

# CHAPTER 1:

## GENERAL INTRODUCTION

NP Steyn, D Labadarios, J Huskisson

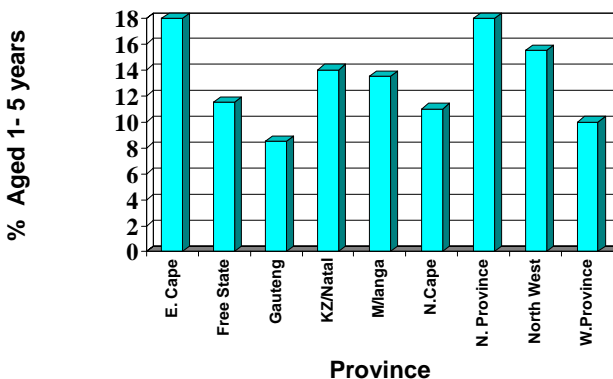
***“Children are the major repository of South Africa’s potential human capital for the future. The fact that children are the workers, scientists, parents, leaders and civil society participants of tomorrow means that their survival, health, nutrition and educational progress are key issues for reconstruction and development today”<sup>1</sup>.***

**Nelson Mandela, May 1996.**

## **Background Information on Young Children of South Africa**

In 1994 the South African population was estimated to be 40.6 million, with Africans accounting for 76% of this total<sup>2</sup>. Thirty-seven percent (14.8 million) of the population was less than 5 years of age and nearly two-thirds were living in non-urban areas<sup>2</sup>. The highest percentage of young children live in the Northern Province (18%) and the Eastern Cape (18%) and the lowest percentage live in Gauteng (8%), (Figure 1.1).

**Figure 1.1 Population aged 1 – 5 years by province<sup>2</sup>**



Unemployment in South Africa is very high and has been increasing since the 60's. In 1994, the Central Statistical Services Household Survey<sup>2</sup> indicated that the unemployment rate was 33%. In line with the high unemployment rate, the poverty rate has also increased almost proportionately and

significantly. The poverty rate of the African population was found to be more than 60% compared with less than 5% among the White and Indian populations. Poverty appears to be most severe in non-urban areas, with the poverty rate in these areas being 73.7%<sup>3-5</sup>.

The extent of poverty is most evident when one examines the rates of infant and child mortality as an indicator of the well being of the South African population. The Infant Mortality Rate (IMR) for African infants was 86 per 1000 live births and 94 for non-urban infants. The Under Five Mortality Rate (UFMR) for African children was 125 per 1000 live births and 139 in non-urban areas<sup>6</sup>.

In 1994, a comprehensive national survey on the nutritional status of preschool children in South Africa was undertaken by the South African Vitamin A Consultative Group (SAVACG) in collaboration with the Department of Health, UNICEF and Sight and Life International<sup>7</sup>. Anthropometric findings indicated that one in four children was stunted and one in ten was underweight. In practical terms, this means that about 660 000 preschool children were underweight and 1.5 million were stunted due to chronic undernutrition. Malnutrition was most prevalent in the Eastern Cape, Northern Province and in KwaZulu-Natal<sup>7</sup>. This national survey also found that one in three children had a marginal vitamin A status ( $<20\mu\text{g/dL}$ ). The prevalence of Vitamin A deficiency was highest in non-urban areas in children with poorly educated mothers. Additionally, one in five children were found to be anaemic ( $\text{Hb}<11\text{g/dL}$ ). Anaemia and poor iron status were most prevalent in the urban areas in 6 to 23 month old children. Children with marginal vitamin A status were also at a significantly higher risk of being anaemic and of having iron deficiency anaemia<sup>7</sup>.

In 1995, in the absence of national food consumption data in any of South Africa's populations, a "meta-analysis" of dietary surveys since 1979 was undertaken by the South African National Nutrition Survey Study (SANNSS) group<sup>8</sup>. Despite the small scale and fragmented nature of these studies, it

was concluded that in 2 - 6 year old children, non-urban African children had the lowest energy and macronutrient intake. The low energy intake of non-urban African children, was most probably the result of a low fat intake, and explains the high prevalence of stunting in this group<sup>8</sup> and may, at least partially explain the findings of the SAVACG survey<sup>7</sup>. Specifically, the SANNSS meta-analysis indicated that the mean intake of calcium and zinc was very low in African children compared with the Recommended Dietary Allowances (RDAs). Similarly, the mean intake of iron was low in urban black children, as was the intake of vitamin B<sub>6</sub>, vitamin C and folate in non-urban African children. Within its acknowledged limitations, the SANNSS meta-analysis indicated that dietary intake of African children was inadequate with respect to energy intake and was poor in nutrient density<sup>8</sup>. In this regard, poor dietary intake and nutritional status are of great concern because of their known adverse impact on the physical and mental development of the child as well as the loss of individual achievement, poor quality of life, and significant adverse effects on social and economic development at the national level<sup>9-11</sup>.

