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Women and Infant Nutrition Field Support Project (WINS)

Review of Nigeria Nutrition Sector

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NIGERIA NUTRITION SECTOR REVIEW

I. Situation

A. Nutritional status and health related factors

High rates of infant and child mortality are evident throughout Nigeria, with exceptionally high rates in the Northwest and Northeast. The infant mortality rate is currently estimated at 85/1,000, and the under-five mortality rate is estimated at 145/1,000. In addition, according to UNICEF, one quarter (25 percent) of all births between 1982 and 1987 in Nigeria were low birth weight babies.[1]

The 1990 Nigeria Demographic and Health Survey, the most recent and comprehensive anthropometric survey in the country, documents high rates of stunting (reflecting chronic malnutrition) and very high rates of wasting throughout Nigeria. These high rates are believed to contribute to the high rates of child mortality observed in the country. Nigeria's overall rates of stunting and wasting equal the worst levels reported to date in Africa DHS surveys and show serious cause for concern. The prevalence of wasting (under two standard deviations) is highest among children aged between 12 and 23 months of age. 40 percent of all children 3-36 months surveyed were found to be undernourished, (height/age below 2SD from reference population median). These rates were the third highest among the 8 DHS countries surveyed, only lower than Burundi (48 percent) and Uganda (44 percent). They are cause for major concern when we consider that Sahelian countries such as Mali and Senegal, which have a less diversified food resource base than Nigeria, have 24 percent and 23 percent respectively of undernutrition for the same age group. Stunting is more prevalent among rural populations than among urban populations. Over 40 percent of the rural population is classified as stunted (Ht/Age below 2 SD from reference population median) compared to over 30 percent for urban areas. Boys and girls appear to be equally affected, which may be an indication that the problem is systemic, and not the result of differential feeding practices for boys and girls (see Appendix A).[2]

The Northeast and Northwest regions appear to have the highest rate of stunting and wasting. In these two regions, wasting (under two standard deviations) for the under-five age group is higher than 10 percent.[3] According to the Center for Disease Control's Nutrition Assessment Manual, "rates over 10 percent have been seen in crisis situations and indicate the need for rapid intervention if excess morbidity and mortality are to be prevented."

Mother's education also seem to influence the ability of mothers to provide balanced diets for their children. DHS surveys conducted in 8 African countries (including Nigeria) report higher prevalence of wasting among children whose mothers have no education than among those children whose mothers have primary education, and the lowest rates among children whose mothers completed secondary education.

Diarrheal diseases further contribute significantly to growth failure in infants and children. Only 58 percent of urban dwellers and 22 percent of rural dwellers have reliable access to a safe water supply, and about 35 percent of the population do not have access to safe excreta disposal facilities. Poor standards of environmental sanitation further expose children to additional risks from diarrhea and other childhood communicable diseases. It is estimated that the average Nigerian child aged between 6 and 24 months experiences 4.3 episodes of diarrhea per year.[4]

It is also reported that 30 percent of infants under 3 months of age who are breastfed are also given a bottle. These findings are very serious in view of the fact that a child who is not exclusively breastfed is 25 times more at risk of dying from diarrhea and 4 times more at risk of death due to respiratory illness than an exclusively breastfed child . Additionally, 42 percent of children surveyed 7 - 9 months and 33 percent of those 10 - 12 months have not yet been introduced to solid or mushy food.[5]

The University of Ilorin's Dietary Management of Diarrheal Disease (DMD) documents the low nutrient value of "pap" (also called "ogi" or "akamu"), a thin fermented maize or sorghum based cereal gruel which is traditionally used as a weaning food. The caloric density of "pap" in the DMD pilot villages in Kwara State was only 38 Kcal/100 grams and protein content 0.8/100 grams.

Although breastfeeding is widely practiced in Nigeria and the large majority (92 percent) of infants are breastfed for more than nine months, the prevalence of exclusive breastfeeding is very low. 90 percent of breastfed infants under three months of age are given water or other liquids in addition to breastmilk and over 1/3 of infants are given solid or mushy foods by the time they are 4 to 6 months old.

High maternal death rates and a high incidence of malnutrition among pregnant and lactating women are also reported. According to UNICEF, the maternal mortality rate in Nigeria is the second highest in the world (1500 per 100,000 live births). Although the causes of this unusually high mortality rate have not yet been established, it is believed that maternal malnutrition and undernutrition combined with inadequate obstetrical care play a major role. The high incidence of low birth weight babies also reflects, in part, the poor nutritional status of pregnant women. Anemia has been found to be a common problem among Nigerian women and children (FAO, p.11). A 1990 University of Ibadan assessment survey showed that the incidence of malnutrition among mothers, as determined by body mass index (Wt/Ht2) was 31 percent.[6]

B. Food Availability and Consumption

Studies conducted during the past two decades in developing countries document that programs designed to improve infant and young child feeding and nutrition must include strategies to increase food availability and consumption at the household level. The population of Nigeria is expected to double in 22 years. Many of the problems affecting Nigerian children today can

be linked to poverty, which contributes to high levels of undernutrition, morbidity and mortality. The current economic crisis has widened the gap between food and nutrition security requirements and the availability of resources at the national, community and household levels.

According to the FAO, there has been a slight increase in agricultural production in Nigeria over the past few years, and this has been attributed mainly to new agricultural policies which include a ban on major food commodities (such as maize, rice and wheat) and incentives to stimulate local food crop production. Despite this modest increase in agricultural production in recent years, FAO figures indicate a steady increase in food prices from the 1970's through the 1980's as well as a steady decline in per capita food availability since 1961. Availability of food per capita has not kept pace with the rapidly growing population. Food production increase per annum is under 2 percent, while the population is increasing at an annual rate of 3.5 percent. Cereals contribute 47 percent of the total caloric supply, roots and tubers 25 percent, fat 17 percent and proteins about 9 percent.[7]

Dietary habits and feeding practices vary according to each region and ethnic group. Millet, sorghum, rice and maize are consumed mainly in the savannah areas of northern Nigeria while roots and tubers (e.g. yams, cocoyams and cassava) constitute the main staples in the forest regions of the South. Roots and tubers are generally consumed in combination with legumes, leafy green vegetables, meat or fish (when/if available), and various seeds. Peanuts and cowpeas are widely consumed in the South and fruits are eaten when they are in season. There is increasing evidence that a large segment of the urban population (including school children) depend on street foods for their major meals. Protein intake is reported to be higher in the savannah areas than in the forest zone.[8]

II. Operational Framework for Nutrition and Food Policy

There is no official nutrition policy or strategy for Nigeria. UNICEF Food and Nutrition Policy Support project will support the Federal Government's efforts to establish a national food and nutrition policy. The project seeks to promote a better understanding of the Nigerian food situation and strengthen national capacity to address food and nutrition problems through operational research, training, network and exchange programs.[9]

Within the Ministry of Health, there is a Division of Nutrition, which appears to be weak. Several nutrition specialists are within the MCH unit and are supporting some interesting projects, eg. a growth monitoring feasibility study with Columbia University. The Ministry of Health has several nutrition proposals ready to be implemented if resources were available, eg. developing a breastfeeding strategy, a national growth monitoring activity, Vitamin A Deficiency Assessment, etc. The MOH 1991-1992 Control of Diarrheal Diseases Strategy identifies feeding as an important component of case management, but there has been limited curriculum and material development or training in this area. Information on breastfeeding, feeding during diarrhea, weaning practices could certainly be integrated into ongoing health worker and TBA training, however this is currently not being done.

The National Committee on Food and Nutrition (NCFN) , whose Secretariat is in the Ministry of Science and Technology, is beginning to function as the coordinating body for the development of a national nutrition and food policy and a $50 million nutrition proposal for the World Bank. It is composed of representatives from all Ministries, the universities, professional associations and the private sector concerned with food and nutrition issues. This Committee has been very active over the past several months and has drafted a work program for the further preparation of a National Nutrition and Food Policy and a proposal for a Food and Nutrition Program. The work program was developed with technical assistance from the World Bank, USAID and UNICEF. It consists of a comprehensive package of preparatory activities, studies, and pilot activities which are required to ensure that the content of the policy and the program interventions selected are based on a sound conceptualization of the nutrition problem(s) and an adequate operational research experience.

There are several major universities (e.g. the Universities of Ibadan and Lagos) that are carrying out nutrition research and regional nutrition activities on a small scale. There are some very strong faculty members within these universities who are playing key roles in the National Food and Nutrition Committee.

The Nigerian food research and development community has been involved in developing weaning food formulations for many years. A highly nutritious pap enriched with soy (soy ogi) has been developed by the Federal Institute of Industrial Research, Oshodi (FIIRO), Lagos and has been available for many years on a small scale. However, no company has been able to produce and to market this product on a large scale and at a price that can be afforded by low-income families. Thus, the technology is there and the need is certainly there for a nutritious commercial weaning food, but the linkage with the private sector remains to be explored.

The information on the relationship between malnutrition and mortality, the importance of exclusive breastfeeding, improved weaning practices, feeding during diarrhea could be integrated into training at the local government area (LGA) level (for both elected officials and health administrators) and health worker level. UNICEF has already been doing this within the framework of its nutrition and food security programs.

III. A.I.D.'s and Other Donors' Support to the Nutrition Sector

A. A.I.D.

A.I.D. has supported an important pilot project, entitled Dietary Management of Diarrhea Disease. This project was carried out between 1987-89 in collaboration with John Hopkins University, the University of Ilorin and Lagos University Teaching Hospital. The project's original objective was to identify and test a dietary regimen for the management of diarrheal diseases in Nigeria. The approach consisted of three phases: The first phase consisted of an assessment of current infant and child feeding practices, (with particular attention to infant feeding practices during diarrhea) and children's nutritional status. The second phase involved

the introduction of a weaning food - eko elera and feeding practices which were assessed during clinical studies of children with acute diarrhea. The third and last phase consisted of the implementation and evaluation of the pilot interventions for the promotion of improved infant feeding practices.

