Chapter 13

Mathematical Modelling and "Ethnic Conflict" in Colombia

The Impact of the Unit and the Level of Analysis

Fabio Andres Diaz

Abstract

Reflecting on methodology means thinking about decisions a researcher makes when approaching the subject of study, in terms of questions posed, concepts embraced and choice of methods. There are also epistemological and ontological assumptions underlying the selection of particular methodologies and concepts, though this is less often explicitly considered. Therefore within these considerations, the definition of the unit of analysis and the levels at which the study is conducted, need to be made explicit and to be justified, for quality in research. This chapter discusses these issues taking the example of Colombia, to show how some violent conflicts fall between the cracks of currently dominant methodologies of mathematical modeling and the use of existing econometric datasets, on the one hand, and the ways ethnicity is included in those models and datasets. Ethnic identities have mostly been the focus of studies by anthropologists, often focused on local level struggle sand claims, whereas a national level perspective is still most common in the econometric rational choice approach to conflict studies. The later however use ethnicity as one of its variables. My point is that research results also change when the research focus changes from national to local level.

Introduction

In this chapter I take the case of the El Cauca district in Colombia, and indigenous people's use of violence in the conflicts over rights. I ask: why is this conflict largely invisible in the studies of long-lasting Colombian violence? Not only is this a puzzling and intriguing question, but, I believe, it has wider implications for how we work in conflict studies in relation to questions of data, identity and levels of analysis within the "global village".

To answer the above question, I analyze how is the dynamics of violence at the national and local level understood by scholars working on Colombian conflict. Much research in the Colombian conflict has applied econometric mathematical models, and I evaluate the influence of this methodological approach to the choice of the unit of analysis. But I also question the use of the category of ethnicity (at the expense of all other identities) in those quantitative studies, evaluating its presence at the national and local level.

The paper is structured as follows. I first reflect on the use of mathematical models for assessing conflict and civil war, testing a possibility that there may have been an "ethnic war" in Colombia. I then examine how the narratives about Colombian conflict that are constructed at national level differ from regional level narratives, and how such differences arise. Finally, I reflect at the relevance of the unit of analysis effect in the scholarly interpretations of "civil war" and "ethnic conflict".

In search of a unit(y) of analysis

The main claim of this chapter is that selection of particular units of analysis in relationship to the level at which the study focuses, will tend to create biases for what we can and will "observe", and thus will influence the findings of our studies. Those findings particularly relate to a question whether a conflict will be defined as "ethnic" and how will local identities be related to econometric datasets and models. This point is illustrated through an analysis of how mathematical economic models and datasets are used to research violent conflict in Colombia. As an unknown observer put it: 'If you torture the data long enough, it will confess to anything.'

Mathematical modeling of social phenomena has, by definition, always implied abstraction and simplification to allow for a focus on the specific relationships we want to study.[1] In this case, the equations used in order to understand interactions between other abstract categories such as "ethnicity" and "conflict" are further represented by the interactions between a given set of variables, for example the state, the gross domestic product, the presence of natural resources, the amount of people belonging to different ethnic groups (often measured through religion and language differences).[2]

While some of the variables used in studies on "ethnic conflict" are widely shared among scholars, many – and the question of their selection for a particular context – are still a matter of fierce dispute. As some authors note, mathematical modeling shows correlations through the interactions or equations between different categories and variables, but cannot actually prove causal relations.[3] Similarly, part of the problem with the study of ethnicity is the difficulty of analyzing how it relates to the general category of war or violent conflict. Almost any conflict

can be assumed or asserted to be related to the identity of affected groups residing in conflict areas[4]. However, while ethnicity and identity can be used as *analytical categories* to understand the dynamics, especially of the local-level conflicts, this does not mean that ethnicity and identity cause conflict.