## **Causes of Malnutrition in Young Children**

It is known that an inadequate dietary intake is one of the primary immediate determinants of malnutrition<sup>12</sup>. The underlying determinants of adequate dietary intake are household food security as well as adequate and appropriate care for women and children. In order to determine the most important causes of poor dietary intake in children in this national survey and to propose an effective intervention strategy, a conceptual framework was developed with the aim of highlighting and ensuring that all the most important causal factors were investigated in this survey, (Figure1.2)<sup>13</sup>.

### **\*Factors Affecting Household Food Security**

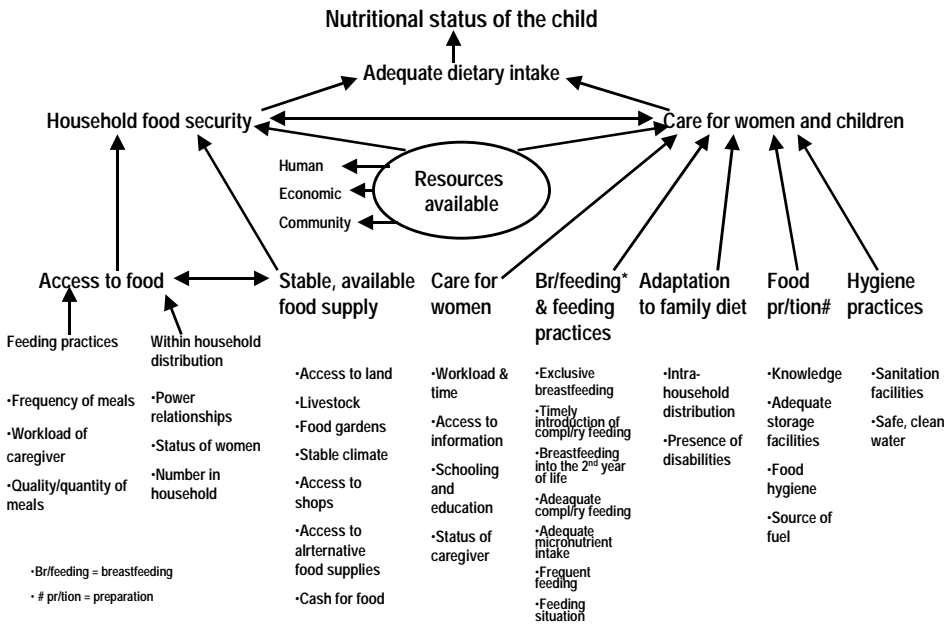
Household food security depends on an adequate and stable food supply, which is accessible to all household members and meets their nutritional

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\* Determined in this survey

needs. It can be measured by, among other parameters, the following indicators:

**Figure 1.2 Selected factors which influence children's nutritional status<sup>10,12</sup>**



- Food consumption data\*
- Anthropometric measures\* e.g. height and weight
- Clinical assessment of nutritional deficiencies
- Assessment of household food stores\*
- Increased consumption of low-status foods\*
- Increased utilisation of wild (indigenous) foods\*
- Increased migration to urban areas

## Access to food

In general terms, access to food may be determined by the following:

- ***Within household distribution of food\****: Food security of young children depends on power relationships within the household. If these \*relationships are unequal, children may be poorly fed. The power relationships are very dependent on the status of the women in the house. If only the man makes decisions regarding buying of food, the

\* Determined in this survey

needs of children may be neglected. This may also happen if there are a large number of people in the house and small children have to fend for themselves at meals<sup>14</sup>

- ***Infant and child feeding practices\****: Growth faltering frequently arises during the weaning period. This is mainly due to the lack of awareness that the volume capacity of the stomach of young children is small and parents may not realise that young children need to be fed often enough in order to meet their energy requirements. Additionally, the foods that young children do receive may not be sufficiently energy-dense, and, consequently a long-term energy deficit may occur. This situation may arise due to the mother or caregiver not having sufficient time available to give frequent feeds and/or to a lack of knowledge regarding infant and child feeding practices<sup>15</sup>. Moreover, the quality of food in terms of supplying micronutrients is also essential for the well being and development of the infant/child.

