

A Study On Poverty Drop And Food Security In India

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ABSTRACT

Food production growth in the organisation for Economic Co-operation and Development countries slowing down developing countries slowing down, developing countries will need to setup production to meet increased food needs in the future Undoubtedly Agriculture is the main stay of the Indian Economy Agriculture and allied Sectors contribute nearly 15% of the Gross Domestic Product (GDP) of India Agriculture sector needs well-functioning markets to derive growth, employment and economic prosperity in the rural areas of the country for which organised marketing of agriculture commodities is to promote by industries through beverage products. Livestock and livelihoods Livestock are central to the livelihoods of the poor. They form an integral part of mixed farming systems, where they help raise whole-farm productivity and provide a steady stream of food and revenues for households. However, livestock's role and contribution to livelihoods in developing countries extends well beyond what is produced for the market or for direct consumption. Livestock play many other important roles, including: as a provider of employment to the farmer and family members (Sansoucy, 1995); as a store of wealth (CAST, 2001); as a form of insurance (Fafchamps and Gavian, 1997); contributing to gender equality by generating opportunities for women; recycling waste products and residues from cropping or agro-industries (Ke, 1998; Steinfeld, 1998); improving the structure and fertility of soil (de Wit, van de Meer and Nell, 1997); and controlling insects and weeds (Pelant et al., 1999). Livestock residues can also serve as an energy source for cooking, contributing to food security. Livestock also have a cultural significance – livestock ownership may form the basis for the observation of religious custom (Horowitz, 2001; Ashdown, 1992; Harris, 1978) or for establishing the status of the farmer (Birner, 1999). The non-tradable roles played by livestock commonly vary between different parts of a country, and almost certainly among countries. Farmers who sell their produce in markets are more are sensitive to prices than those who retain a substantial part of their produce for home consumption. Return to farmers depend on their prices they receive for their produce and their production cost, which vary not only among crops but also among producers because of variations in input use, technology and access to resources. Prices in local food market are often characterised by high inter-seasonal volatility. Such price volatility affect the level and uncertainty return to producer. This paper provides information about the performance on poverty reduction and food security in India during recent years and how it can be improved and developed.

1. INTRODUCTION

The 27th report of the Lok Sabha Committee articulates its purposes and intention its purposes and intention as: 'Food security means availability of sufficient food grains to meet the domestic demand as well as access at the individual level to adequate quantities of food at affordable prices...The proposed legislation marks a paradigm shift in addressing the problem

in food security-from the current welfare approach to a right based approach. About two-thirds of the population will be entitled to receive subsidised food grains under Targeted Public Distribution System. In a country where almost 40% of children are undernourished, the importance of the scheme increase significantly (The National Food Security Bill 2011)' Indeed the aim of the act, especially the fact that the 80 crore people of our total 120 crore population are going to be entitled for a right-based access to food grains is quite impressive. After the legislation was passed in Parliament and signed into a law, the country went through elections both in the states and for the lok Sabha in 2013 and 2014 respectively. In many states the implementation of the act was placed on hold in view of the polls.

The act aims to provide subsidised food grains to 75% of the rural and 50% of the urban population of our country. It converts various existing food security programmes of the government of India into enforceable and justiciable entitlements: such as the Mid-day Meal Scheme for children in government schools up to elementary level, the Integrated Child Development Services(ICDS) scheme for children in the age group 0-6 as well as pregnant and lactating mothers and much maligned staple of the Indian polity, the public distribution system(PDS).The act stipulation that beneficiaries of the new scheme shall be entitled to rice at Rs 3 per kg, wheat at Rs 2 per kg and coarse grains at Rs 1 per kg.In addition pregnant women, lactating mothers, as well as certain categories are eligible for daily free meals.

ROLE OF MNEREGA IN ENSURING FOOD SECURITY

The perceptions of beneficiary households' reveals that about 20 percent of them did not get sufficient food for the whole of year. Insufficient wage employment (35.2%), low wage rate (15.06%) frequent occurrence of drought (10.08%), higher prices (12.08%) and higher family size (10.4%) where the major causes of their food insufficiency. Among the difficulties other than food insufficiency, not having better home/land (28.8%) lack of irrigation structure, poor quality of drinking water and nothing having required agriculture implements where the major once.