Most analyses on ethnic conflict embrace a state-centered approach, so that variables used to understand conflict through identifying correlations, are usually analyzed at national level only, and not at both regional and national levels.[5] In other words, few of those approaches bear in mind that the modelling process sometimes takes for granted the leap of faith between concepts or variables we study and realities on the ground, as it were.

Can the state be equated, even roughly, with gross domestic product? Are formal voting rights a good measure of effective political freedoms of citizens? Probably not, and yet some economists still employ such assumptions when conducting their empirical work. That such rough and ready approximations are commonly used reflects the reliance of mathematical research on data sources and datasets (see de Sousa's chapter in this volume on datasets used in conflict and peace studies). The same is relevant for understanding the realities of ethnicities: how are ethnic groups and their political positions created, how are they mobilized and what therefore comes to be termed as an "ethnic conflict", by the communities themselves, by political elites, or by the researchers, is all linked to specific understanding of what "ethnicity" means. In much conflict and peace literature, ethnicity is treated as if it were a bounded, self-activating social entity, a group with fixed, defined boundaries and membership.[6] At the same time, different variables are used to mark ethnicities in datasets. In some cases, data is drawn from scanned versions of

existing maps that claim to show the spatial distribution of "ethnic groups", such as the Atlas Narodov Mira[7], or geo-referenced datasets.[8] Datasets based on political representation of "ethnic groups" and the allocation of power and resources to these groups, are also used to measure the polarization within the countries.[9]

In order to be able to compare and analyze "patterns" and "regularities" in social processes upon which the aggregate datasets rest, these datasets need to offer roughly comparable information from different countries, so that trends can be established or tested in relation to the variables under scrutiny. Several problems emerge, however, when information from different countries is compared and aggregated. First, the assumption of relative homogeneity, i.e. that social mechanisms operate in roughly similar ways in different contexts, and that data measured will generally mean something similar in each national setting, is not necessarily justified. Second, aggregated studies also conceal a great deal of local-level variation in terms of inter- and intra-group inequalities.[10] Finally, for researchers who wish to understand what might be happening in a specific locality, aggregate studies are weak at indicating the possible correlation between ethnicity, inequalities and violent conflict.[11] Methodologically, spending so much effort and time on trying to "prove" or "disprove" highly generalized hypotheses or working theories, makes little sense, especially when the data disguise many of the distinctive qualities of differing contexts.[12]

This is especially relevant for the national-level data. For example, regarding Colombia, existing datasets such as the MAproject[13], or the GeoEPR-ETH Version 2.0 dataset[14] consider indigenous people in Colombia as part of a homogenous group at national level. Yet within Colombia, there

are more than 100 different indigenous groups, living in different regions of the country under widely varied circumstances, with some common experiences, perhaps, of social exclusion and inclusion, but of very different kinds. Some datasets such as the Uppsala[15] and PRIO[16] do not even acknowledge the presence and experience of different armed groups within local indigenous regions of Colombia, such as the Movimiento Armado Quintin Lame (Quintin Lame Armed Movement; in further text MAQL). To avoid the pitfalls of national-level aggregated datasets some research on violent conflict has moved away from gross national data towards data gathered at regional and local levels. With such data, researchers are far better able to assess the particularities of a conflict within a specific geographical area, including from an "ethnic" perspective.[17] Furthermore, even within the rational choice approaches, researchers are ever more aware that violent conflicts are always historically and political rooted, and are paying more attention to the ways history and politics play out at the local levels.[18] I turn now to examine the issues about the unit and the level of the analysis on the specific example of research on Colombian violent conflict.

Does Colombia have "Ethnic Conflict"?

Taking the case of Colombia and examining it in relation to 'ethnic conflict' is going against the grain of almost everything written about the violence in the country. This is precisely why I decided to undertake this exercise: in order to test out to what extent our analytical tools can result in blinding us certain aspects of the local and perhaps national realities of a particular conflict or set of conflicts. The Colombian case also offers the possibility of making a fairly clear

distinction between different conflicts – and the units of their analysis – for national and for regional and local levels.