Recommendations from this pilot project were incorporated into the Ministry of Health Guidelines for case management of diarrheal disease. A weaning food (eko elera) was developed as a result of this pilot activity. This pilot project provides a takeoff point for further community level research that is needed in order to better understand household constraints to providing an enriched weaning food. This pilot activity also should be replicated in the other regions. The National Food and Nutrition Committee has identified replication of this operational research activity in other regions as a priority study.

A.I.D. has also provided funding for a Child Survival project in one of the regions (Imo State). The project is implemented jointly by AFRICARE and District officials. Under that project, the community itself is responsible for improving the nutritional status of its members. Project activities include community based production of a weaning food, growth monitoring, and promotion, and nutrition education combined with immunizations.

Project participants are currently exploring ways to incorporate income generating activities into the project, in order to enhance its sustainability. The project has been effective in building local technical capacity through secondment of district level government employees to the project and through training of government and community volunteers (village health workers) in technical, leadership and communication skills. AFRICARE plans to transfer responsibility for the management of this project to the community and the local government. It has been cited by the World Bank as one of the successful approaches to the delivery of community based integrated nutrition services in Africa.[10]

A.I.D.'S support of child survival activities (including immunization and control of diarrheal disease) through its Combatting Communicable Childhood Diseases (CCCD) project has made A.I.D. a key donor in the health sector. Given A.I.D.'s child survival objectives and the importance of proper child feeding for both the prevention and management of diarrhea, A.I.D. should be working with the government to strengthen the nutrition and feeding component of the national CDD program. A.I.D. is already providing support to this national program. Training activities and educational materials developed as part of this program could be made more effective by strengthening their nutrition and child feeding contents through the promotion of breastfeeding and proper infant feeding practices during illness and for catch up growth.

A.I.D has also been supporting a family planning program. Opportunities exist for integrating nutrition into ongoing family planning activities. All family planning training materials could, for instance, include exclusive breastfeeding along with modern contraception to achieve optimum protection. Erosion of traditional breastfeeding practices, particularly continued increase in bottle feeding could reduce the period of lactational amenorrhea.

B. UNICEF

In addition to its focus on EPI and ORT, the UNICEF 1986-1990 program of cooperation included community based interventions in water supply and sanitation, early child care and household nutrition and food security. The UNICEF program provided support to household food security and nutrition activities in one LGA from each of the states of Owo, Ondo, Kurena, Bauchi and Cross River for the design and pilot testing of a model food and nutrition component which can be integrated within the PHC program. It included the introduction of new and improved varieties of planting materials, (such as improved cassava varieties, soybean seeds, and palm oil seedlings), training of women farmers in new technologies for food processing, storage and marketing, and facilitating access of farmers' groups to land, credit and extension services. Although a formal evaluation of the project has not yet been carried out, the project is reported to have reached over 11,000 farmers and many women groups and schools with improved varieties of planting materials, established a revolving distribution scheme which involves 8,885 multiplication farms facilitated the access of women to income and credit and improved nutrition.

The new 1991-1995 program seeks to build upon and strengthen previous efforts. Because of the limited amount of UNICEF resources available for Nigeria (Bauchi, Benue, Cross River, Gongola, Kaduna, Niger, Ondo and Oyo, which represent 34 percent of the national population), UNICEF assistance during this period will be focused on 8 states and selected LGAs to develop models for integrated basic service delivery.

The program in nutrition and household food security will operate in 46 model LGAs and will be a continuation of the 1986-1991 program. It will strengthen activities designed to improve the availability of basic staple foods in households throughout the year. Priority will be given to children (aged between 12 and 36 months) and women. Activities will include food production, food processing and storage, food and nutrition policy development, and infant and young child feeding. The program will also support operational research as a basis for food and nutrition policy development.[11]

C. World Bank

The World Bank has been working closely over the past two years with the National Committee on Food and Nutrition in Nigeria to assist with the preparation of the National Food and Nutrition Policy and the National Nutrition Program. A $50 million project is being developed as part of the Program and will be submitted to the World Bank for funding.

Areas being considered for World Bank funding include iodine deficiency disease control, deworming in primary schools, breastfeeding promotion (in collaboration with UNICEF's "Baby-Friendly Hospital" initiative), nutrition education and support to pilot nutrition interventions such as growth monitoring and promotion and community nutrition funds (CNFs) within the context of primary health care.

D. WHO

WHO program provides technical assistance to Water Supply and Sanitation activities, in addition to its focus on immunizations, the control of diarrheal diseases and primary health care (the Bamako initiative).

IV. Program Constraints

A. Data

Previous to the NDHS, there has not been good national or regional data to really document the seriousness of the nutrition problem in Nigeria. However, the analysis of the nutrition and feeding components of the survey carried to date has been limited, in conformity with DHS analyses carried out in other countries. Given the comprehensive scope of the data that has been collected, the National Committee for Food and Nutrition and relevant technical ministries have agreed to further analyze the data in order to gain a better understanding of the age and regional distribution of malnutrition and its relationship to child mortality and other diseases. A.I.D./W has already set aside some funding to support this analysis. The analysis will involve participation of Nigerian nutrition experts and result in the preparation and publication of a country nutrition report.

B. Government Commitment

Commitment to addressing the nutrition problem has not been there in the past. With the World Bank's interest in supporting a major nutrition effort, there appears to be more high level interest in nutrition, particularly from the Ministries of Public Health and Science and Technology.

C. Program Development and Implementation

Some problems, such as partial breastfeeding, lack of nutritious weaning foods and proper weaning practices, frequent episodes of diarrhea in the youngest age groups, are obvious causes of the nutrition problems in Nigeria. Strategies to overcome these problems need to be developed, including national, regional and LGA level approaches. Although linkages between nutrition and other aspects of child survival are understood by the Nigerian health community, effective implementation of these linkages needs attention and funding support. In some areas, work is already beginning with Mothercare, WINS and SUSTAIN visits, and the World Bank and UNICEF support to the development of a Food and Nutrition proposal and policy. Additionally, A.I.D. Africa Bureau Nutrition Division has identified a number of studies and pilot activities A.I.D. could support to enhance the nutritional impact of its ongoing efforts and its future interests.[12]

D. Technical Issues

1. It is not yet fully understood why levels of malnutrition are so high in the Northeast and the Northwest. Rapid appraisals need to be carried out in sample areas in these regions to determine if there is a crisis situation and if immediate interventions are needed to address specific problems, drought, measles epidemics, etc.

2. Since diarrhea is a major cause of infant and child mortality in Nigeria and we know that proper infant feeding could both reduce diarrhea morbidity as well as reduce diarrhea mortality, we need to determine the next steps to developing a nutrition/child feeding component of the national Diarrheal Disease Control program. The following issues/steps need to be considered:

a. Identify constraints to optimum feeding at the household level.

b. Identify breastfeeding KAP of medical and health professionals.

c. Identify hospital and maternity home practices that affect optimal breastfeeding.

d. Develop training and incentive programs that will change negative hospital and maternity practices.

e. Integrate into training programs for health care providers at all levels (including TBAs) information on proper infant and child feeding.

f. Replicate dietary management of diarrhea (DMD) studies in all regions to determine education strategies for promoting improved weaning practices.

g. Integrate information gained from studies into national CDD strategy.

3. Micronutrient Deficiencies Including Vitamin A Deficiency and Goiter

Smaller studies have documented serious Vitamin A deficiency problems in the North and the Western parts of Nigeria, but changes in dietary practices in other areas suggest a more widespread problem. A workshop held in Nigeria in November 1990 on Vitamin A Deficiency Problems in Nigeria identified the need for a national Vitamin A deficiency prevalence survey. The Food and Nutrition Committee and the FMOH are interested in such a national survey. Recent studies indicate that improving Vitamin A status of deficient populations will significantly reduce infant and child morbidity and mortality associated with malnutrition, diarrhea disease, measles and acute respiratory illness.

The Federal Ministry of Health has also identified anemia as a major problem and is interested in developing and implementing a program to address this problem.

4. Lack of Information on Changing Consumption Patterns

S&T/N Food and Nutrition Monitoring Project should explore the possibility of working with the Federal Office of Statistics and the National Committee on Food and Nutrition to conduct an analysis of the Integrated Household Survey.

V. Strategy Options

Given the current lack of a comprehensive, long-term food and nutrition policy and strategy in Nigeria, there is need to identify and support selected program approaches and policy options for testing on a small scale in order to determine those that must be funded on a large scale to enhance nutrition security and improve living standards in rural areas.

Given A.I.D.'s interests and previous work in HPN and the development of the World Bank Nutrition project, A.I.D.'s comparative advantage would be in supporting a number of pilot activities that fit into its ongoing child survival efforts in Nigeria and help support NCFN's program and policy development efforts of the NCFN. These activities include:

A. Further analysis of the DHS survey data.

B. Integration of nutrition and child feeding into the Nigeria CDD program, including comprehensive work in breastfeeding and child feeding.

C. Private sector involvement in weaning food production and marketing. Through R&D/N projects, A.I.D. could help promote private sector involvement in improved child feeding through the production and marketing of low cost weaning foods. Feasibility studies should be supported in 1992. Such studies could provide the basis for a Social Action Incentive Program which would provide government and/or donor support for advertisement and guaranteed contracts by government facilities but no subsidy for commercial production.

D. Vitamin A Assessment and Support

As a complementary component to A.I.D.'s efforts to combat measles and acute respiratory infections (ARI), A.I.D. could provide operational research and technical programming support to reduce the impact of Vitamin A deficiency on measles and ARI associated mortality.

