



Can food-for-work encourage agricultural production?

Sosina Bezu *, Stein Holden

Department of Economics and Resource Management, Norwegian University of Life Sciences, P.O. Box 5003, 1432 AS, Norway

ARTICLE INFO

Article history:

Received 20 September 2006
Received in revised form 27 May 2008
Accepted 2 June 2008

Keywords:

Food-for-work
Food aid
Liquidity constraint
Fertilizer
Poverty
Tigray
Ethiopia

ABSTRACT

Food-for-work (FFW) is the most widely used type of public works program in Ethiopia through which a high share of the food aid is distributed. This paper assesses the impacts of FFW in Tigray, a chronically food insecure region in Ethiopia, in terms of relieving liquidity constraints and thereby improving input use in agriculture. A Heckman selection model on the adoption and intensity of fertilizer use demonstrated that FFW positively influenced the decision to adopt fertilizer and there was no evidence of disincentive effect.

© 2008 Elsevier Ltd. All rights reserved.

Introduction

Ever since [Schultz \(1960\)](#) discussed the theoretical possibility of food aid causing disincentive for farmers through the price mechanism, much of the discussion and debate in the food aid literature focused on whether or not food aid has a disincentive effect. Although the empirical evidence is not yet conclusive, there are more and more evidences emerging to suggest that in a developing country context with significant market imperfections, it may not be even the right question. It may well be more relevant to ask whether or not food aid help improve agricultural production.

We explore this issue using household survey data from Ethiopia, which has been among the leading recipients of food aid. In 2005, Ethiopia received 24% of World Food Programme's and 27% of global food aid to Sub-Saharan Africa ([WFP, 2006](#)). A large portion of the food aid in Ethiopia is distributed through food-for-work (FFW) projects. These are public works projects where participants supply a certain amount of labor in exchange for the food aid received. As a policy, no able-bodied person in Ethiopia gets free food aid and the government has decided to channel 80% of its food assistance resources through FFW projects ([FDRE, 1996](#)). This paper therefore focuses on FFW as a specific type of food aid.

The benefits of FFW to the poor households can go beyond increased food consumption from the food transfers and improved productivity from the physical assets constructed. Income from

FFW can relax an important limitation for rural households: the liquidity constraint. The fact that rural economies of developing countries are affected by pervasive market imperfections is now widely accepted. Missing credit and insurance markets prohibit liquidity constrained household from investing in agriculture ([Holden and Binswanger, 1998](#)). If a FFW job is additional, it can relieve the liquidity constraint of participants and thereby enable farm households, who are both producers and consumers, to purchase more inputs.

Using survey data from one of the poor and drought-prone regions in Ethiopia, we test the hypotheses that FFW encourages adoption of fertilizer. We are not aware of any similar studies before. The results from the Heckman selection model showed a positive impact of FFW in the adoption of fertilizer and there was no evidence of disincentive effect to farming due to households' supply of labor to FFW job.

Literature review

It is often argued that food aid depresses food prices, discourages food production and contributes to inadequate agricultural policies ([Isenman and Singer, 1977](#)). It has been also argued that food aid creates labour disincentives either by increasing the demand for leisure as a result of increase in income or, in the case of FFW, attracts labour away from agricultural and other productive activities ([Lentz et al., 2005](#); [Abdulai et al., 2005](#)).

Although both the production disincentive effect and labour disincentive effect of food aid are often emphasized by development practitioners, policy makers and researchers alike as an

* Corresponding author. Tel: +47 95443146; fax: +47 64965701.
E-mail address: sosina.bezu.chiksa@umb.no (S. Bezu).

important source of concern, it is not often identified through empirical research. Most studies and reports that claim that there are disincentive effects of food aid are based on anecdotal evidences (Lentz, 2003; Lentz et al., 2005). Studies by Lavy (1990) and Abdulai et al. (2005) examined whether food aid has disincentive effects on food production in Sub-Saharan African countries. In spite of the difference in the number of countries considered and the time period covered in the two studies, both papers found no significant disincentive effects. An earlier paper by Maxwell and Singer (1979) examined 21 empirical studies dealing with food aid. They found that more than half of the reviewed studies reported no negative impacts on production. Absence of production disincentive effects does not mean that domestic prices are unaffected by food aid. It is possible that a significant inflow of food to the market depresses the food prices and there are evidences of this in some African countries (Barrett and Maxwell, 2005), and yet the net effect of food aid on agricultural production may not necessarily be negative. Maxwell and Singer (1979) maintain that often appropriate mix of policy tools such as market differentiation and producer supports mitigate price disincentives from food aid. In fact, Abdulai et al. (2004) argue that the decrease in price 'can even be favourable in well-integrated markets for producers of complementary or some substitute goods' (Abdulai et al., 2004, p. 13).