Traditionally, in conflict studies, the Colombian conflict has been considered a classic guerrilla war against the state and paramilitary, based at least originally on political ideologies.[19] Rebels were seen as fighting in an effort to secure eventual control of the state apparatus[20] and in some cases to control local institutions of the state and the economy.[21] The history of the Colombian conflict and its emergence has also been traced to the impact of colonialism, even though independence was achieved in 1819.[22] What followed was a century of small civil wars, mainly fought between liberals and conservatives disputing the consolidation of political, economic and state power within the country.[23] These tensions and the violence continued up to the middle of the 20th century, more or less continuously. Throughout this time, violence was mainly used as part of a wider political platform, to help consolidate power, and secure land ownership across the country.[24] The boundaries of legality and illegality in the uses of violence, and in general, were blurred and demarcated during such violent political struggles.

Literature on Colombian conflict often gives salience to one particularly violent episode of the twentieth century – the events that occurred between 1948-1953 - which are labelled *La Violencia*. In these episodes, almost 2 per cent of the country's population died when violence followed the assassination of liberal leader, Jorge Eliecer Gaitan.[25] The practices and logics of violence used in *La Violencia* obeyed forms of violence used more than fifty years earlier, when armed violence was used against members of political opposition parties who could be threatened, murdered and displaced to different regions of the country, on the basis of their

political beliefs.[26] The eventual bloodbath resulted from the extended use of violence by the authorities, and produced a deep lack of trust in state institutions among significant sectors of the Colombian population.[27]

During the period 1953 to 1958, immediately after *La Violencia*, some guerrilla groups demobilized. By 1958 an agreement was reached among Colombian elites that political power would alternate between liberals and conservatives. Elite capture of the political system thus shut down political options for new political groupings and parties. [28] This inter-elite agreement partly explains why leftist guerrilla groups emerged during the 60s and 70s, mainly: the FARC[29] the ELN[30] and the EPL.[31] In the 1970s and 1980s, the appearance of drug trafficking altered the relationships of power at national and regional levels, creating spaces for illegal entrepreneurs, right-wing paramilitaries, armed factions that worked for drug barons, and private armies known as self-defence forces.[32]Drug trafficking further complicated the panorama of the Colombian civil conflict, and led to the coexistence of several simultaneous and interwoven forms of political, economic and social violence. During this period, another armed group, the M19, also emerged. [33] Following election of President Turbay in 1978, violence became the deliberate strategy of government, used against guerrilla forces, and not against right wing militias, private armies or paramilitaries. The subsequent activities of the Colombian security apparatus meant increased militarization, and massive human right abuses including the use of torture, and disappearances.[34]

During the 1980s, the state made fresh attempts to reach a peace agreement with guerrilla forces, but encountered widespread opposition to the peace process from right-wing and paramilitary

groups, now fully involved in paramilitarism and drug trafficking.[35] In the same decade small, regionally based guerrilla groups emerged, which did not achieve national influence, but could be significant players at local level. The MAQL is one of these smaller guerilla groups that emerged as an expression of regional grievances. At local level, armed mobilization looked like a valid option in the face of widespread repression, paramilitary atrocities and a lack of protective state presence. Towards the end of the 1990s, within the context of constitutional reforms, the situation became more promising for peace and security, and there followed the demobilization of the M19, the EPL and the MAQL.

From 1991 to 1994 the government sought to defeat groups perceived as not committed to peace. Despite these efforts, results were limited, as drug traffickers were gaining the upper hand, even after the death of drug baron Pablo Escobar and the reclusion of leaders from other cartels. During the 1990s, the FARC and paramilitaries both engaged in kidnapping and drug-related activities to increase their revenue. The almost total lack of formal state presence in some areas of the country made it possible for these groups to increase their military power and effectively they came to replace the state at local level.[36]

