



Bureau for
Economic Growth,
Agriculture, and
Trade - Office of
Agriculture and
Food Security



POLICY SYNTHESIS

for Cooperating USAID Offices
and Country Missions

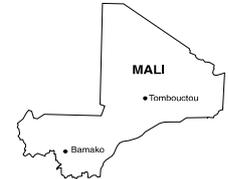
(<http://www.aec.msu.edu/agecon/fs2/psynindx.htm>)

Number 64

April 2003



USAID/Mali and
West Africa Regional
Program



CPS/MS INRSP
IER DNSI

LINKAGES BETWEEN CHILD NUTRITION AND AGRICULTURAL GROWTH IN MALI: A Summary of Preliminary Findings

By

James Tefft, Valerie Kelly, Victoria Wise, and John Staatz, in collaboration with
LICNAG Research Team*

Food Security II Cooperative Agreement between U.S. Agency for International Development, Bureau for Economic Growth, Agriculture, and Trade, Office of Agriculture and Food Security and Department of Agricultural Economics, Michigan State University

BACKGROUND: The study on the Linkages between Child Nutrition and Agricultural Growth (LICNAG) seeks to explain the paradox of seemingly worsening rates of child malnutrition in rural Mali over the past 10 years—a period of relatively strong agricultural growth. The study examines the impacts that agricultural-led growth has had on children's health and nutritional status in three of Mali's most important agricultural production systems: the cotton-based systems in the Sikasso Region and the irrigated rice zone of the Office du Niger, which have both recently shown signs of strong agricultural growth; and the predominantly coarse grain systems in the Mopti Region, where production has been relatively stagnant.

OBJECTIVES: The specific objectives of the study are to: (1) evaluate and compare the prevalence of stunting and wasting among children under 5 years of age in the selected zones; (2) identify socio-economic factors associated with higher or lower rates of malnutrition, with a particular focus on the role played by different types of agricultural production systems; (3) understand how rural health personnel view the malnutrition problem and what they are doing to address it; and (4) investigate the extent to which the local communal governments created as part of Mali's decentralization process can catalyze and coordinate community actions to reduce childhood malnutrition. This bulletin summarizes the key findings presented in four previous policy syntheses.¹

FINDINGS: High prevalence of wasting and stunting: Across the entire sample, 36% of children under 5 years of age are stunted and 12% are wasted (15% are severely stunted and 2% are severely wasted). The prevalence of stunting is higher for boys (39%) than girls (35%). The prevalence of wasting and stunting increases rapidly in children from 6 to 11 months of age, and continues to rise through the 18th month, by which time 40% are stunted and 25% are wasted.

Less stunting in the rice zone, more wasting for coarse grain zones: There is a lower prevalence of stunting (an indicator of chronic malnutrition) in the rice zone (23%) relative to the cotton (42%) and coarse grain (39%) zones. There is also a lower prevalence of wasting (an indicator of episodic malnutrition) in the rice zone (7%) compared to the cotton zone (11%) and the coarse grain zone (16%).

Feeding practices, mothers' workload and support system, low income, and illness are key factors affecting nutritional outcomes. *Feeding practices:* Only 16% of sample children were exclusively breast-fed for the first six months despite recommendations to that effect. Women do not follow these recommendations due to lack of knowledge of the benefits, poor breast-feeding skills, traditional infant feeding practices, and work schedules that make it difficult to meet demanding infant feeding schedules.

Only 25% of mothers systematically introduced complementary foods to their child by the recommended 6 months, and 32% of children in the sample did not regularly receive solid foods until after 10 months. These practices help explain the rapid increase in the prevalence of wasting and stunting between 6 to 18 months of age.

¹ #63 Mali's Rural Communes: A Potential Catalyst for Improving Child Nutrition? #62 Improving Nutrition Outcomes Through Community Health Initiatives #61 Knowledge, Attitudes and Practices on Child Feeding and Care: Preliminary Insights and #60 Understanding and Reducing Child Malnutrition in Mali: Interim Research Findings, are available at http://www.aec.msu.edu/agecon/fs2/mali_nut/index.htm



Child care, mothers' workload and support systems: Work and child care demands compete for women's time. Within four weeks after child birth, 58% of mothers resumed their normal work because existing social systems failed to provide adequate support for accomplishing household tasks, taking care of other children, and supplying agricultural labor. Also, many woman cannot risk losing income by reducing the time spent on farm or non-farm income generating activities. Demands on women's time are compounded by the lack of functioning bore wells and cereal mills, which had broken down because there were no arrangements to manage the maintenance of this common property.

