The Political Economy of Relief Aid Allocation: Evidence from Madagascar

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Summary. — This paper studies the political economy of relief allocation using evidence from aid programs after cyclone Gafilo hit Madagascar in 2004. Relief was provided by the government as well as local and international aid agencies. Aid was more likely in areas with a higher need for relief, in more easily accessible communes and in cyclone-affected communes with higher radio coverage and stronger political support for the government. Compared to relief provided by the government, aid by agencies was less affected by media or political factors, but more likely to go to poorer and more easily accessible communes, unconditional on impact.
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1. INTRODUCTION

Natural disasters often have strong and long-lasting impacts on welfare in low-income countries. Governments and aid agencies struggle to appropriately design and implement natural disaster relief programs as to mitigate the devastating effects (e.g., Cavallo & Noy, 2010; World Bank, 2006). Research suggests that targeting of relief is not always effective, for a variety of reasons. One reason is that, as with any government policy, political considerations affect relief aid allocation. Another reason is that relief aid allocation is affected by the costs of aid distribution, which itself is a function of local institutions and infrastructure. The nature of the organization in charge of aid distribution may also matter, as local governments or international institutions have different incentive structures.

However, in contrast to the determinants of aid overall, empirical evidence on the importance of these factors in relief aid is still scant (e.g., Alesina & Dollar, 2000; Burnside & Dollar, 2000). Given the growing importance of relief aid (Fan, Omilola, & Lambert, 2009; GAO, 2008, 2009; Hoddinott, 1998) and the desire to more efficiently use these public funds, understanding the significance of abovementioned factors is crucial. The limited empirical literature identifies several factors which affect relief aid allocation. First, the demand for assistance and the costs of providing assistance affect relief operations, but not always as expected. In a study of the allocation of natural disaster relief after hurricane Mitch hit Honduras in October 1998, Morris and Wodon (2003) find that, while the probability of receiving aid at household level was negatively correlated with wealth and positively correlated with assets losses, the amount of relief received was independent of these two variables. The amount of aid received by households in Nicaragua following hurricane Mitch was

neither related to the degree of losses suffered nor to their pre-Mitch income level (Lazo & Santos, 2004). Looking at how costs related to existing institutions and organizations affect the supply of aid, Jayne, Strauss, Yamano, and Molla (2002) find that food aid allocations by the Ethiopian government together with local and international nongovernmental organizations (NGOs), displayed a large degree of spatial continuity over time which the authors attribute to high fixed costs in the set-up of relief operations and in the process of identifying needs.

Second, Jayne, Strauss, Yamano, and Molla (2001) also find that food aid was being used by the Ethiopian government to transfer resources to regions favored by the regime instead of those regions most in need. Similar political pressures in the case of emergencies were shown to exist in India and Sudan (Plumper & Neumayer, 2009).

Third, other studies show that mass media can affect the process of aid allocation, in particular by governments, as the media enable vulnerable citizens to monitor the actions of politicians and to use this information in their lobby activities or voting decisions. [1] Sen (1984) attributes a major role to the freedom and independence of the mass media in India in explaining why the country has historically avoided famines more successfully than China, which lacks free and independent media. Besley and Burgess (2002) use panel data on public food

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distribution and calamity relief programs in India to show that a more informed electorate strengthens incentives for governments to be responsive. In their analysis, newspaper circulation plays a substantial role in increasing political accountability. Mass media has also been identified as an important factor in African countries that succeeded in preventing famines (Drèze & Sen, 1990). The media matters for relief aid in developed countries as well. For example, Strömberg (2004) shows that during the depression era (1933–35), based on a cross-section of approximately 2500 US counties, governors allocated more relief funds to areas where a larger share of the population listened to the radio.

The objective of our paper is to contribute to the literature on the political economy of relief aid allocation. Using unique primary data, our paper studies how various factors affected the targeting of relief aid allocation to rural communities after cyclone Gafilo hit Madagascar in March 2004. Aid was provided by the Government of Madagascar as well as by local and international aid agencies. The Government provided emergency assistance by distributing first aid supplies as water, medication, blankets, and shelters. The donor agencies mainly organized reconstruction and rehabilitation of public infrastructure, partly through cash-for-work programs.