The 'incentive effect' of food aid

The possible positive contribution of food aid to agricultural development has now been acknowledged and is being examined after decades of an almost exclusive focus on the disincentive effect. Barrett (2002) argues that because food aid recipient countries are both producers and consumers, food aid may have factor market effects that overshadow the product market effects. The study by Abdulai et al. (2005) on 42 Sub-Saharan African countries provides empirical evidence for this argument. The results from their vector autoregressive model showed that food aid has a positive effect on food production with up to two years lag. They explained the result as the contribution of income from food aid in relaxing factor market constraints, and particularly financial liquidity constraints that often limit food production in Africa. Bezuneh et al. (2003) examined the short-term, interim and cumulative effects of food aid on Tunisia agriculture. They found a positive impact. Their multiplier analysis showed that an increase in food aid is associated with an increase in domestic demand and supply of food grains as well as increase in per capita income both in the short-run and long-run.

A household level study in Baringo District, Kenya, by Bezuneh et al. (1988) and Barrett et al. (2001) examined the impact of FFW on household welfare. Both studies found a positive contribution. The study by Bezuneh et al. (1988) used farm household model and estimated it using a linear programming model for the production side and the almost ideal demand system (AIDS) for the consumption component.¹ They showed that the net returns for FFW participants are 52% higher than for those without FFW. The food-for-work income relaxes capital constraints and increases own farm production. The study by Barrett et al. (2001) involves comparison of mean income, from different activities, for participants and non-participants of FFW. They found that, in the lower half of the income distribution, FFW decreases reliance on sale of livestock and increases both crop income and non-farm income. In the upper half of the income distribution, the impact of FFW is to increase sale of livestock which brings higher returns. They

argue that in both the upper and lower income groups, FFW impacts come about through its effects in relaxing the liquidity constraints.

Most studies that discussed impact of food aid and FFW on agricultural production in Ethiopia reject the production and labour disincentive effect (Holt, 1983; Kohlin, 1987; Webb et al., 1992; Maxwell et al., 1994). However, since the focus of most of these studies is not the impact of FFW on household production, the studies are neither rigorous in their methodology nor extensive in their data with regard to the effect on agricultural production at household level. A recent study by Abdulai et al. (2005) addresses this problem in that it examined food aid in Ethiopia focusing explicitly on its impact on food production at household level. They rejected the disincentive hypothesis. They observed that simple test statistics, that does not control for endogeneity of food aid, suggest disincentive effect of food aid on household behavior. However, the negative correlation reflects the response of food aid receipt to exogenous factors that likewise affect labor supply and investment.

In view of the size of food aid and FFW in Ethiopia, studies exploring its impact on agricultural production and welfare of recipients are few in number. Quisumbing (2003) and Yamano et al. (2005) examine impact of food aid on child nutrition and found significant positive impacts. The study by Holden et al. (2006) is the most comprehensive household simulation study so far. They used dynamic non-separable bio-economic household model to assess the impacts of FFW on income, own production, farm labour use, conservation and soil erosion. They run simulations of the model under different scenarios about FFW project design and labour market conditions. They showed that in all the different scenarios, household income increases. But the effect of FFW on food production and conservation activities can differ greatly depending on how and for what activities FFW is used, on the characteristics of the local labour market, and on the impact of conservation technologies on short-term yields (Holden et al., 2006, pp. 30–31). In light of the upward trend in the global food prices and the decline in food aid availability, we believe that the impact of food aid should be thoroughly examined. We hope our paper contributes to the empirical literature and debate on food aid and its impact on farm production and investment.

Survey setting and scope

This paper is based on a survey that was conducted in Ethiopia in June and July of 2001. The survey collected data with one year recall period from 1st of May the previous year to capture the full production period. The surveys covered 16 villages in the four zones of Tigray (central, eastern, southern and western). The villages in the survey were stratified to capture differences in distance to markets, population density, agricultural potential and access to irrigation. Twenty-five households were randomly sampled from each village (see Hagos and Holden (2002) and Hagos (2003) for detail). The sample size was 400. There were 234 households who participated in FFW in 2001. Because the FFW job access is generally lower than the demand for it, households' access to FFW is likely to be rationed and the amount of labor they can supply and food income they get are administratively determined. As a result, many of the participating households were not allowed to work as many days as they wanted to. Roughly 60% of those who participated in FFW have indicated that they would have liked to supply on average an additional 45 days of labor.

The estimation on fertilizer use is based on 1755 plots owned by the 400 households surveyed. About three fourths of the plots were owner-operated. Fertilizer was applied only on 808 of these plots accounting for about 46%. The average farm size in the sample was 1.1 hectares with less than 10% of the households having more

¹ The separability of production and consumption decisions in their paper depends on the assumption that markets exist for all goods and labour and also wages and prices are exogenous. We feel that these are strong assumptions for rural Kenya.

Download English Version:

<https://daneshyari.com/en/article/5071086>

Download Persian Version:

<https://daneshyari.com/article/5071086>

[Daneshyari.com](https://daneshyari.com)