### **Stable local food supply**

Access to food in turn is dependent on an adequate, stable local food supply. This is influenced by many interacting factors, which play a role in determining the extent of food security. The most frequently cited factors include:

- Access to land\*
- Livestock ownership\*
- Food garden available\*
- Safe, accessible water supply\*
- Stable climatic conditions
- Access to food shops\*
- Access to alternate food supplies\* e.g. school feeding
- Cash (income) to buy food\* (from employment, pension, etc)

A large proportion of the African population lives in the former “homelands”. Unfortunately, these areas are too small and degraded to support an active \*subsistence sector. In this regard, subsistence farming accounts for only 6%

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\* Determined in this survey

of the total income of non-urban families<sup>16</sup>. May<sup>17</sup> has indicated that, although the majority of non-urban families only engage in subsistence farming to a very small extent, the poorest 5% of the non-urban households are dependent on subsistence farming to provide about 50% of their food supply. Additionally, it should be remembered that there has been a decline in access to water for animals, irrigation and domestic use since the 80's in these areas.

## Factors Affecting Care for Women and Children

The UNICEF framework<sup>12</sup> places great emphasis on the care aspects of women and children. These factors will be briefly examined in terms of their relevance to preschool children in South Africa.

### Care for women and related aspects

Factors that are thought to impact adversely on the care of women and children include:

- **Workload and time constraints:** Women are usually the main caregivers and, if their workload is not shared, they have less time for food preparation and for feeding of young children
- **Access to information\*:** It is important that women receive the correct information about breastfeeding and infant feeding practices. Access to the mass media, such as a radio, can make a valuable contribution to the knowledge of women in remote areas
- **\*Schooling and education\*:** It is well known that the nutritional status of children is directly related to the educational status of the caregiver<sup>15</sup>
- **Decision making:** The status of the caregiver as a decision-maker in the family will, and does, play a direct role in the care given to young children. Such status will, and does, influence the amount and type of food bought and given to young children<sup>18</sup>.

### Breastfeeding and child feeding practices

These include:

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\* Determined in this survey

- **Exclusive breastfeeding:** During the first 4 - 6 months of life exclusive breastfeeding is most advantageous for infants<sup>19</sup>
- **Timely introduction of complementary foods:** Too early introduction of complementary foods is disadvantageous as it displaces breast milk<sup>20</sup>
- **Breastfeeding into the second year\*:** Breastfeeding during the second year is still of crucial importance, because of its high nutrient density<sup>15</sup>
- **Adequate complementary feeding\*:** From 6-12 months of age, the child needs viscous, nutrient-dense complementary foods. At 12 months the child should be able to eat the family diet with a few adaptations
- **Adequate micronutrient intake\*:** After the first year of life it becomes particularly difficult to meet iron needs of the child without supplementation or a regular intake of iron rich dietary sources e.g. liver and meat. Infants who are not breastfed may also have difficulty in meeting their vitamin A requirements<sup>15</sup>
- **Frequent feeding\*:** From about 8 months infants require frequent (4 – 6 times daily) complementary feeding, preferably with foods of high energy density. The latter requirement is due to the inability of small children to eat a large amount of food at a single meal
- **\*Food serving practices influence the amount of food eaten\*:** When children eat from a common pot it is difficult to determine the amount eaten. It is preferable for each child to eat from a separate bowl<sup>15</sup>.

### Adoption of and adaptation to the family diet

Some considerations include:

- **Intra-household distribution\*:** During the second year of life, the child will readily eat family food. It is necessary to ensure that the infant gets his/her fair share of family food, especially if it is served in a common dish<sup>21</sup>. It is important to determine if there are foods available in the

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\* Determined in this survey

household, which, if given to the child, would significantly improve the child's dietary intake

- **Disability\***: Children with disabilities may require special assistance with adaptation to the family diet as well as with feeding at meals.

## Food preparation

These aspects include:

- **Food preparation, cooking and processing\***: Preparation of special foods for infants requires knowledge, skills and time<sup>15</sup>
- **Food Storage\***: Storing food safely helps to reduce food losses and protects against microbial contamination<sup>15</sup>
- **Food hygiene**: Consumption of contaminated food is a major cause of diarrhoea. Safe preparation and cooking of foods are essential to protect infants<sup>15</sup>
- **Source of fuel\***: In non-urban areas households are usually dependent on fuel other than electricity and gas. In South Africa only 42.1% of the African population use electricity as a main source of energy. Collecting of firewood and cooking on a fire takes a great deal of time and limits the type of dishes, which are prepared<sup>18</sup>. It could also \*adversely impact on the number of meals prepared and offered each day.