E. Growth Monitoring and Promotion

A.I.D. has tested a variety of community based approaches to growth monitoring in several African countries (including Nigeria). A.I.D. should explore ways of utilizing its central resources creatively to enhance the nutritional impact of its CCCD program. A good entry point could be a reevaluation of approaches to growth monitoring used at the community level by various programs and pilot testing of innovative, community-oriented approaches.

F. Analysis of the Integrated Household Survey for Use in Development of a National Nutrition Policy.

The Federal Office of Statistics (FOS) implements the National Integrated Survey of Households which is an ongoing program based on a sample frame in which several surveys (modules) are undertaken regularly. Of particular interest to the National Committee on Food and Nutrition is the Consumer Survey which documents household food expenditures by income group. With this data, the NCFN can analyze changing consumption patterns as well as household expenditures on other essential items. Given rapid increases in food prices, decreasing purchasing power must be taken into consideration in any nutrition or health program. FOS has asked for the inputs of the NCFN for the design of their 1991/92 Consumer Survey. A.I.D. is well placed to support this effort.

ENDNOTES

1. Food and Agriculture Organizations of the United Nations "ESN - Nutrition Country Profile - Nigeria", March 1990, p. 11.

2. Institute for Resource Development/Macro Systems, Inc., 1990 Nigeria Demographic and Health Survey, Sept. 1991.

3. Ibid.

4. UNICEF and the federal Government of Nigeria (FGN) Master Plan of Operations, 1991 - 1995, p. iii.

5. Institute for Resource Development/Macro Systems, Inc., 1990 Nigeria Demographic and Health Survey, Sept. 1991, p. 19.

6. UNICEF and the federal Government of Nigeria (FGN) Master Plan of Operations, 1991 - 1995, p. iv.

7. Food and Agriculture Organizations of the United Nations "ESN - Nutrition Country Profile - Nigeria", March 1990, p. 1-6.

8. Ibid.

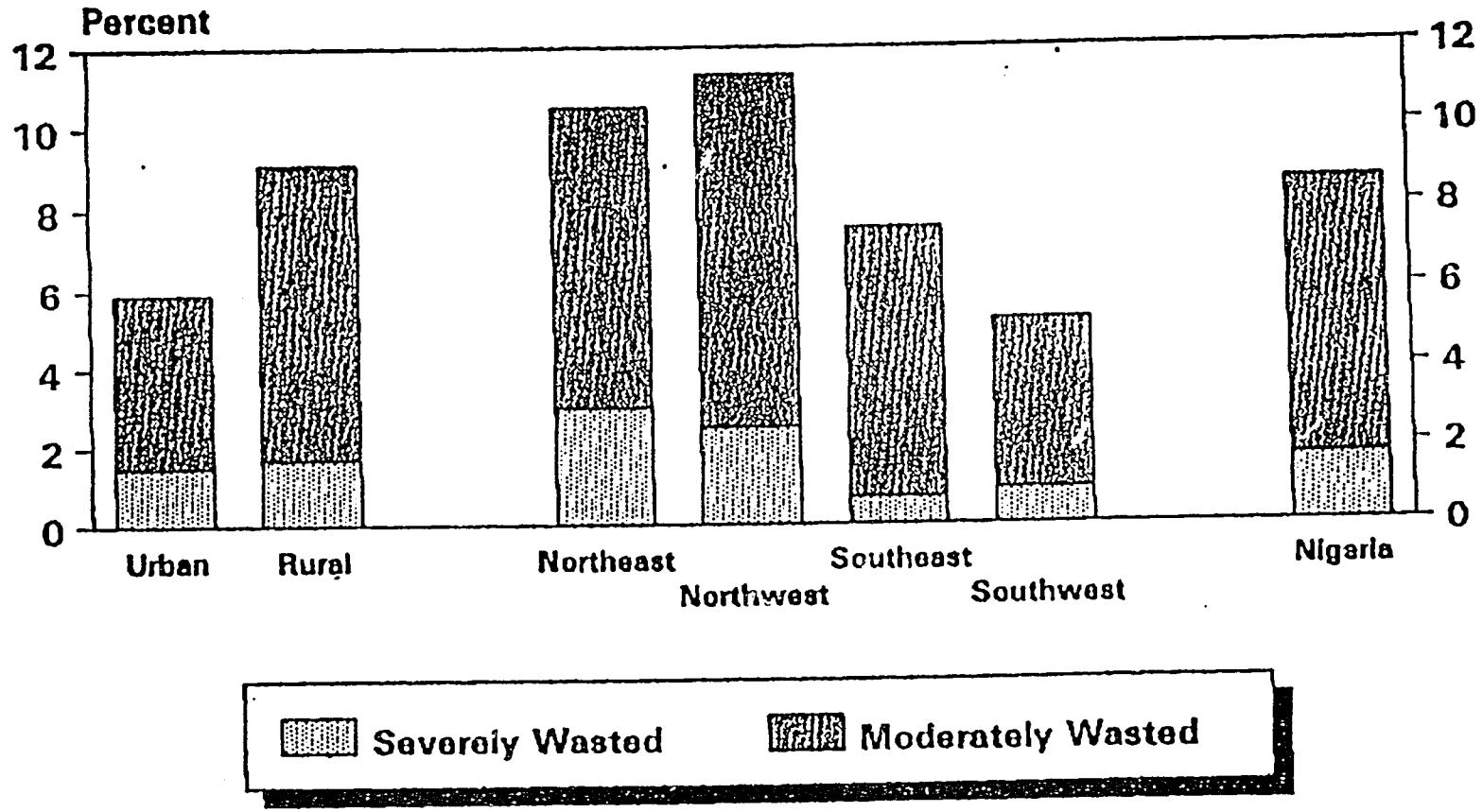
9. UNICEF and the federal Government of Nigeria (FGN) Master Plan of Operations, 1991 - 1995.

10. Eileen Kennedy: "Successful Nutrition Programs in Africa", World Bank WPS, March 1991.

11. Ibid.

12. Joint World Bank/UNICEF/USAID Programme Identification Mission: 'Mission Observations and Recommendations and memorandum of Understanding with the Federal Ministry of Science and Technology", 23 May 1991.

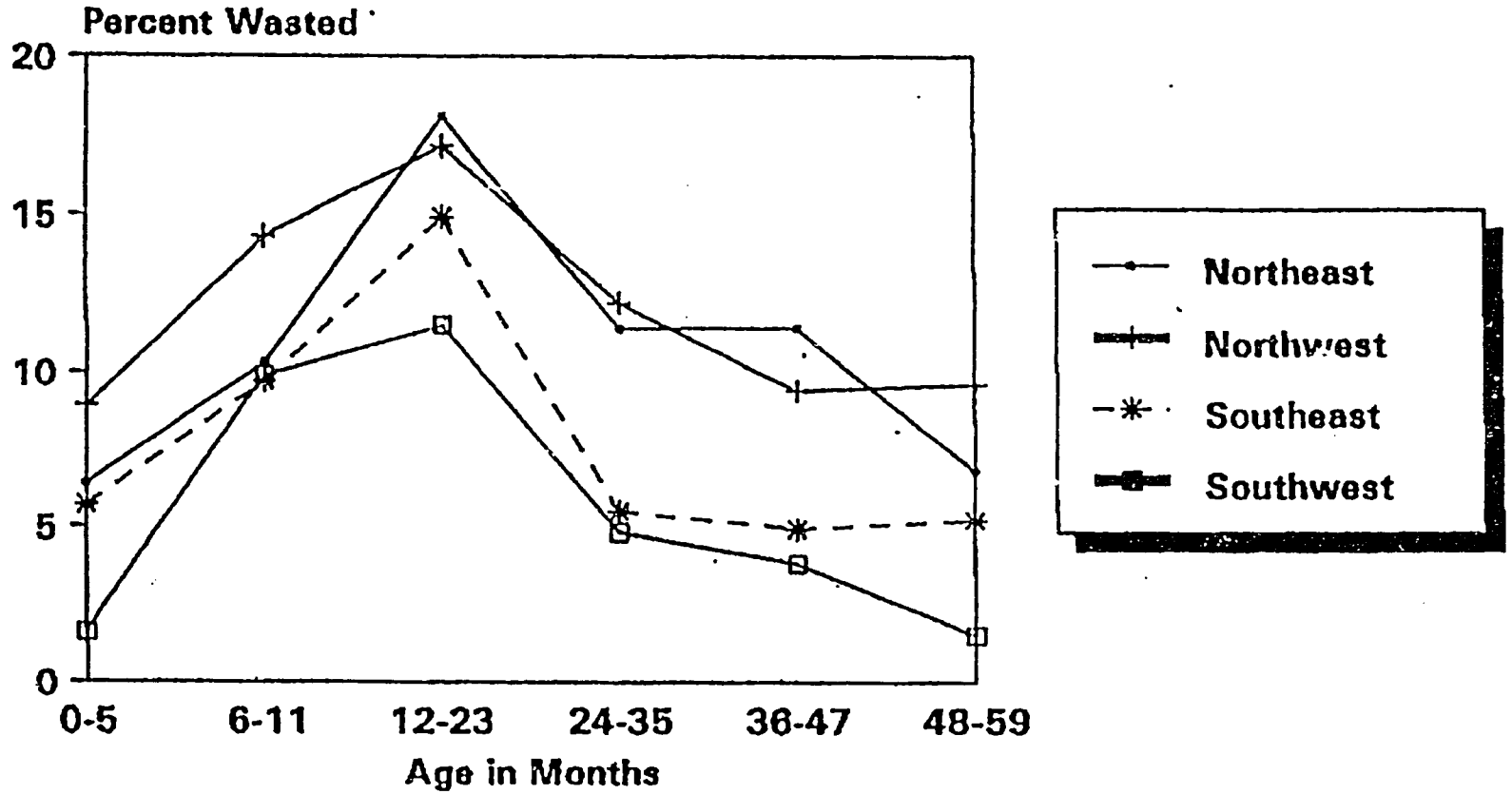
Wasting
Among Children 0-59 months of Age
Nigeria, 1990