2. REVIEW OF LITERATURE

OXFAM (2001) defined food security as all people especially the most vulnerable and least residential have dignified and unthreatening access to the quantity and quality of culturally appropriate food that will fully support the physical, mental, emotional and spiritual health.

Van Cour Food Policy Organization (2001) defined food security as everyone to have access to safe, healthy, locally produced, affordable and environment friendly food. Stazz (2002) viewed food security as the ability to assure on a long term basis, that the food system provides the total population access to a timely reliable and nutritionally adequate supply of food.

Almost 20 years ago, **Mittendorf and Abbott (1979)** identified the problems that continue to affect urban food supply and increase urban food costs today. Wholesale markets that connect producers and traders with retailers are often run-down and obsolete, with ineffective management. Generally built decades ago, they do not have sufficient space or storage facilities to handle the large volumes of food currently processed. Frequently located in highly urbanized areas, traffic congestion around the markets is immense. Urban retail markets are often small and scattered. This means that, although they are able to create employment and effectively

meet the demand of poor urban consumers who need easy access to markets and make purchases in small quantities, gains from economies of scale are difficult. It might be worthwhile considering the importance of financial service provision to the poor as intrinsic value, irrespective of its promise as a poverty-alleviating tool. Viewed from such a vantage point, the challenge is placed on the design of suitable financial services that the poor would find useful (Matin et al 2002: 288)

Dunford (2001) suggests that the integration of complementary non-financial services such as education into traditional microfinance programs can be both sustainable and cost-effective, and they can actually improve the performance of microfinance clients. He advocates that at the very least, non formal adult education techniques be utilized at regular group meetings to promote behavioral change, disseminate information about health services and childcare, and improve clients' business skills. He provides several case studies of linked, parallel, and unified service systems used by partner or individual organizations that have been successful in engaging individuals simultaneously with life-changing educational experiences along with financial services.

E Viala - Irrigation and Drainage Systems, 2008 – Springer

Water for food, water for life a comprehensive assessment of water management in agriculture. The three goals for better water management, along with ensuring **food security** and conserving agroforestry, and livestock) should be the focus to improve water productivity and **reduce poverty**.

ON "HUNGER AND PUBLIC ACTION"

A Review Article on the Book by Jean Dreze and Amartya Sen

Recent writings on poverty and hunger agree broadly on objectives and means but diverge significantly in emphasis. Views differ on the importance and function of economic growth and on how much weight to give to direct public support. These differences can matter in policy choices. *Hunger and Public Action*, by Jean Dreze and Amartya Sen, is an important contribution to the literature on antibunger policy. This article critically examines the issues raised by the book, its differences with other recent writings, and the implications for both policy and future research on policy

Agriculture, pesticides, food security and food safety

FP Carvalho - Environmental science & policy, 2006 - Elsevier

Decades ago, agrochemicals were introduced aiming at enhancing crop yields and at protecting crops from pests. Due to adaptation and resistance developed by pests to chemicals, every year higher amounts and new chemical compounds are used to protect crops, causing undesired side effects and raising the costs of food production. Eventually, new techniques, including genetically modified organisms (GMOs) resistant to pests, could halt the massive spread of agrochemicals in agriculture fields. Biological chemical-free agriculture is gaining also more and more support but it is still not able to respond to the need for producing massive amounts of food. The use of agrochemicals, including pesticides, remains a common practice especially in tropical regions and South countries. Cheap compounds, such as DDT, HCH and lindane, that are environmentally persistent, are today banned from agriculture use in developed countries, but remain popular in developing countries. As a consequence, persistent residues of these chemicals contaminate food and disperse in the environment. Coordinated efforts are needed to

increase the production of food but with a view to enhanced food quality and safety as well as to controlling residues of persistent pesticides in the environment.

CASE STUDY ON POVERTY REDUCTION AND FOOD SECURITY

The performance in the agriculture sector is extremely vital for ensuring adequate availability and access to food; this is more so because more than 55 per cent of the country's population depends on this primary sector. The more recent status of the agriculture sector and the factors primarily responsible for the disturbing slowdown in this sector provide a clear explanation for the notable decline in the growth of food production. Agricultural growth in the country was quite high from the Fifth Plan to the Ninth Plan and reached its peak of 5.7 percent during the Sixth Plan period. It has however declined significantly during the Tenth and Eleventh Plan. Over a longer period we see that the growth rate has declined from 3.5 percent per annum from 1981-92 to 1996-97, to about 2.0 percent or even lower from 1997-98 to 2004-05. However, there have been some encouraging signs of improvement in recent years.