## Hygiene practices

These include:

- **Toilet facilities\***: The use of sanitary facilities by all family members protects children from infections and lowers the chance of worm infestations. In the Eastern Cape and Northern Province 20% and 15% of the African population respectively, are without sanitation facilities<sup>22</sup>. This aspect of care also adversely impacts on the adequacy of dietary intake, since ill children are known to have a decreased appetite, decreased food intake and increased nutrient requirements

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\* Determined in this survey

- **Safe, clean water\*:** An adequate accessible water supply is essential for drinking and for hygienic purposes. In South Africa as a whole, 27% of the African population lives in dwellings without tap water in the house<sup>23</sup>.

## Resources for Child Care and Household Food Security

Both household food security and childcare require resources of three main types, namely human, economic and organisational:

### Human resources

These include:

- **Knowledge and schooling\*:** It has been well recognised that the educational status (level of schooling) of the mother has a direct relationship with the nutritional status of the child. Unfortunately, little is known about the effects of educational level of alternate caretakers, or the father, on nutritional status<sup>24</sup>
- **Physical health and nutritional status of the caregiver:** Stunting has a negative effect on work output and anaemia results in fatigue. Consequently, the nutritional status of the caregiver can directly affect \*the amount of care given to young children<sup>25</sup> and also directly affect the resources available to the children
- **Presence of the father\*:** Data regarding the importance of the effect of the presence of the father in the household on the nutritional status of the child is contradictory. Some studies indicate a positive effect due to increased income and stability in the home<sup>24</sup>. On the other hand, a negative effect may be plausible, if more of the household income is spent on other items such as cigarettes and alcohol. It may also result in unequal household food distribution, to the detriment of the younger children.

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\* Determined in this survey

## Economic resources

These include:

- **Employment status and income level\***: Poverty is one of the biggest risk factors contributing to malnutrition in children. The employment status of the parents determines whether adequate economic resources are available at household level, including cash to buy food. The level of income will determine the quantity and quality of the food purchased. In South Africa 74% of the non-urban population and 40.5% of the urban population (the majority of whom are black) are classified as being poor<sup>16</sup>. One third of South African children younger than 5 years of age live in very poor households<sup>15</sup>
- **Housing (and immediate environment)\***: The type of housing that children live in will directly and indirectly influence their health status. Formal planned housing is associated with an adequate water supply and sewage disposal. These factors are known to have a direct bearing on hygiene and sanitation of the household. Room density\* may also play a role with respect to overcrowding and the burden on household resources<sup>21</sup>
- **Control of resources\***: The presence of the father or older male relative will influence decision-making at household level. \*Traditionally, decision-making with respect to use of money resides with the male head of the household. Consequently the mother may have little say over food bought for young children<sup>26</sup>
- **Workload and time available**: As mentioned earlier, women, particularly in female-headed households, generally have a large workload. If they are employed, it usually means that the younger children have to be cared for by someone else. Attention and time for feeding of young children may be compromised.

## Organisational resources

These include:

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\* Determined in this survey

- **Alternate caregivers\*:** In households where the mother is employed it frequently happens that an older sibling or elderly relative (grandmother), looks after the infant in the mother's absence<sup>26</sup>. It has been shown that infants that are cared for by older children may have a compromised nutritional status. Elderly caregivers may find the task of looking after small children to be beyond the scope of their physical ability
- **Community support\*:** Good community resources are known to have a beneficial effect on the nutritional status of the young children<sup>15</sup>. Preschool facilities, which cater to children's needs during the absence of a working mother, as well as feeding programmes targeted at young children, provide additional nutritional support. This also extends to the availability of Baby-Friendly hospitals, which promote and support exclusive breast-feeding in the first 4 – 6 months of life<sup>15</sup>.

Against this background of undernutrition together with its complexity, the need for short- and long-term interventions as well as the apparent consumption of a diet poor in nutrient density by children, the Directorate: Nutrition of the Department of Health, within the scope of its Integrated Nutrition Programme (INP), has included the development of guidelines for a national micronutrient food fortification programme as part of its strategic and operational plans. However, the formulation of such a national food fortification programme requires information regarding suitable food vehicle(s) which are consumed sufficiently frequently and in sufficient quantities by the target population, and which do not pose risks for toxicity. Additionally, it is well recognised that the successful implementation of any intervention programme depends, among other factors, on appropriate nutrition education. Such and other relevant data have been obtained by means of national dietary surveys in other countries in the world, such as the UK for instance<sup>27</sup>. Unfortunately, the available dietary studies on the nutritional status of pre and primary school children in South Africa are mostly of a small scale and localised. The scientific reports emanating from the later studies also focus mainly on nutrient intake rather than on the types and quantities of foods

consumed. The paucity of such data has, therefore, necessitated the proposed survey.

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