Percent under 2 sd below mean of
WHO/NCHS/CDC reference population

BEST AVAILABLE DOCUMENT

Prevalence of Wasting by Child's Age in Months According to Region, Nigeria, 1990



Percent lower than 2 sd below mean on WHO/NCHS/CDC reference for Weight for Height

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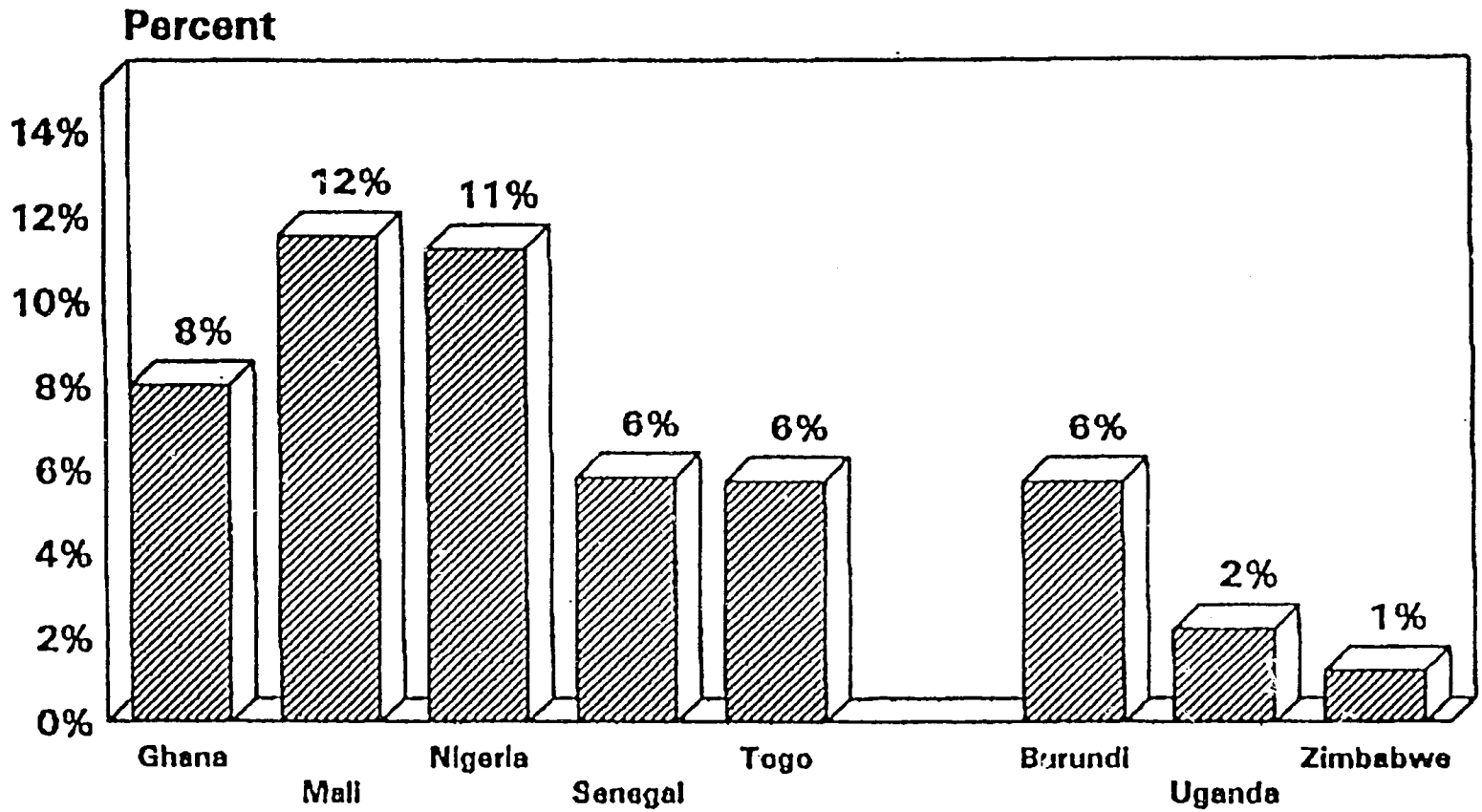
Undernutrition in Children 3-35 Months: Percent Classified as Wasted



Percent whose weight-for-height is below -2 S.D. from Reference Population Median

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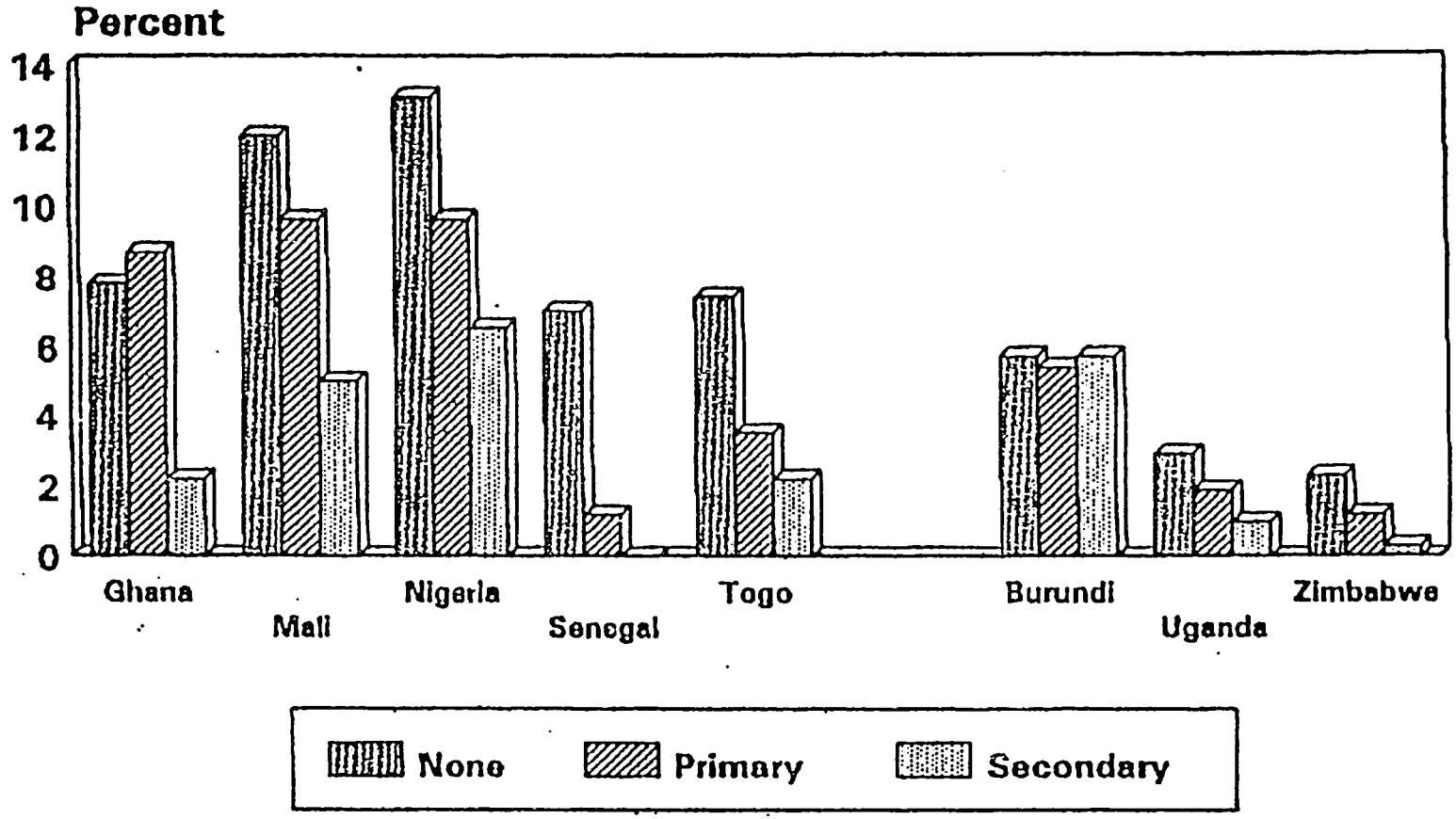
Demographic and Health Surveys 1986-90