Indian agriculture faces both short run and long run constraints and problems. These are reflected in widespread farmer's suicides which are increasing in some states. With declining growth in yields, farming is increasingly becoming a non-viable activity. With rising land degradation, loss of soil fertility and water logging, the problems faced by the farming community are on the rise. The fall in ground water levels and decline in surface irrigation are being faced in several regions. The significant differences in productivity across regions and among different crops, as also between irrigated and non-irrigated farmland is giving rise to regional disparities and resulting inequalities. These domestic constraints accompanied by our exposure to international competition and international price volatility have affected domestic agriculture progressively in the recent past. The shrinking of farm size due to sub division and land alienation is aggravating the agrarian crisis. The diversion of agricultural land to set up special economic zones, the change in land use due to urbanization and the alienation of tribal land for mining and other industrial activities are other important issues that pose severe challenges to the farming community

India is home to the largest number of malnourished persons in the world. While the high levels of malnutrition are worrying, the fact that there has not been any significant reduction in malnutrition in the recent past. The extent of poverty reduction as well as nutritional improvements may have more to do with policies at the state level, particularly redistributive policies and the governance of public services, including the primary channel of ensuring food security, the Public Distribution System (PDS). It is in this context that a re-examination of the functions of various social safety nets, including those specifically meant for food security, is undertaken. While the main focus will be the PDS, other schemes such as the Integrated Child Development Scheme (ICDS), a scheme for supplementary nutrition for children under 6 and for pregnant and lactating mothers, and the Mid Day Meal Scheme (MDM), a scheme providing free meals to school children, have also contributed in improving the access to and assuring the supply of better food to poor households. The analysis suggests a reversal of the trend of worsening PDS access by the poor after the introduction of the Targeted Public Distribution System (TPDS). The TPDS performs poorly not only in terms of its stated objective of better access to subsidized food for poor households, but also in terms of program implementation, which is marked by leakages and corruption. Precisely because of dissatisfaction with the TPDS, many state governments have undertaken state-specific measures of expanding coverage

to universal or quasi-universal access, along with further subsidies to provide cheap food grains. These schemes, initially implemented only in richer states such as Tamil Nadu and Andhra Pradesh, have been adopted by poorer states such as Chhattisgarh and Odisha, which have seen significant poverty reduction between 2004–2005 and 2009–2010. The other states that have made progress toward expanding the coverage are Jharkhand and Bihar. High poverty reduction at the national level is largely because of the significant poverty reduction in states with high poverty incidence, such as Odisha. The analysis also suggests that the high growth of the gross domestic product (GDP) during 2004–2010 may not have been as effective in either reducing poverty or improving access to food as the food security interventions such as the PDS and MDM. This has implications not only for food security for a vast majority of the population but also for poverty reduction. This paper uses existing secondary data sources such as the National Sample Surveys (NSS) and other official data to analyse the trends in food consumption, impact on poverty, and malnutrition. This will be looked into with respect of their elasticity to growth as well as responsiveness to various interventions by the government. Particular focus will be on the PDS, which is the largest program for ensuring food security in the country. The analysis will also look at the differential impact on different types of households such as those that are poor and marginalized. The final section will draw policy conclusions based on the analysis. In particular, the analysis will focus not only on existing mechanisms but also on the proposed National Food Security Bill of the Government of India, which is currently in Parliament..

FOOD PRICES AND POVERTY

Food price inflation is an important barrier to economic access to food. Based on the index for food prices, real global food prices increased by **14% in just 6 months, from 151 points in June 2009 to 172 points in January 2010 (World Bank 2010).**

The World Bank attributed the food price spikes to increases in demand due to the use of food crops for biofuels, speculation in agricultural commodity futures markets, and policies such as export restrictions. Concerns over food prices are mounting because inflation erodes the purchasing power of households, especially those with low incomes, and could undermine the gains in poverty reduction and human development achieved during the last few decades. Many people who were poor before the price increases may now be on the verge of hunger and malnutrition, and those who were barely above the poverty line may slip back below it. In this context, it is important to examine the impact of food prices on poverty. At the macroeconomic level, higher food prices hurt countries that provide substantial food subsidies. High levels of food subsidies may crowd out public investment in other areas, such as health, education, and infrastructure. At the household level, small-scale farmers and poor consumers are hit hardest by food price hikes. The average household in the developing world spends roughly half of its total budget on food. And for households living below the poverty line, food will likely constitute an even greater portion of expenditures. Indeed, globally, poor households allocate more than 60% of total household consumption to food.