Finally, after further peace initiatives failed in the late 1990s, from 2002 to 2010 the Colombian government pursued a policy of all-out war against left-wing militant groups, weakening the FARC and killing some of its top leaders.[37] According to the government, paramilitaries no longer existed after the 2003 peace accord of Ralito.[38] Those armed groups that emerged or survived after this point, although they adopted very similar violent practices to the paramilitaries, came to be known as criminal gangs or "BACRIM" instead. Guerrillas also

changed their strategy during this period, and started to use particular provinces of Colombia as "safe havens" so as to withstand the government's military offensive. One of these provinces was the department of El Cauca. Before reflecting in more detail on whether and how "ethnic conflict" can apply to the El Cauca case, I first examine how quantitative mathematical modelling has been used to try to understand the national-level processes discussed so far.

Most economic literature on the Colombian conflict that uses mathematical models has researched the conflict in relation to quite specific research questions. They seek, for example, to explain the presence, or not, of armed groups in different regions[39], the impact of internal violent conflicts on the national economy[40], the relations between paramilitary groups emerging and natural resources[41], why teenagers and children join armed groups[42], links between governability and conflict[43], differences between war and criminality[44], relations between violent conflict and the state[45], and finally the role of drug trafficking in influencing violence in the conflict.[46] Elements such as class, poverty and marginalization of citizens have all been referred to, and sometimes used as elements to understand the presence or absence of armed groups, or the incidence of violence in conjunction with other political and historical features.[47] But in none of these studies have identity or ethnicity been addressed as issues that *cause* conflict, and in very few is identity seen as one of the elements for explanations of the emergence of conflict. I could find only two studies about the MAQL group in terms of its relationship with particular indigenous groups in Colombia[48] and in El Cauca province.[49] In all of them the unit of analysis is either the individual actor or the armed group; it is never an "ethnic group" or "identity group". The issue of identity groups or ethnic groups is raised within studies on Colombia mostly to help in analyzing the *impact* of the (national) conflict at the local level.[50]

From this brief review of relevant literature, one could conclude that ethnicity and identity issues have mostly been seen by researchers as irrelevant to causes of violent conflict in Colombia. Or one could conclude that although ethnic and other identity-based groups exist in Colombia, they are not seen salient to violent conflict because of their relatively small share of the population, and thus are likely to be overlooked. After all, historians, political scientists and anthropologists do study ethnicity and ethnic identity in Colombia. They do not use mathematical models based on quantitative datasets for doing so, however. Rather, they develop analyses within the wider historical and political contexts of specific regions of the country, and overall at national level.[51]

Narratives of conflict and the meanings of ethnicity: El Cauca province

El Cauca province is located in the South West of Colombia and has around a million and a half inhabitants, as well as a long history both of struggles for indigenous rights and the presence of armed groups. In municipalities where violent conflict has been prevalent in El Cauca, 35.7% of the population recognized themselves as indigenous and 54.2% as afro-descendent in the early 2000s.[52] In addition, an estimated one fifth (21 per cent) of the total indigenous population of Colombia is concentrated in 14 of the 41 municipalities of El Cauca.[53] Table 13.1 shows that in El Cauca the indigenous population is comprised of six different ethnic groups with different traditions, cultures and languages.

This suggests that, at the level of local and regional politics, "ethnic" agendas may well emerge and become salient elements for understanding local political dynamics in relation to wider

country-level conflicts. La Cauca province was where the first indigenous guerrilla group in Colombia emerged – the aforementioned MAQL.[54] And not coincidentally, it is also a district where the indigenous population has constantly been on the receiving end of violence from paramilitaries, guerrillas and government forces alike.[55] In recent years the region has become strategically important for the FARC, faced with the government offensive of 2002-2010 against left wing guerrilla movements. Indeed, La Cauca is an area known for the presence of a relatively large number of armed groups, over the course of the years.[56] The FARC conducted its first military operations in the province as early as 1961, for example[57], even before it was recognized nationally as an armed group. Other groups made their presence visible in the province – including M19 - which used the province as one of its main bases during the peace negotiations with the government in the 1980s. Historically, these armed groups have not been associated with indigenous struggles, except for the case of the MAQL.

