

**Final Progress Report**  
**Sustainability Science Program, Harvard University**  
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## **Final Progress Report**

**Name:** Rocco Macchiavello

**Your degree program, institution and graduation date:**  
PhD, Economics, London School of Economics, 2006

**Field(s):**  
development and organizational economics

**Faculty host(s) at Harvard:**  
Prof. Asim Khwaja, Prof. Rohini Pande

### **Description of SSP-related research:**

**Title:** The Effects of Ethnic Violence in an Export-Oriented Industry: Evidence from Kenya Flower Exports.<sup>1</sup>

**Abstract:** The research combines administrative data with a firm-level survey to quantify the effects of ethnic violence on commercial floriculture, a sector of significant economic, social and environmental importance in the context of Sub Saharan Africa, particularly Kenya. The research takes advantage of appositely collected data to i) provide rigorous estimates of the effects of the violence on both firm's profits and workers welfare, ii) understand the determinants of the heterogeneous impact of the violence, and iii) investigate institutional arrangements that can mitigate the negative effects of ethnic violence in similar contexts.

### **Identification of the problem:**

Violence associated with presidential and parliamentary elections in Africa is very common (in recent see, e.g., the cases of Kenya, Zimbabwe, Guinea and Madagascar). Macro-level evidence shows that civil unrest has negative effects on growth and development by reducing investments (see, e.g., Alesina et al. (1996), Collier (2007)). Micro-level evidence is highly needed to deliver policy insights but remains scarce. In particular, it has been hard to gather detailed information on the operations of firms before, during and after the violent conflict, and construct valid counterfactuals, i.e., assess what would have happened to firms in the absence of the violence.

### **Key question asked about the problem:**

The research investigates the economic effects of civic unrest on firms, using the experience of the Kenyan floriculture sector during the ethnic violence that followed the presidential elections in 2007 as a case study. This paper is part of a broader engagement to understand the economic, social, and environmental impact of commercial floriculture, a non-traditional agriculture sector of growing significance in the context of Sub-Saharan Africa.<sup>2</sup>

### **Methodology:**

The paper exploits both temporal and geographical variation in the incidence of violence to provide convincing reduced form effects of the violence on firms production. The paper further combines the

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<sup>1</sup> This particular research project is part of a larger effort to study the economics, social and environmental impact of non-traditional agriculture, in particular commercial floriculture, in the context of Sub-Saharan Africa.

<sup>2</sup> The floriculture sector is one of the three largest earners of foreign currency for Kenya and employs several thousand of workers, mostly poorly educated women, in rural areas. Several Sub-Saharan countries, e.g., Ethiopia, Burundi, Tanzania, Uganda, are actively promoting the sector.

reduced form estimates with information collected through a firm survey designed and conducted by the authors to i) uncover the main channels through which the violence affected firms, and ii) calibrate a model of firms reaction to the violence. The calibration allows to construct credible bounds on firms profit losses and on the costs incurred by workers due to the violence.

**Principle literature upon which the research drew:**

Methodologically, the paper borrows from recent advances in applied micro-analysis in development economics. These methodologies, have been rarely applied to the study of firms. Furthermore, the combination of reduced form estimates and survey evidence to calibrate a theoretical model is also uncommon in the literature. The paper also draws on the small, but growing, microeconomics literature on the effects of civil and ethnic violence and on the larger literature on firms heterogeneity in international trade.

**Empirical data acquisition description:**

Administrative data were acquired during various trips to Kenya and from other sources. An original survey was conducted and designed by the authors.

**Geographical region studied:**

Sub-Saharan Africa. The paper focuses on floriculture in Kenya. A research project on the environmental and social impact of floriculture is undergoing in Ethiopia.

**Final product(s):**

The paper is currently under submission for publication in a general interest economics journal.

**Other intellectual or professional advancement activity(ies):**

I have completed two papers on the role of reputation in export markets:

- *Development Uncorked*, [BREAD working paper N. 265](#)
- *The Value of Relationships*, to appear soon as CEPR DP.

I have presented this and related work at several seminars, conferences and workshops, including at BU, Brown, Duke, IFPRI, MIT, NEUDC, NYU, Yale, in U.S. and in several other occasions in Europe.

I have initiated a number of new research projects, including: *i*) Environmental and Social Impact of Floriculture in Ethiopia (with Ameet Morjaria), *ii*) Emergence and adoption of Private Standards in Industry Equilibrium (with Jean Marie Baland), *iii*) Retail Chains, Upgrading and Certification in the Bangladesh Textile Sector (with Chris Woodruff), *iv*) Missing Firms: Scaling-Up of Micro-Enterprises (with Chris Woodruff and Maitreesh Ghatak).