Developing countries in Asia and the Pacific are no exception: **households with daily per capita consumption of less than \$1.25 at 2005 PPP dollars spend 60%–70% of their total budget on food.** Therefore, the poor suffer a disproportionately high adverse effect from food price inflation. Without a change in prices, poverty reduction will depend on two factors: **average income (or expenditure) and its distribution.** An increase in average income without a change in distribution reduces poverty, while an increase in income inequality

without a change in average income increases poverty. However, any change in food and non-food prices also alters purchasing power, influencing the percentage of people living below the poverty threshold. Increases in food and non-food prices will reduce people's real income, which in turn increases poverty. Shares of food and non-food consumption vary across income groups—the poor spend a relatively large share of their income on food consumption—thus, a change in food versus non-food prices will also have implications for the distribution of real income.

In this context, a change in poverty can be divided into three factors:

- an income effect encompassing changes in average income expenditure and its distribution,
- a food price effect, and
- a non-food price effect

The pure income effect measures the impact of changes in people's nominal income on poverty, assuming food and non-food prices remain the same. The food and non-food price effects measure the impact of changes in these prices on poverty, assuming nominal incomes do not change. Given this decomposition method, the combined effect of the three components will result in the net impact on poverty reduction.

FOOD PRICE VOLATILITY AND MARKET INSTABILITY

VOLATILITY IN RECENT FOOD PRICES

In recent years, the world has witnessed staggering volatility in food prices. Prior to the global financial crisis, international prices of wheat, rice, and maize reached record highs in 2007–2008. There were many causes for this increase, such as increased demand from emerging economies, competition for resources from bio-fuel production, and supply disruptions due to droughts and wildfires. Although the global financial crisis and a related fall in demand temporarily dampened the rise in food prices, the eventual recovery and the inflationary effects of financial bail-outs and low interest rates may again put upward pressure on food prices, while ongoing structural transformation associated with the strong economic rise of large developing countries and climate change suggest a grim outlook for sustaining the food supply in the long run.

THE CAUSES OF FOOD PRICE INSTABILITY

Food prices fluctuate due to a combination of short-term shocks and long-term trends. Population growth, economic growth, and changing consumption patterns are among the major factors influencing long-term trends on the demand side. However, these demand-side trends are not new. Most recently, these trends were apparent in the 1960s and 1970s, when it seemed that food production may not be able to cope with global population growth and the increasing post-war affluence of Europe, Japan, and the United States. However, in the 1970s, the impending food crisis was averted by the **Green Revolution** that significantly improved food production around the globe, particularly of staple grains. This eventually led to a decades-long decline in food prices. Indeed, increasing and changing demand may not be an issue if supply can catch up. The recent food crisis, however, has been characterized by supply-side as well as

demand side constraints. In the last several decades, the rise of large emerging market economies has been spectacular, and has brought about rapid structural transformation with significant impacts on agriculture, environment, and food production. Along with the rush to integrate into the global economy, many poor countries have been competing for markets and investments by offering investors favorable wages and building the most attractive and efficient infrastructure. **Accompanying this has been a massive structural transformation away from agriculture, with land once used to grow basic food crops being reallocated to expanding cities and factories producing higher value export products.** While land available for food production has been threatened by competing needs from population growth and urban expansion, the quality of land already used for production has been deteriorating due to poor management, pollution, and degradation (e.g., erosion and desertification). Reduced attention to agriculture is having serious consequences: it has resulted in endangering food security, degrading the environment, uprooting rural communities, and increasing vulnerability among the poor. Trade disruptions also played a key role in increasing the volatility of food prices. In a regime of food production surpluses, trade openness had a positive impact on the global economy, allowing efficient food-producing countries to specialize and increase output while at the same time encouraging inefficient food producers to diversify into non-food production.

CLIMATE CHANGE: A REALISTIC THREAT TO FOOD SECURITY

The greatest threat to food security, however, is climate change. While trade policies and resource management issues, in principle, can be solved quickly with the right mix of interventions, problems caused by climate change are much more difficult to resolve in the short term and will require long-term and internationally coordinated solutions. Sustainable food security is a key to long-term sustainable development; however, achieving sustainability in food availability, access, stability, and utilization is increasingly challenged by the changing climate and environment. The global climate change has already affected food security in a variety of ways. Rising temperatures tend to reduce crop productivity in the tropics.