My question therefore is this: can the case of the MAQL armed struggle be seen as "ethnic conflict", with its own dynamics of identity-based violence within La Cauca? This question can be derived from the way that the Colombian government speaks of "indigenous groups" as "ethnic minorities", and at the same time recognizes different ethnic groups within the broad category of "indigenous" or "afro-descendants".[58] It is also significant that the MAQL itself defined its own political agenda around indigenous people's rights.

The dispersion and separation of indigenous groups across the Colombian territory and their vast distances from big population centres make them less visible than they might otherwise be. It some studies of the Colombian conflict, it is also argued that defining and perceiving boundaries

between indigenous and non-indigenous Colombians is quite problematic.[59] The indigenous population stands at around two per cent of the total national population of the country, illustrating the extent of genocide in the past, and the wholesale destruction of indigenous groups in the country through centuries of colonisation. Recognition and definition of indigenous people as a group (or as many groups) was largely absent before the Constitution of 1991. Under the provisions of this document, indigenous people for the first time acquired particular legal and political recognition rights, which allowed them more participation and involvement in the Colombian state and in politics.[60] However, although the term "ethnic groups" is used in discussions about indigenous rights in Colombia, in most of the academic literature, the term is simply not referred to at all. Rather, the terms "indigenous groups" or "indigenous minorities" are used. Might it be the case that in Colombia, and even in Latin-America, unlike in Africa and Asia, for example, minorities' identities are not framed as ethnic, but rather as indigenous or non-indigenous?[61]

It is interesting to note that indigenous struggles in Colombia have 'moved from class-based claims to a politics where identity claims have been central in their agenda and part of their strategies to negotiate with the state', partly as a result of the constitutional changes of 1991.[62] If this is the case, why is it that the violent manifestations of indigenous people's struggles are not defined as "ethnic conflict"? I find this fascinating and also puzzling; it certainly has wider implications for how we work comparatively in conflict studies in relation to identity-based conflicts, across the "global village".

Historians have offered a broad account of violence and resistance of indigenous populations in La Cauca province, showing the roots of the current conflict in the area even before the appearance of the FARC guerrillas in the early 1960s. Historically, indigenous claims for self-determination – rather than independence - and for respect for indigenous rights date back to at least the early years of the 20th century, with the uprising of 1916-1919 led by indigenous leader Quintín Lame.[63] Despite the failure of the uprising in achieving its goals, it set a historical precedent and became a reference point for later indigenous resistance and political struggles. Indigenous claims were almost always informed by legal claims for land and for the right to land that had belonged to indigenous communities for centuries, and which had been taken over, illegally purchased or invaded and usurped by colonizers and landowners.

Another milestone for those struggles was the formation of the CRIC (Regional Indigenous Council of the Cauca; *Consejo Regional Indigena del Cauca*) in 1971, a political organization aiming at bringing together and combining different indigenous groups within the province. The emergence of the CRIC marked the relative independence of indigenous political organizations from the main Colombian political parties and groupings.[64] The CRIC struggled for cultural and territorial autonomy and human rights of the indigenous groups as well as for the recovery of what it viewed as stolen indigenous lands. Such claims were framed through notions of territory, tradition and customs, and could therefore be understood as identity-based or "ethnic" claims. [65]

The MAQL, which can be termed an indigenous guerrilla group, operated in El Cauca between the mid-1980s and the beginning of 1990s, and claimed to defend the indigenous communities in the province from attacks by landowners, other guerrilla movements, the state military, and other

armed groups in the area. MAQL also aimed to struggle for the retaking and the return of territories previously seized and stolen from indigenous communities, by landowners in the region. The group was named after indigenous leader Quintin Lame, and like its namesake, did not make separatist claims for independence from Colombia. MAQL's period of armed struggle lasted till the late 1980s, and in 1991 MAQL demobilized as part of broader negotiations with guerrilla movements, a process that resulted in the country gaining a new Constitution. As already noted, this gave more rights to indigenous people, and a seat in the Senate. In principle, the Constitution granted them the right to "self-determination" as a minority, however vaguely these terms were defined.[66]