Percent Classified as Wasted According to Mother's Education

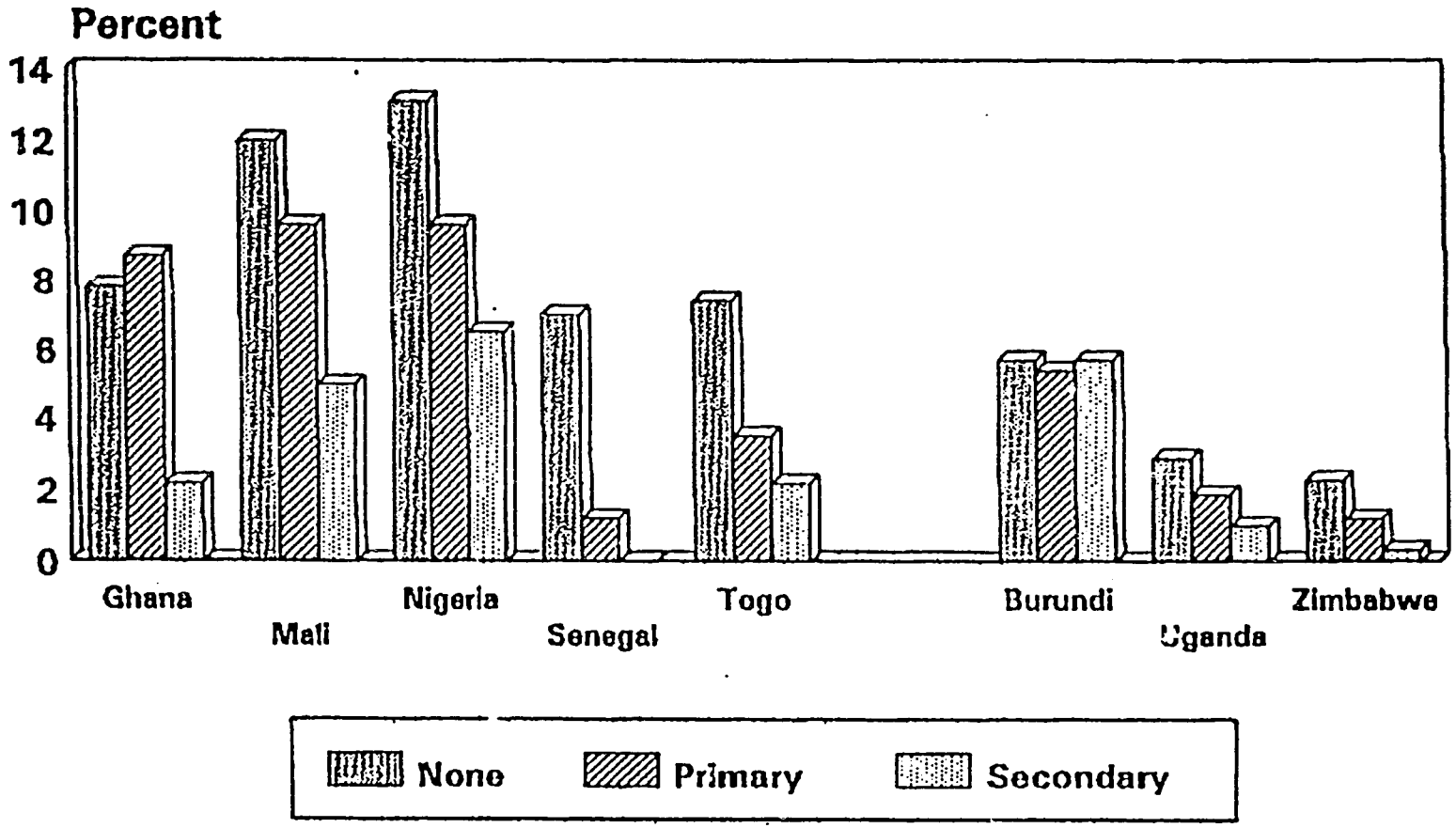


Percent whose weight-for-height is below
-2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-90

BEST AVAILABLE DOCUMENT

Percent Classified as Wasted According to Mother's Education



Percent whose weight-for-height is below
-2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-90

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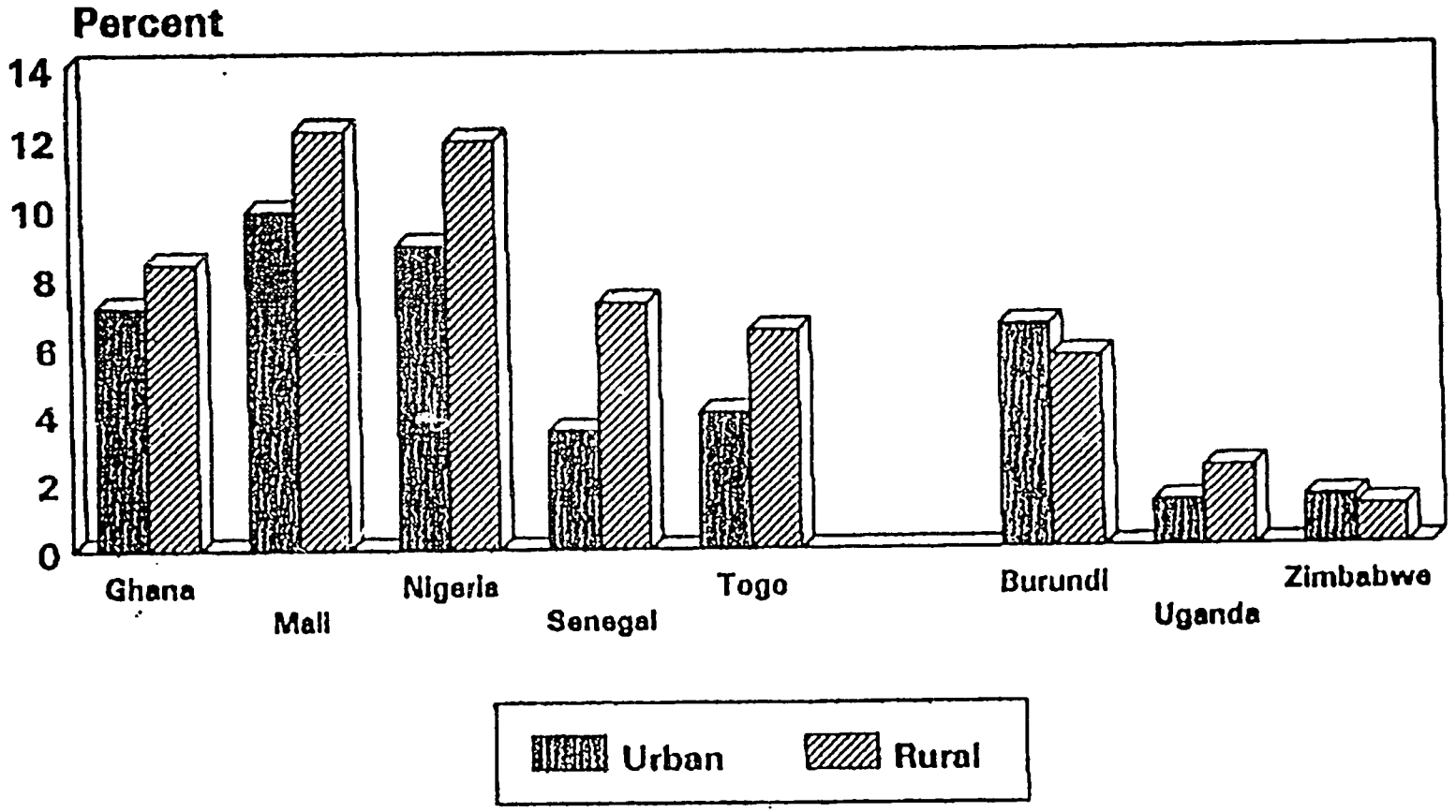
Percent Classified as Wasted According to Area of Residence



Percent whose weight-for-height is below -2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-90

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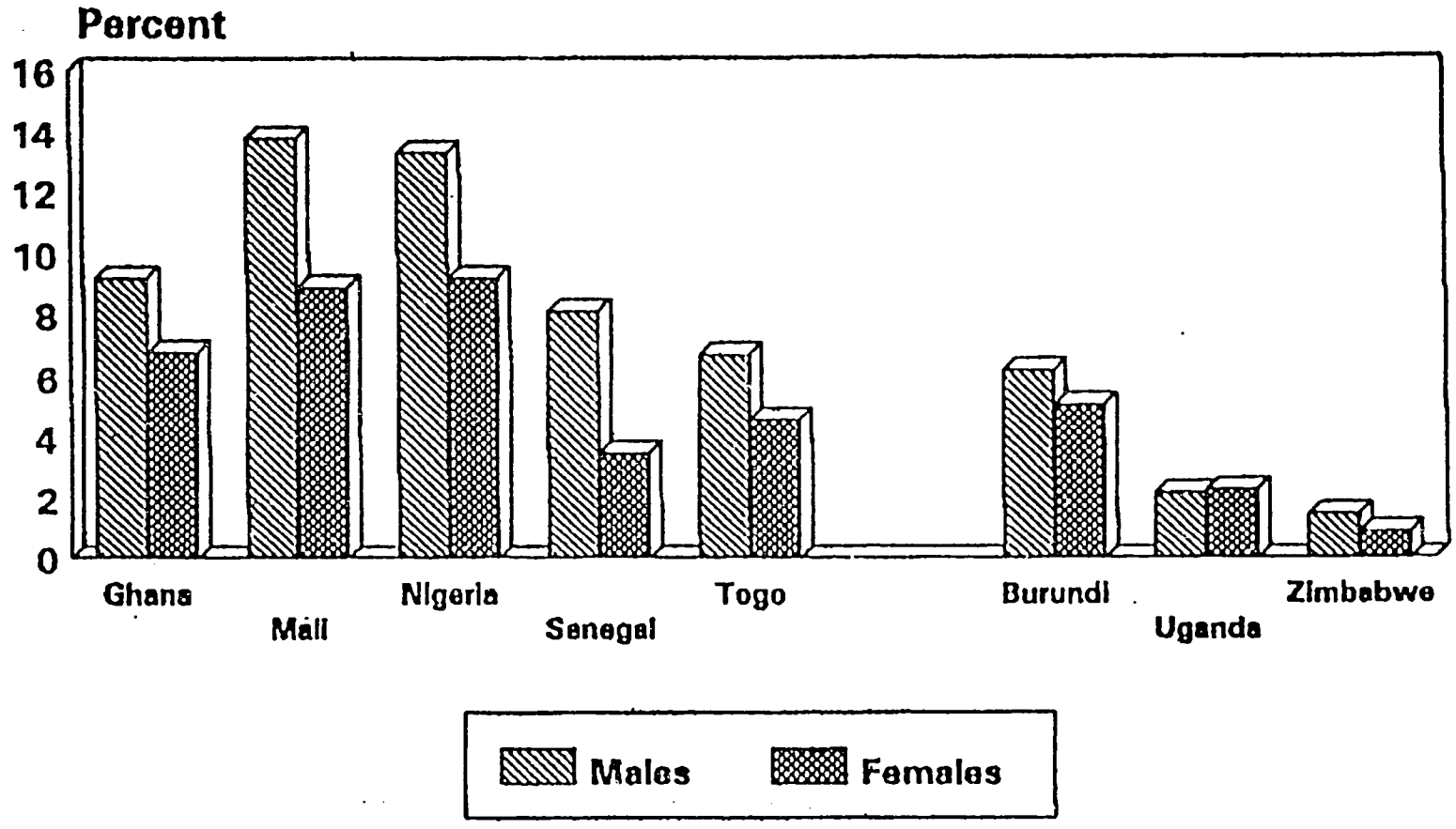
Percent Classified as Wasted According to Sex