Climate change alters rainfall and its patterns, thus affecting water supply for farming and livestock. The warming ocean and its acidification, due to greater greenhouse gas concentrations, are reducing fish populations. A hotter climate has caused sea levels to rise. In turn, this is resulting in permanent land loss, coastal inundation, and saltwater intrusion, leading to deteriorating soil quality and suitability. In extreme conditions, which have been evident in recent years, global warming has led to severe droughts, floods, which destroy crops, pasture lands, livestock, transport and agricultural infrastructure, and household assets.

SUGGESTING POLICY ISSUES IN TACKLING FOOD SECURITY AND REDUCING POVERTY

Food security is a complex, multidimensional issue. The experiences economic growth alone does not promote food security. Although rapid growth has helped to reduce the region's aggregate poverty, the number of undernourished and hungry people has increased. Achieving food security should, therefore, be an integral part of the drive towards poverty reduction. A combination of short- and long-term; economic and social; macro and structural; and global, regional, and national policies is required to promote food security and reduce both poverty and hunger. While a comprehensive policy framework is needed to ensure food security, some policy measures can deal with food security and poverty simultaneously. -

There are five basic policy strategies that could be considered:

- Providing food-based safety nets and related social protection programs
- Enhancing the productivity of agriculture
- Promoting rural development
- Supporting agricultural research,
- Investing in human capital and basic infrastructure

PROVIDING FOOD-BASED SAFETY NETS AND SOCIAL PROTECTION PROGRAMS

Safety nets and social protection programs can offer immediate relief to the poor during times of crisis. It is important to build such programs into the system as a part of automatic stabilizers. Food price inflation strongly impacts food security. Governments often provide subsidies to keep the food prices artificially low. However, blanket food subsidies drain budgets and cannot be a viable solution if the food price increases are sustained and are caused by supply and demand market fundamentals—subsidies may in fact exacerbate existing problems. The better option when faced with rising food prices may be for the government to provide food-based safety nets and related social protection programs like,

Cash transfer programs should be targeted only to the poor so program costs are more sustainable—even given limited fiscal space. Because cash transfer programs require large amounts of resources, they need to be well targeted to yield maximum results. Transfers to beneficiary households should be based on the minimum cost of a food basket that provides the required calories and nutrition to household members. This will help ensure that available resources are well spent and that cash transfers offer the poor minimum dietary intakes.

Governments could consider establishing a “**hunger alleviation fund**,” in which they set aside a reasonable amount—say, 1% of GDP—as buffer in times of food crisis. Such a fund would provide a safety net for the poor and those most vulnerable to hunger, malnutrition, and starvation.

Safety nets specific to farmers would include weather-based crop insurance and futures contract, which assure farmers specified prices for output, can also help mitigate risks caused by price fluctuations. Futures help assure farmers a minimum income for their harvest. While crop insurance is meant to encourage greater production, futures contracts can encourage poverty reduction.

ENHANCING AGRICULTURAL PRODUCTIVITY

Improving agricultural productivity is essential for ensuring long-term food security and promoting poverty reduction. Adequate food supply is a fundamental prerequisite for food security, especially as the global population is projected to reach **9 billion by 2050**. Bolstering farm productivity through better technology and efficiency can help increase food production. Transferring modern farm technology to increase the efficiency with which land is used can produce major increases in farm yields. In this case, governments and development institutions have a critical role to play in providing access to credit, promoting farm cooperatives, and educating farmers about applying new technologies. Reducing the amount of food wasted due

to poor storage or inefficient processing could significantly boost the global food supply. Innovation and adoption of new technology can help improve agricultural productivity and rural incomes. For example, waste-to-energy technologies (i.e., converting agro-biomass to energy) are slowly gaining ground, especially in the face of rising fuel prices. These green technologies help reduce agriculture's carbon footprint and they enhance agricultural productivity and rural income. Energy can be sold or used separately and organic fertilizer generated in the process of converting biomass into energy can be used for agricultural production. Similarly, animal manure combined with biomass (e.g. rice straw, corn stover, sugarcane leaves) can be also used for biogas production.