The demobilization of the MAQL did not end violence in El Cauca province. The region remained a strategic corridor for illicit trafficking of drugs and weapons[67], and other armed groups such as paramilitaries and guerrillas maintained their presence in the area. Clashes between armed groups in El Cauca between 1988 and 2009 are estimated to represent around six per cent of all armed clashes in the Colombian conflict at that time; the province had five per cent of all estimated battle deaths during this same period.[68]

Moreover, the mobilization of indigenous groups along identity-based or "ethnic" lines around collective claims did not come to an end after 1991. Instead, it was transformed from a violent to a peaceful movement, after demobilization of MAQL. Marches of 2008, led by the CRIC, were organized to express grievances of the indigenous people around land, human rights abuses and what they saw as the destructive social and economic policies of the government at national level, especially in the signing of a free trade agreement with the United States.[69] Between

20,000 and 50,000 indigenous people were mobilized in the march from the west of the country to the capital Bogota, around 590 kilometres away. Demands included dismantling of legal measures removing land of indigenous communities, and official recognition of the deaths of at least 1.253 indigenous people between 2002 and 2007 alone, as well as 54.000 displaced indigenous people within El Cauca province.[70] The marchers opposed Colombian government plans to allow US military bases in the country.[71] They were also responding to the impact of mining and industrial projects, and the presence of armed actors across their territories.[72] Thus the agenda of the march comprised elements related to both national and regional issues and grievances, most of them connected with a strong identity-based or "ethnic" set of claims, expressed through what can be seen as "ethnic" political mobilisation. It would seem to be an excellent case study to look at ethnic basis, not only of conflict and violence, but also of moves towards peace, initially "negative" peace, implying the end of violence, and proposals for more "positive" peace in the future.

Towards a Conclusion – but no Closure

The question I return to now is how, and to what degree the levels of abstraction of mathematical models, the nature of the data, and the unit and the level of analysis help or hinder our understanding of indigenous groups in Colombia and their armed struggle with the MAQL as an example of "ethnic conflict". Clearly, there was an armed conflict: violence was used, people were killed, and the state and specific, identity-based population groups were involved. Could we use here use a "civil war" framework to test to what extent "ethnic" identity was involved? Surprisingly, perhaps, it seems not, as the conflict in Colombia does not appear in the recognized

databases on civil war and conflict such as the PRIO[73] or UCDP.[74] The Minorities at Risk (MAR[75]) database lists "indigenous peoples" as being at risk in Colombia, and defines them as "conquered descendants of earlier inhabitants of a region who live mainly in conformity with traditional social, economic, and cultural customs that are sharply distinct from those of dominant groups".[76] Interestingly, the other at risk group in Colombia listed in the MAR is "Blacks", who surprisingly are defined *sui generis* as an "ethnoclass", as '…ethnically or culturally distinct peoples, usually descended from slaves or immigrants, most of whom occupy a distinct social and economic stratum or niche'.[77] So perhaps, this shows that ethnic identity markers are recognised in the Colombian conflict in some respects (those of Afro-Colombians) but not in others (the indigenous minority groups).

Indigenous people are mentioned in the MAR database as 'overwhelmingly the victims and not the antagonists of the nation's bloody civil war'.[78] While this may be true, it means that the armed struggle of MAQL remains invisible throughout the period of mobilization, in this particular database. The view that all indigenous people were victims, does not seem to fit very well the more 'common' definition of civil war in Colombia, and in general. According to Reid Sarkees, the definition of civil war is commonly hinged on two primary criteria.[79] The first is the threshold of battle-related fatalities of troops in combat, and the second is the status of the armed participants in the civil war. The first condition is that between 25 and 1000 battle-related fatalities – depending on the database concerned - be recorded within a twelve month period. The second requirement for a civil war is that participants on both sides are organized so as to be able to inflict casualties. That is, that they have armed forces. One of the armed forces is usually that of the state, and other armed groups may challenges the state within its borders. The conflict in

which the MAQL was involved resulted in casualties, on many sides, and so whilst the MAQL's armed struggle may not fully meet the first criterion, it does fulfil the second, of being an armed group able to inflict fatalities.