Percent whose weight-for-height is below -2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-90

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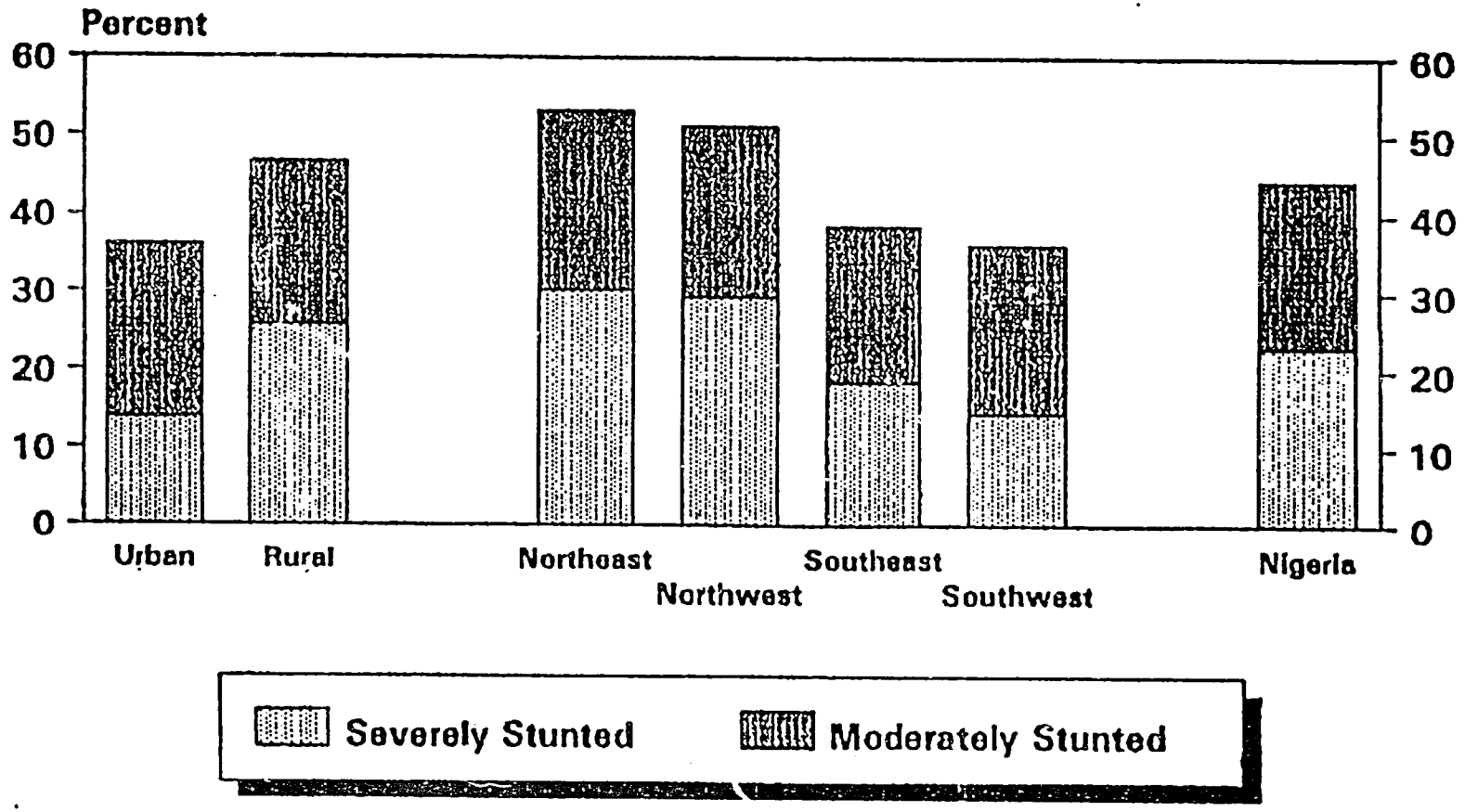
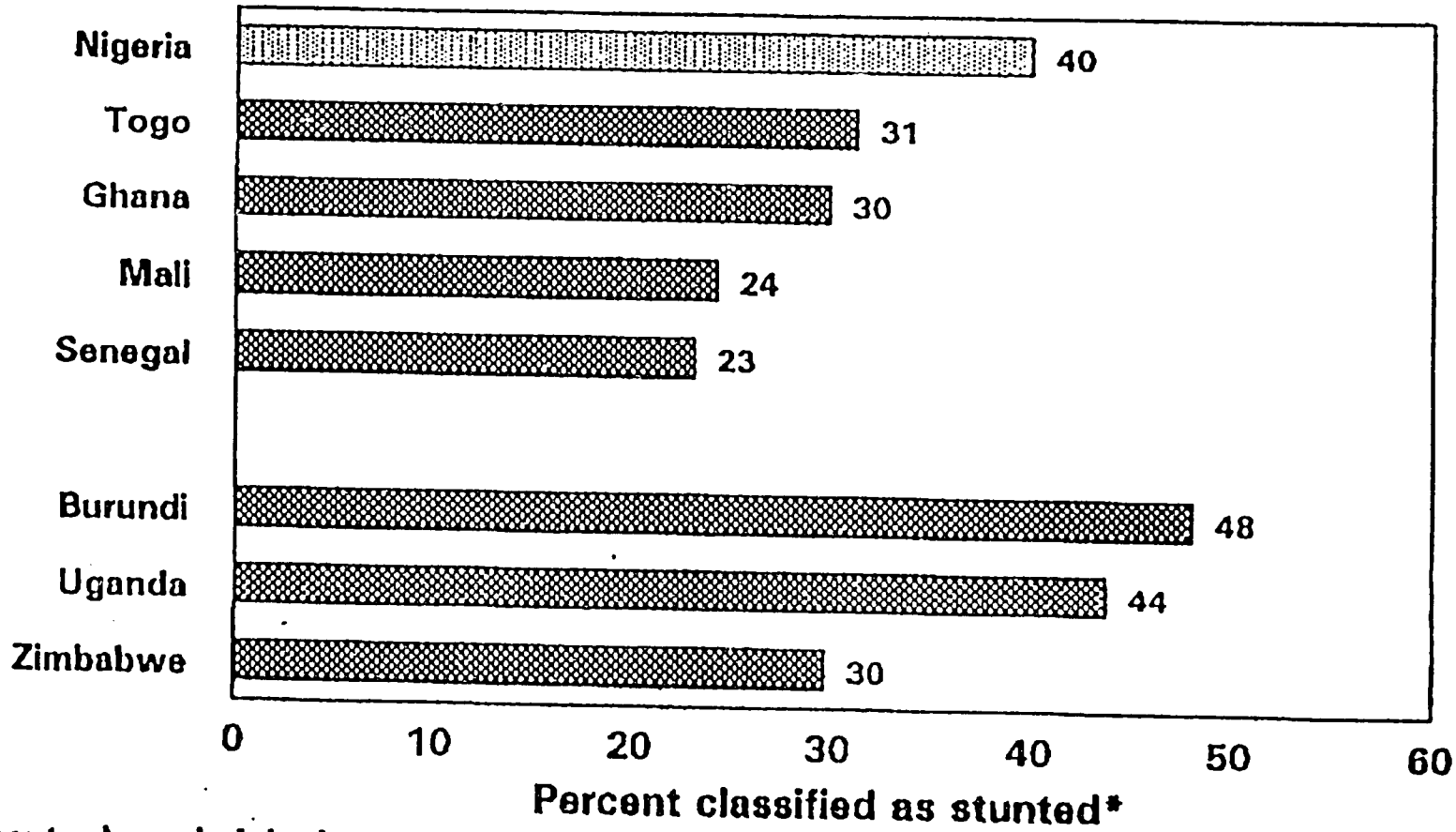
Stunting
Among Children 0-59 months of Age
Nigeria, 1990