I have collaborated with FAO and IFPRI on the definition of a research agenda to study the role of small-holders in agricultural value chains in Sub-Saharan Africa. I have participated to country visits with IGC in Pakistan and Ethiopia.

**Principal collaborators outside Harvard:**

Chris Woodruff (Warwick University),  
Maitreesh Ghatak (LSE)  
Mikhail Drugov (Carlos III)  
Jean Marie Baland (Namur)  
David Atkin (Yale)  
Amit Kandhelwal (Columbia)

**Grants and Awards:**

IGC grant to study floriculture in Ethiopia  
IGC grant to study upgrading and social labeling in Bangladesh Textile Sector

**Future contact information:**

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## Thoughts on the year

Dear Nancy,

these are some of my thoughts about the year.

I had a great time and I am very grateful to the Program for allowing me such a fruitful year in Cambridge.

A part from the direct and large benefits of having had a lot of time and exposure to complete and discuss my research, this year in the program has also re-shaped my research interests. In the near future I will be engaged in research projects combining my interests in firms and organizations to study issues relevant for environmental/sustainability in less developed countries.

I realize things have advanced slowly: it has taken longer than expected to finish older projects; the work for the original project proposal was delayed by the need to coordinate with IGC ( the visit didn't happen until June, but Ameet is in Ethiopia now to explore data availability), and I have also gone through the break-up of my five years long relationship with my ex-fiancee somewhere half the way through the fellowship.

In sum, before I write more specific comments on the program, let me reiterate my gratitude to the program for a wonderful experience, one that will certainly have many long-lasting positive effects on both my intellectual and professional development.

More specifically, now, on some aspects of the program:

1. Unfortunately, I have missed the orientation meeting. I am aware of research of economics faculty at Harvard and at the Kennedy School in particular. I am less aware of research done by faculty in other disciplines, so it was bad I missed the orientation. I was told by other participants the meeting was useful, however.
2. The fellows seminars (both the discussion of draft papers and research proposals) are useful. I think the format is appropriate, given the relatively large size of the program, and the many commitments people already have. I am less sure, however, how much the seminar achieve in terms of fostering collaborations between people in different sub-disciplines. I'll return to this issue below, with some further thoughts and a (very speculative) suggestion.
3. I had good interactions with the other fellows, and with my faculty hosts. For instance, I became friend and had several useful conversations with Marta, Pinar and Lorenzo, just to name a few. I realize, however, they are all economists.  
I had good interactions with my faculty hosts, though I haven't started a project with any of them. I have received support from Rohini, Tavneet and Asim. Due to my current research interests, I interacted more with Asim and Tavneet, and a more concrete collaboration with them might develop in the future. I have also had the chance to interact with other faculty here at Harvard. I regret not having taken advantage of Michael and Sendhil more, but I know how busy they are.
4. The support I have received from the program was very good. As I mentioned, I won't be claiming the financial support: time and focus, rather than money, have been the most scarce resources this year. In this respect, the program has already been extremely generous.
5. I will keep my ears and eyes open regarding recruiting and will let you know if I hear of people that would be good matches. Although I am Italian, I left the country many years back, and so I do not have many contacts there.
6. Finally, I do realize the difficulties -- but also the social value! -- of encouraging interdisciplinary research among junior researchers. There are much stronger incentives to publish and get known in one's own field and I think these dynamics are, regrettably, particularly pronounced in economics.

One thought to promote interdisciplinary work could be as follows: at the recruiting phase it might be worth trying to focus on matches of small groups of people, e.g., 2-3, that are most likely to collaborate. I wonder if it would be even possible to put less emphasis on the initial proposal, and rather encourage small groups, e.g., 2-3 people from different areas, to submit a joint proposal within, say, the first two months in the program. In some sense, the recruiting would be less on the initial proposal, and more on how to match similar proposals. This could be mentioned in the application process. During the year, each group would be assigned to a common host, and the host could then meet them together.

Of course, this would require (almost) forming the matches at the recruiting stage: this might be difficult, given the idiosyncrasies and nuances of successful collaborations. However, all fellows I have met in the program strike me as extremely nice and well-disposed persons, as well as curious and motivated scholars, so it might be worth the try! I am happy to talk more about this.

Finally, given how my research portfolio will develop over the next months, if you think there are ways I can keep being involved with (and perhaps help) the program, I would be delighted to do so (more or less formally as you think would be most appropriate). For instance, in the near future, I will occasionally return to Cambridge, to work with Ameet, Jean Marie and, potentially, on a fair-trade related project with people at IPA. A part from limited logistic support (i.e., I will ask you if there is some desk space during my visit), I'd like to be in touch with the activities and people in the program and in CID more broadly. I would be happy to talk more about this.