germinated yet</i>	
16	Mabaso, Thetiwe		
17	Mabaso, Wimle		
18	Madondo, Zanele	Fennel, Shaladi, Masihlalisane	
19	Mavundle, Phumelele		
20	Mazibuko, Gani		
21	Mbongwa, Jabulani		
22	Mduba, Sizakele	Spring onion, Mhlonyane- Planted, not germinated	B,C
23	Mshibe, Jumba	Masihlalisane	
24	Mvelase, Welile		
25	Ntshingila,		
26	Sithole, Lindiwe		
27	Vilakazi, Bongwiwe	Spring onion, Masihlalisane	
28	Zimba, Manqazile	Spring onion, granadilla	

	29	Zondo, Vimba	Spring onion, fennel- <i>Planted on 03/07. Not germinated yet</i>	B,C
Not sure of group	1	Bhengu, Jabu	Spring onion, Masihlalisane-26/06 <i>planted; So not germinated, M-growing</i>	B,C
	2	Buthelezi, Thelime	Spring onion- <i>Planted not germinated, mice</i>	B,C
	3	Dladla, Gcini	Parsley	
	4	Dladla, S'bongile	Parsley, Masihlalisane - <i>25/06 planted and now germinated</i>	B,C
	5	Dladla, Thobile	Shaladi (garlic chives)- <i>Planted, not germinated</i>	B,C
	6	Hlatswayo, Wimile?	Masihlalisane	
	7	Hlongwane, Eric	Spring onion, Tree tomato- <i>Planted 03/07, not germinated yet</i>	
	8	Hlongwane, Nokuthula	Masihlalisane - <i>Planted on 25/06 and germinated</i>	B,C
	9	Hlongwane, Nokhube	Shaladi (garlic chives)	
	10	Kuzwayo, Bonginkosi		B,C
	11	Mabaso (water tank?)	Spring onion	
	12	Madondo, Thabani		B,C
	13	Mbhele, Phumzile	Fennel, Granadilla	
	14	Mduba, Lingesi	tree tomato	
	15	Nzimande, Nokuthula	Fennel	
	16	Zizakela, Lindiwe	Masihlalisane	
	17	Zondi, Mpumelele		B,C

35

TOTAL SEEDS: 54  
packets

# Ensuring good family Nutrition on a daily basis

## Concepts in nutrition

The latest way of working with nutrition is to follow food based dietary guidelines, rather than focusing on individual nutrients as has been the case in the past. This is particularly important when working with small scale farmers and rural people who may or may not be aware of different vitamins, minerals, fatty acids and the like.

These food based guidelines are summarized below:

### The Ten Food Based Dietary Recommendations

#### 1. Enjoy a variety of foods

- Eat different foods from different food groups
- Give attention to methods of preparation
- Address low micronutrient and low energy intake.
- Address chronic diseases of lifestyle

*Eat 20-30 different foods in a week*

#### 2. Be active

- Do 30 minutes of moderate to vigorous activity on most days
- This protects against chronic diseases such as hypertension, diabetes, heart disease and cancer.

*Do 30 minutes of exercise on most days*

#### 3. Make starchy foods the basis of most meals

- Consume cereals and root vegetables in unprocessed or minimally processed form (high in fiber). This will also contain some micro-nutrients, fat and protein.
- Amounts of around 260gram/day are recommended for adult women and 325 gram/day for adult men. This should be at least 55% of one's total energy intake.

*Eat at least 50 gram/adult/day of starch*

#### 4. Eat plenty of vegetables and fruit every day

- Eat citrus, onions, garlic, carrots and tomatoes (high in vitamin C and A) and crucifers

(cabbage, kale, broccoli, cauliflower)

- Consume dark green and orange vegetables.
- A minimum of 5 portions or 400gram/adult/day is recommended

*Eat 2 fruits and 5 vegetables every day*

### **5. More legumes for better overall health**

- Eat dry beans, peas, lentils and soy regularly.
- Grain legumes are beans, lentils, cowpeas, chickpeas, peas etc
- Oil seeds are soya beans and peanuts for example.
- This provides good quality protein, carbohydrates, fiber, vitamins and minerals.

*Eat 100-200gram of legumes /adult/day. This is 0.5 to 1 cup.*

### **6. Food from animals can be eaten every day**

- This includes meat, fish, chicken, milk and eggs.
- Besides protein this contributes towards intake of calcium, iron, zinc and omega-3 fatty acids.
- Eat low fat meats and use fats sparingly in preparation.
- Add small amounts to a plant based diet.

*Take 400-500ml of dairy/day (milk, yogurt, maas, cheese...)*

*Eat 4 eggs/week*

*Eat 2-3 servings of fish per week*

*OR*

*Do not have more than 560 grams of meat (chicken and red meat) per week.*

### **7. Eat fats sparingly**

- Lower the fat intake from meat and non dairy creamers
- Eat low fat margarine.

### **8. Eat salt sparingly**

- High salt intake can lead to hypertension. For hypertension eating a diet high in vegetables and fruits, with low fat dairy products, for 8 weeks will significantly reduce the blood pressure.