Percent under 2 sd below mean of
WHO/NCHS/CDC reference population

BEST AVAILABLE DOCUMENT

Undernutrition in Children 3-36 Months: Percent Classified as Stunted

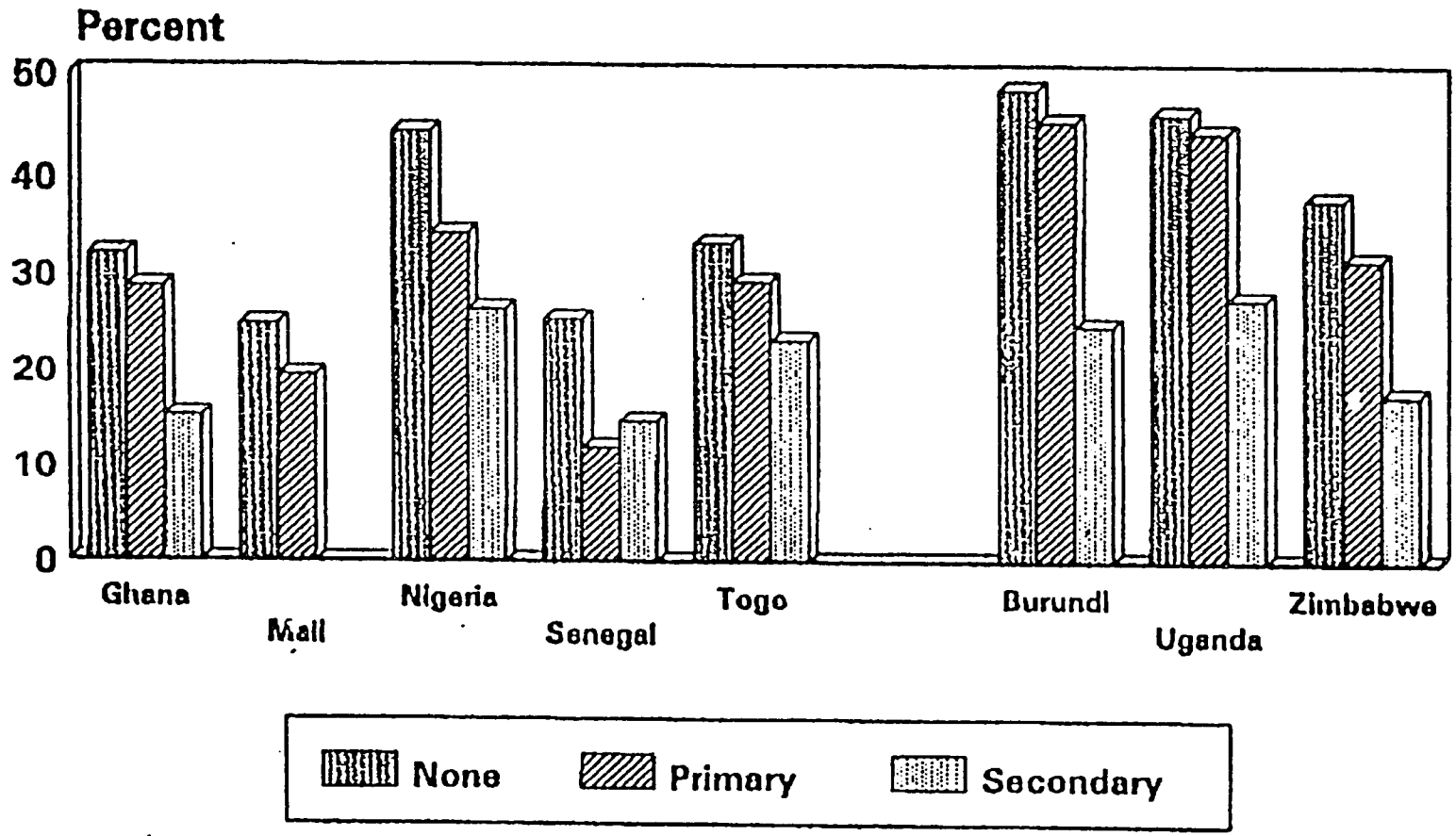


Percent whose height-for-age is below
-2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-89

BEST AVAILABLE DOCUMENT

Percent Classified as Stunted According to Mother's Education

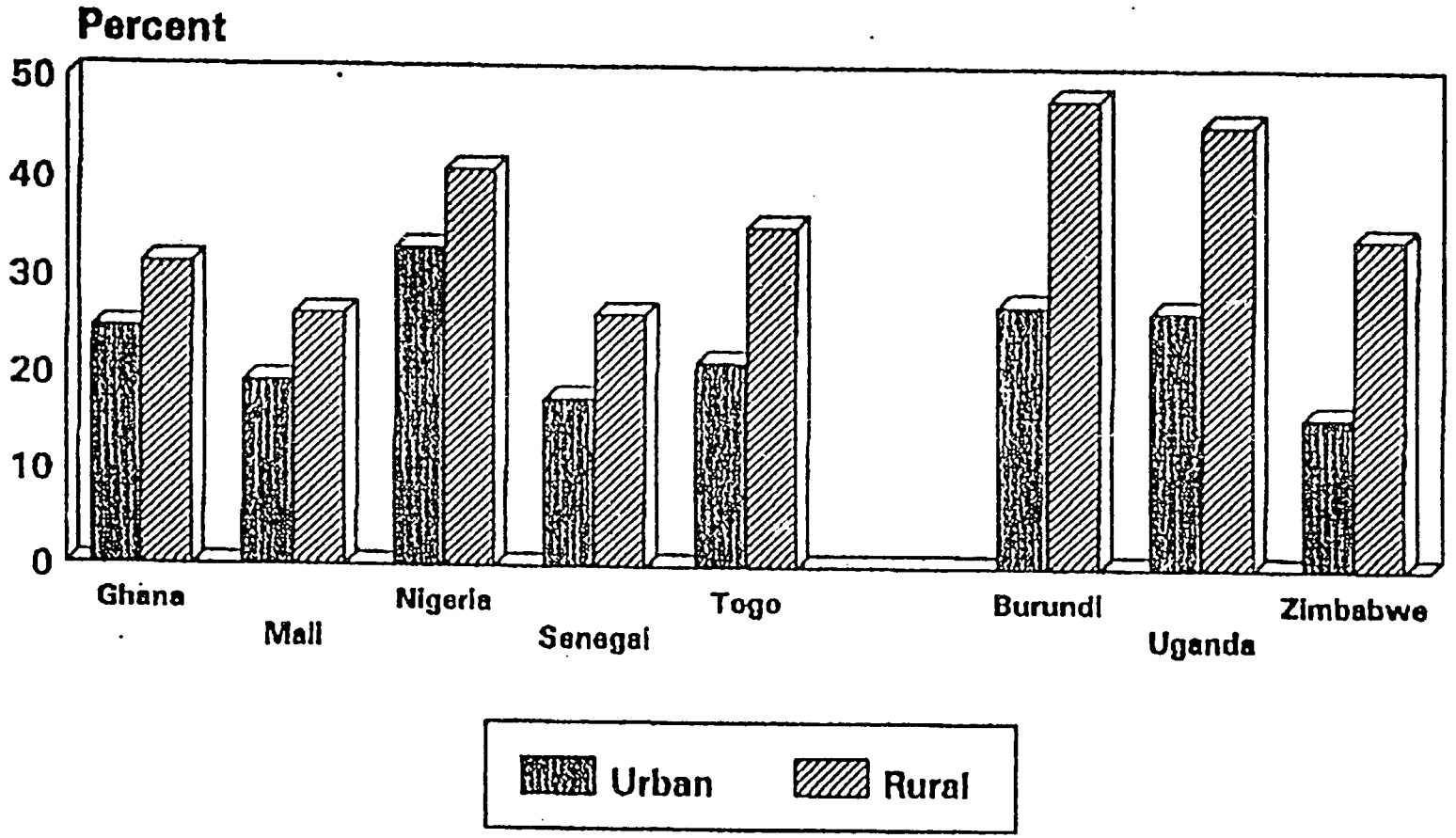


Percent whose height-for-age is below -2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-90

BEST AVAILABLE DOCUMENT

Percent Classified as Stunted According to Area of Residence

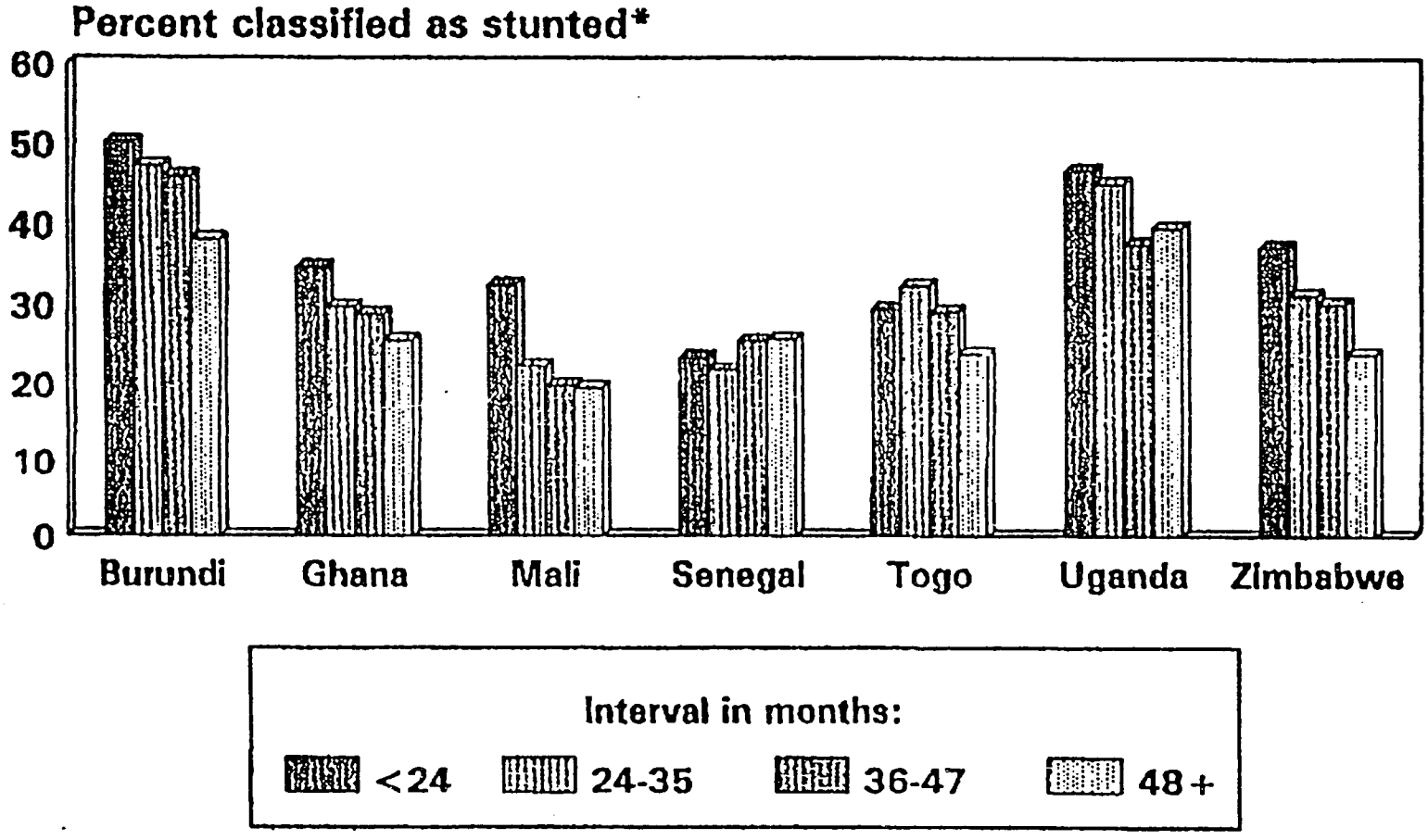


Percent whose height-for-age is below -2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-90