PROMOTING RURAL DEVELOPMENT

Promoting rural development can contribute substantially to poverty reduction and food security. A majority of the region's poor live in rural areas and this often poses a dilemma for national policymakers when choosing policies to stabilize food prices and protect the agricultural sector. The most effective approach in tackling both poverty and food insecurity is through a **rural-based growth strategy**. A new growth paradigm should focus on support for agriculture, increasing rural income opportunities on par with the urban sector. Doing so will stem the excess labor migration from rural to urban centers that accompanies structural transformation. Rural incomes should also be diversified to improve stability, while urban-rural integration needs to be scaled up. The rural economic base can be diversified by introducing new value-adding activities, including the transformation of agricultural wastes into energy sources.

SUPPORTING AGRICULTURAL RESEARCH

Now, as during the Green Revolution of the 1970s, agricultural research is an essential factor in improving agriculture's productivity. For example, advancements in food technology could significantly boost farm production. Advances in biotechnology can allow the production of crops that are not only more resistant to pests and weather events, but also have higher nutritional content. More research and better technologies are also needed in livestock production and fisheries—as people shift dietary preferences from cereal grains to meat and vegetables. Other areas requiring further research and development include the efficient and sustainable use of dwindling land and water resources. Higher yields are mandatory as available land for agriculture contracts. Although some virgin land areas are still available for cultivation the potential land use for food production is offset by urban sprawl and by soil erosion and degradation. Further, competition for water use by rising populations and more frequent droughts calls for the development of crop varieties that use water more efficiently or are tolerant to water interruptions. **Farmers are expected to need 45% more water by 2030, but are in competition with rapidly increasing urban needs.**

INVESTING IN HUMAN CAPITAL AND BASIC INFRASTRUCTURE

Human capital investments, such as in health and education, and investments in basic infrastructure, such as water and sanitation, play a critical role in food security—as they are essential components of poverty reduction. While sustained income growth leads to poverty reduction and food security, the link between economic growth and food security may be weakened by the poor's limited access to human capital formation and basic infrastructure.

Countries that prioritize social development—boosting access to basic schooling, health, and nutrition—not only directly enhance individual welfare but also achieve higher average incomes over the long term. Prioritizing development of human capital improves food security by providing much-needed education on health and nutrition, understanding the importance of food security itself, and enabling farmers to better adopt modern and more productive farming technologies—for example, by improving processing and storage. Likewise, employing more efficient water management and sanitation will help prevent soil degradation due to pollution, and maintain a healthier, more productive population by preventing the spread of disease.

3. CONCLUSION

Food insecurity—Food insecurity indicates inadequate access to food for whatever reason, the concept of food security differs depending on whatever reason the concept of food security differs depending on whether it is viewed from a global, a national, a household or individual perspective. Globally, Food security concerns the overall availability of sufficient food to feed from an individual perspective, concerns the amount and quality of food available for consumption by the individual. This is a function of the availability of and access to food by the household and the distribution of food between the household.

In some developing countries, food insecurity results from the lack of sufficient food to feed insecurity results from the lack of sufficient food to feed the entire population of the country. This often is a result of war, famine, or some other disaster, but it also can result from lack of resources to assure adequate production, importation, storage or distribution of foods. Food insecurity in both developing and developed countries is a form of deprivation, either deprivation per se or the feeling of deprivation

The case for smallholder development as one of the main ways to reduce poverty remains compelling at least to these authors. The policy agenda, however, must change to meet the new challenges facing small farms. The challenge is to improve the workings of markets for outputs, inputs, and financial services to overcome market failures. Meeting this challenges calls for innovations in institutions, for joint work between farmers, private companies and NGOs and for a new, more facilitating role for ministers of agriculture and other public agencies.

Food security and poverty reduction are inseparable. Although food security alone does not eradicate poverty, any strategy to fight poverty must be integrated with policies to ensure food security and to offer the best chance of reducing mass poverty and hunger. Problems related to increasing food availability, feeding the population, improving their nutritional status and reducing poverty levels continue to confront decision makers in many developing and developed countries. Program managers and policy makers who constantly deal with design, implementation, monitoring and evaluation of food security, nutrition and poverty related interventions have to make best decisions from a wide range of program and policy options. Information for making such policy and program decisions must be based on sound data-based analysis. Such analysis should be founded on statistical theory that provides an inferential basis for evaluating, refining and, sometimes, rejecting the existing policy and program interventions.

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