Higher income associated with better nutrition: Both households' and mothers' incomes are positively correlated with improved nutrition (mothers' incomes showing a stronger association). The prevalence of stunting is significantly lower for children of mothers in the highest income quartile (24%) relative to the levels for the three lower income quartiles (38-40%), suggesting that a mother's income may need to reach a certain threshold before it can have a major impact on reducing malnutrition. Children of mothers in the highest income quartile are more apt to receive complementary foods by six months (32%) than those of mothers in lower income quartiles (19%). Greater access to and control of productive assets by mothers and fathers of young children may help explain better nutrition outcomes in the economically dynamic and highly productive rice zone. Aggregate income is also high in the cotton zone, but it is controlled by the head of the extended family and not always available to parents of young children.

Analysis shows that poverty and the lack of resources affect the entire household and condition the ability of parents to care for and feed their children. For example households often eat one meal per day and have little disposable income to buy mosquito nets or pay for health care, let alone have the time and resources to prepare the multiple, nutrient-rich meals that children need.

Morbidity rates are high among malnourished children: Fever/malaria and diarrhea are the two most common illnesses reported by caregivers (48% and 21% of all illness episodes). Illness episodes resulted in significant weight loss, perpetuating the vicious cycle of recurring sickness and faltering growth. High morbidity rates are exacerbated by limited knowledge, poor hygienic and sanitary conditions, and lack of access to and use of potable water. The detrimental effects of illness on children are compounded by inadequate care, feeding and treatment practices provided when they are sick.

Nutrition is an invisible problem. Interviews with community health professionals and local government officials in the survey zone revealed that no one was aware of the extent and gravity of wasting and stunting in their zone. The lack of awareness of the problem and a poor understanding of its causes represents a major hurdle facing any attempt to improve child nutrition.

Availability of nutrition-related services: Discussions with health personnel revealed that none of the community health centers in the survey zones were currently organizing regular preventive or promotional services aimed at improving nutritional outcomes for children under 5 years of age. Lack of services is partly the result of low demand. Demand is low because nutrition is as much an invisible problem for families and communities as it is for health workers and local officials.

IMPLICATIONS: LICNAG study results point to the need for a multisectoral approach to address the numerous factors affecting nutritional outcomes. Experiences in other countries show that partnerships between communities, local governments and decentralized ministerial staff to develop innovative and sustainable community-driven actions that cut across sectors are effective in reducing child malnutrition. To be successful in Mali, partnerships will need to address the key challenges identified by this study: developing communication strategies to raise awareness of nutrition problems and solutions; identifying specific roles for the communes in a multisectoral, community-based approach; and mobilizing reliable sources of funding to implement community-driven actions. With a conducive policy environment in place (i.e., decentralized governance, community-managed health care, and productivity-driven agricultural policies), Mali needs to implement pilot actions at the local level to determine how sectoral interventions can be most effectively implemented, coordinated and sustained, and to identify specific contributions that communes can feasibly make to establishing sustainable processes to carry out nutrition-related actions.

*Research Team: Modibo Diarra (DSSAN/CPS/MH), Fatimata Ouattara (INRSP), Aissata Diani (IER), Guediouma Tangara (DNSI); Mbaye Yade and Daouda Keita (MSU/INSAH); Valerie Kelly, John Staatz, and James Tefft (MSU); Chris Penders (University of Michigan); and Victoria Wise (Consultant). The views expressed in this document are exclusively those of the authors.

Work for this summary was conducted under the Food Security II Cooperative Agreement (PCE-A-00-97-00044-00) between Michigan State University and the United States Agency for International Development, through the Office of Agriculture and Food Security in Bureau for Economic Growth, Agriculture and Trade (EGAT/AFS). Supplemental funding for this research was also provided by USAID/Mali.