BEST AVAILABLE DOCUMENT

Percent Classified as Stunted by Length of the Preceding Birth Interval

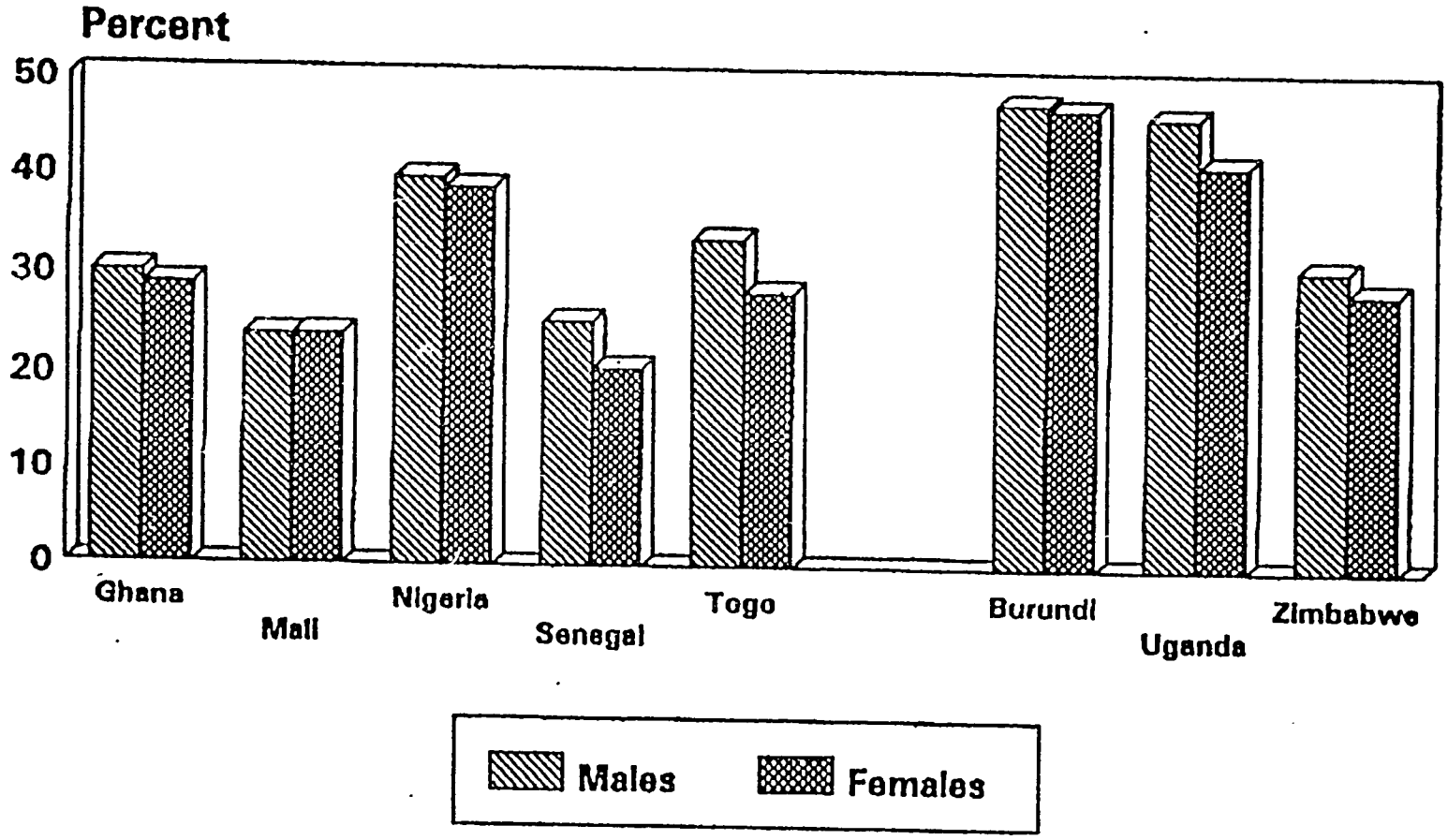


* Percent whose height-for-age is below -2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-89

BEST AVAILABLE DOCUMENT

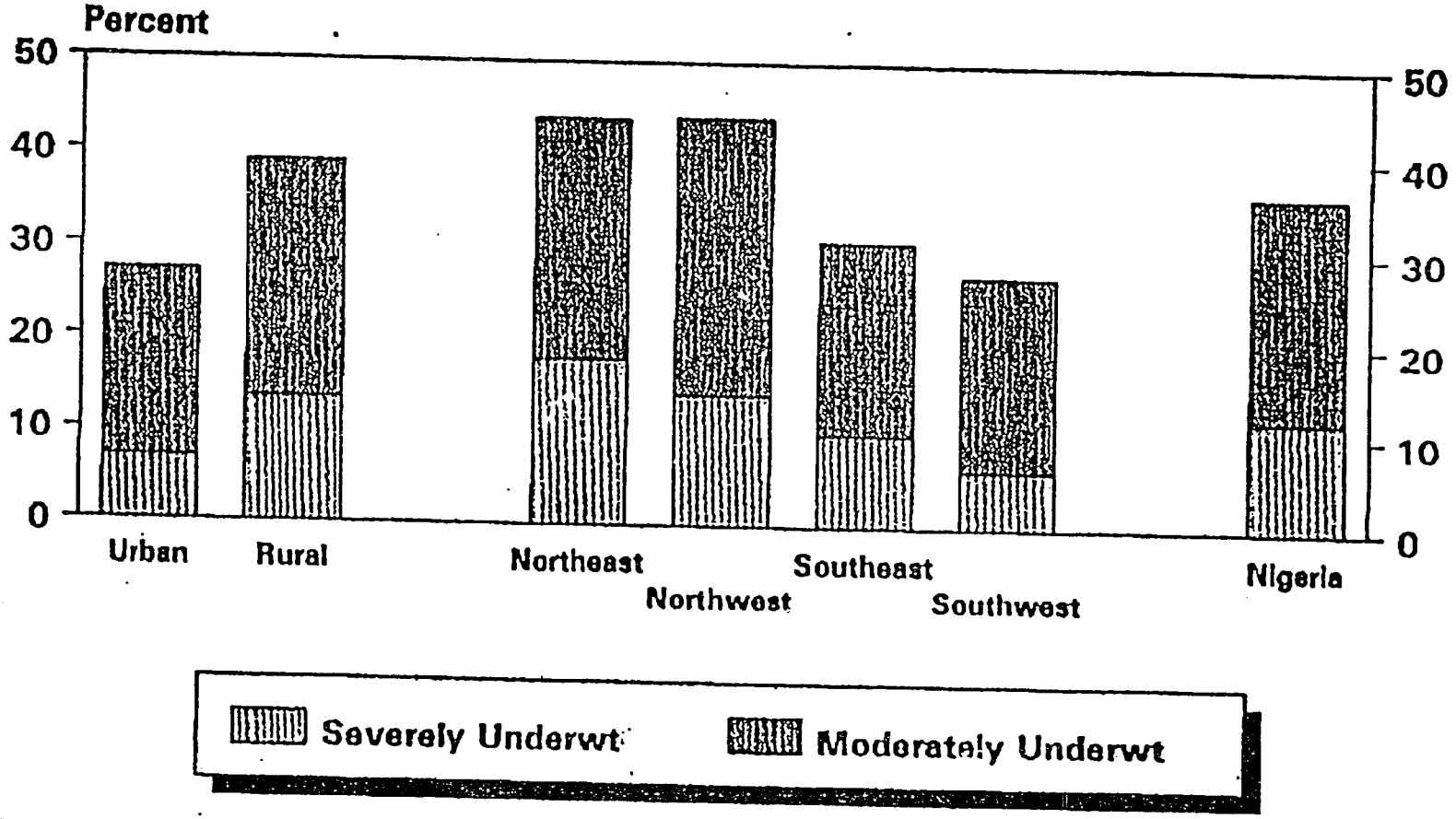
Percent Classified as Stunted According to Sex of Child



Percent whose height-for-age is below
-2 S.D. from Reference Population Median

Demographic and Health Surveys 1986-90

Underweight
Among Children 0-59 months of Age
Nigeria, 1990



Percent under 2 sd below mean of
WHO/NCHS/CDC reference population

** TOTAL PAGE.014 **