*Sprinkle, don't shake*

### **9. Water, the neglected nutrient.**

*Drink at least 2 liters of water per day*

## **10. If you drink alcohol, drink sensibly.**

These guidelines do assume a basic understanding of the necessary nutrients, especially on the side of the facilitator, but also on the side of the community members.

When introducing the concepts at a community level the following handout prepared by LIRAPA, (Livelihoods improvement through Agriculture programme, Care, Lesotho) could be useful.

These introduce the different food groups in a way that is easy to remember, without going into too much detail regarding the nutrients, vitamins and minerals supplied by each group. This process can be re-enforced by introducing a household monitoring process, where families fill in on a daily or weekly basis the foods they are eating. This is linked to a planting chart to further emphasise and implement that diversification of household food production.

# HOW CAN WE EAT WELL TO BE IN GOOD HEALTH?

To eat well means to eat lots of different kinds of food so that our bodies get all the good things that they need. This does not mean that you need to buy expensive food. By thinking carefully about what you eat, and what you prepare for your family, and choosing food well you can eat in a healthy affordable way.

There are three main types of food: **Go foods, grow foods and glow foods.** You should eat things from each of these types of food every day. You should also drink about eight glasses of water every day.

## Good Energy/ Go Foods:

Sweet potato



Boiled, baked or mashed potato

Brown or white rice

sorghum



Macaroni, spaghetti or other noodles

Bread



Dried beans and peas

Oatmeal

Cereal



Bananas

Avocados



Try to have a fruit or vegetable with each of these meals. It is also good to add beans, meat, chicken or fish if you can.



**Go Foods** These foods give you energy. They are important foods to eat, but remember that you need to eat food from the other two groups every day as well.

**Grow Foods** These foods help you to grow well. They help to build your body and to make it strong.

**Glow Foods** These foods keep the body healthy. They have lots of vitamins and minerals which your body needs to stay well.



### Food safety tip

Always wash your hands with soap and water before you touch food, and after using the toilet. Wash both sides of your hands for a long time – count to 15 while you wash!

Cover any wounds or sores that you have when you are preparing food.

### Good grow foods

These are the foods that contain a lot of protein. These foods help to maintain your body and muscles. They also help to prevent infections. It is important to eat some grow foods every day, especially if you are ill. Children need extra protein because they are growing. So do pregnant women.



Below is a list of some grow foods:

Beans

peas

soyabeans

groundnuts

chicken

chicken livers

fish

meat

eggs

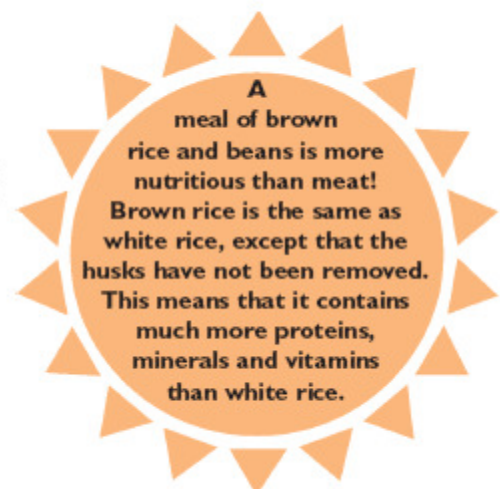
cheese

maas (sour milk)

peanut-butter

nuts

sunflower seeds



## Good glow foods

The foods that help to fight infections are glow foods. These are foods with lots of vitamins and minerals. You need to eat lots of different kinds of glow foods as they all have different good things in them.

Below is a list of good glow foods:

oranges

grapefruit

grapes

bananas

granadilla

yellow peaches

apricots

apples

pears

lemons

pineapple

spinach

tomatoes



potatoes

broccoli

pumpkin leaves

carrots

green beans

peas

mealies

beetroot

avocado

samp

moroho

rapa



Remember to wash the fruit and vegetables well in clean water before you eat them.

Dark green leafy vegetables and yellow fruits and vegetables are very important for children.

Children and pregnant women should eat some of these foods every day.

## SELECTION AND PREPARATION OF FOOD

### Drink lots of water

You need at least 8 glasses a day. You may not think that you need much water. But you can try and experiment on yourself. For three days drink 8 glasses of water. This does not include cups of tea and coffee. After those

three days, how do you feel? Do you have more energy and do you feel good?



### Food safety tip

Water from a tap is safe. If you get your water from a river or a well you must boil the water or add 1 teaspoon of bleach to every 25 litres of water before you drink it. Store your water in a clean covered container.



### Eat each day:

- Grow foods – three of the following:  
One cup of beans or peas (plus one tablespoon of uncooked sunflower oil); two eggs; a large piece of meat, chicken or fish; one tablespoon of sunflower seeds; nuts such as almonds or brazil nuts; one cup of milk or maas (sour milk); a big piece of cheese.
- Glow foods  
Three whole fruits and one and a half cups of vegetables. Eat more vegetables if you do not have fruit.
- Go foods – any or all of the following:  
Bread; half a cup of pasta, rice (preferably brown rice), potato, maize; a cup of cereal such as oats or sorghum porridge or maize meal.