Our study focuses on the allocation of this relief aid to communes. Data on relief aid and community specifics are from a survey of 249 communes at the end of 2004, which we combine with various sources of other information such as the population census and the commune census as well as alternative measures for the local impact of the cyclone, including data on precipitation, satellite and wind speed data as well as the National Disaster Management Agency's (CNS[2]) impact assessment of the cyclone.

The paper is organized as follows. The situation in Madagascar in general and in the aftermath of cyclone Gafilo in particular is depicted in Section 2. Section 3 describes the data that we use. The empirical specification and the determinants of aid allocation decisions are discussed in Section 4. Sections 5 and 6 present the results and robustness tests respectively. Section 7 concludes the paper.

2. CYCLONES AND RELIEF IN MADAGASCAR

Madagascar is one of the poorest countries in the world, with a per capita income[3] of US$953, and nearly half of the children under 5 years of age are malnourished (United Nations, 2010). In March 2004, Madagascar was hit by cyclone Gafilo killing 172 people and leaving 214,260 without a home (Relief Web, 2006). An estimated 774,000 people were affected, of which 308,000 were in need of urgent emergency assistance (World Bank, 2004). Over 300,000 hectares of agricultural land was damaged, and about 400 schools and health centers were destroyed. The northern and western parts of Madagascar were seriously hit by the natural disaster, while the south-eastern part did not experience heavy losses. The Government of Madagascar declared an emergency and appealed for international assistance.

The government—with financial support from the United Nations—mainly provided emergency assistance by distributing food and first aid supplies such as water, drugs, blankets, shelters, etc. (United Nations, 2004). In some parts of the country, the government also assisted in the reconstruction of public infrastructure as schools and health centers. Targeting by the government was supposed to be solely based on the impact assessment indicators from CNS (described in Section 3). With this information at hand, the government sent aid to the most affected districts and communes. However, little is known about the actual decision rules and their implementation.

In a first stage of the relief allocation process, aid was supposed to be sent by the government to the local communities. The second stage of selecting beneficiary households occurred after commune-and village-level allocations had been determined. According to our interviews, local-level responsibility for selecting disaster relief beneficiaries was delegated to the commune and village representatives. Anecdotal evidence suggests that—depending on the scope of the damage in the commune—first aid supplies where handed out randomly in some communes while in others they were allocated to needy households according to eligibility criteria. Unfortunately, as we are not in the possession of household data, we cannot analyze the second stage allocation, so our analyses solely focus on the first stage of the decision process.

The donor community that was directly involved with the implementation of relief programs (in contrast to the UN who transferred money to the government and left it up to the government to decide where to allocate the aid) mainly consisted of the Development Intervention Fund, sponsored by the World Bank, and international and national humanitarian or nongovernmental organizations (NGOs) as CARE, Catholic Relief Services, and SAHAFA. Some of the local NGOs were already operating in the affected regions prior to cyclone Gafilo. There is extensive evidence that these aid organizations cooperated to reach the affected population. Targeting by these organizations was supposedly based on the CNS

Table 1. *Impact assessments and relief after cyclone Gafilo*

	0 = No	1 = Moderate	2 = Serious	3 = Very serious
(a) CNS impact code				
Number of communes	56	156	30	7
Percentage of communes	22	63	12	3
Percentage of communes that received government relief	14	34	47	57
Percentage of communes that received aid agency relief	18	45	70	86
Percentage of communes that received relief from other sources	0	9	20	0
Percentage of communes that did not receive any relief	75	33	10	14

	No impact			Impact
(b) Cyclone path—dummy				
Number of communes		191		58
Percentage of communes		77		23
Percentage of communes that received government relief		28		43
Percentage of communes that received aid agency relief		36		66
Percentage of communes that received relief from other sources		6		14
Percentage of communes that did not receive any relief		46		17