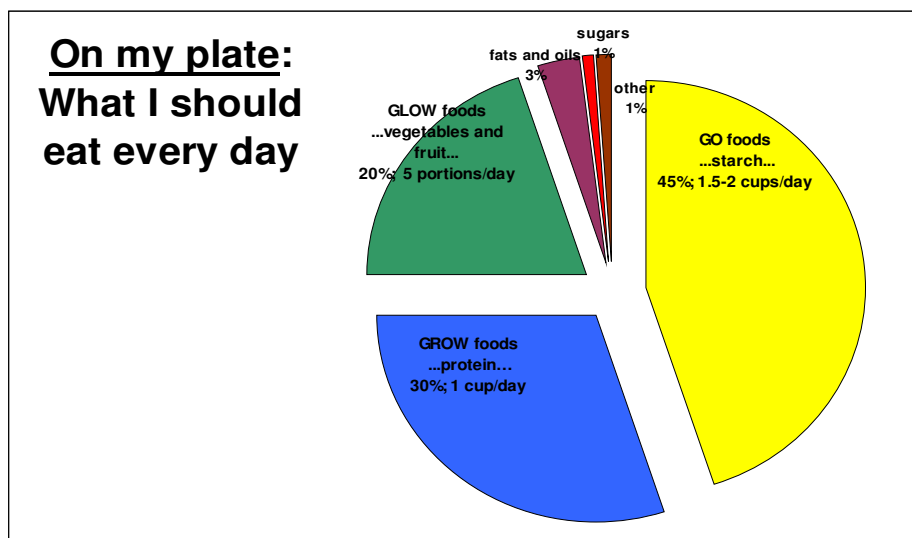
## Nutritional needs of different family members

A balanced diet contains all the essential nutrients and energy a person needs to grow, develop and stay healthy. Eating a balanced diet means that individual meals are also balanced, that is, each meal contains a proportion of the nutrients that a person needs every day. There are many ways of combining foods to make a nutritious meal.

The basic nutrients of starch, protein, fats, vitamins and minerals need to be kept in mind.

The diagram below can be given as a handout to individuals to signify how much of each kind of food they will need “on their plates”.

**FIGURE : Proportion of foods to be eaten every day and at every mealtime.**



This plate can be used with monitoring forms to provide an analysis of what different members in the family is eating, how this fits into the recommended amounts and how

the food garden contributes towards the nutrition of the family.

## Meeting the food needs of different family members

Except for young children who need to be fed 4-5 times a day, each family members should receive 2-3 main meals per day; ideally in the morning at midday and in the evening.

### *Infants from birth to 6 months*

Infants from birth to 6 months should receive breast milk only. It is the best food for a baby and provides all the nutrients infants need. By 6 months babies should be introduced to other foods that supplement the energy, protein, vitamins and minerals provided by breast milk. This will accustom the baby to varieties in food flavours and textures.

### *Infants from 6-12 months*

These supplementary foods are called weaning foods. Food for babies needs to be clean, soft and easy to chew and digest.

At this age a baby should receive a porridge made from the staple or main food, twice a day. By the time the child reaches 1 year, the complementary foods should be increased to 4 or 5 times a day, in addition to breast milk. Once a baby is accustomed to liquid foods and as the teeth appear semi-solid and then solid foods can be introduced.

Staples like maize meal cooked with water are bulky. This means they have little nutrients or energy compared with their volume. They need to be combined with nutrient rich foods. These include for example mashed beans and or ground nuts, mashed green leafy and orange coloured vegetables (which are rich in vitamin A) and soft fruits such as pumpkin and papayas with plenty of Vitamin C.

An excellent way to enrich porridge is to eat it with small amounts of animal or dairy foods such as cooked and mashed fish, chicken, meat or eggs as well as milk and "maas".

To increase the energy content in porridge, make the porridge from fermented or germinated cereal flour and add a little vegetable oil to it.

### Children from 1-5 years of age

Young children are often the most at risk of malnutrition. They have very high energy and nutrient needs for their body size, in comparison with adults.

Young children should eat 4-5 times a day. A simple way to do this is to prepare nutritious snacks between the main meals.

Eating habits are established early, so it is important to introduce young children to a large variety of flavours and textures of food.

### ***School age children***

Children from school age onwards, need two to three meals per day, plus snacks between meals.

### ***Pregnant or breast feeding women***

Requirements for iron and calcium in pregnant and breast feeding women are particularly high. If the mother does not satisfy the needs of her baby, the baby will draw on and reduce the mother's own store of nutrients. This puts the mother at increased risk of illness.

A varied and nutritious diet with adequate staple foods and relishes/stews etc made from vegetables, legumes, eggs, meat and fish, and plenty of fruits should be eaten. Breast feeding women should also drink plenty of water and other fluids (soup, milk...)

### ***The elderly***

If they can not eat a lot at a time, elderly people need frequent small meals that can be easily chewed. Foods for the elderly should include a wide variety of grains, legumes, fruits, vegetables and if available, dairy products.