What, then, is the best methodological option for studying MAQL, as offered by contemporary conflict studies around ethnic or identity-based violent conflicts? Contemporary conflict studies seem to offer very few options, since almost all identity-based violent conflicts are subsumed under the label of "ethnicity". Indeed, it is possible to understand indigenous communities as "ethnic groups" – and these can be taken as the unit of analysis. Many elements of the indigenous armed and political struggles in El Cauca and the MAQL can be viewed as resulting from violent forms of "ethnic conflict", most of which centre on historically identity-based social, economic and political rights, especially in relation to land and culture. The political agenda of the MAQL and associated political organizations, especially the CRIC, suggest this. They view their opponents both in state forces and institutions, and in other non-indigenous groups that encroach on their indigenous land. If these conflicts are relegated to "indigenous studies", they will continue to be perceived as – both theoretically and methodologically – quite distinct in kind from the "ethnic" orientation of much quantitative data-based mathematical conflict studies.

Yet it is also clear that all identity-based struggles should not be reduced to conflicts around "ethnicity", ignoring relations of race, citizenship, gender and indigenousness, for example. With respect to the numbers, the relatively small percentage of indigenous people in Colombia, comparatively small size of the MAQL (vis-à-vis FARC and other armed groups) and low battle-

related fatalities may explain their invisibility in conflict studies and datasets. Perhaps their invisibility is logical, then, and even justifiable? None of these options seem quite satisfactory, and yet, within currently dominant methodological and conceptual models in conflict studies, there seems no other option than to perpetuate a history of ignoring the salience of identity conflicts among indigenous groups in Colombia.

What this chapter has tried to expose is how, each time we do research on conflict and peace issues, we need to re-engage with a whole set of questions. In the case of Colombia, I have discussed how explanations that work at national level may be questionable at regional and local levels. I have also raised the issue of the limited nature of quantitative, mathematical modeling and methodologies that focus on identifying the causal role of ethnicity in violent conflicts. The need to question the tools of analysis and assumptions of dominant theoretical and methodological perspectives seems a given therefore. But the question remains how some perspectives become dominant, and how this can prevent us from viewing and recording fully the conflict dynamics at local and national level. This question has been considered in much more detail, for example, by Kalyvas and MICROCON researchers.[80] If those engaged in conflict and peace studies adopt a methodology or approach less often taken, or not yet taken at all, what could this imply for the field of conflict and peace studies, and for claims to the validity and reliability of research in these fields? This chapter has not answered these questions, but has tried to show the importance of always analyzing the categories and units of analysis we work with. Of course, in conclusion it is fair to state that the need to think through our methodologies and analytical choices is relevant not only for those working in conflict and peace studies with

mathematical modelling, but also for those whose mainly qualitative analyses centres on "ethnic" definitions of identities.

ENDNOTES

[1] J. Forrester. 'Dynamic models of economic systems and Industrial Organizations'. *System Dynamics Review*. 2003: pp. 329-345. 19 (4).

[2] Gurr, Ted Robert, and Will H. Moore. "Ethnopolitical rebellion: a cross-sectional analysis of the 1980s with risk assessments for the 1990s." *American Journal of Political Science* (1997): 1079-1103. P. 1081.

[3] David Desler. 'Beyond correlations: Toward a Causal Theory of War'. *International Studies Quarterly*, 1991: pp 332-353. 35 (3).

[4] Bramoeller and Jones. 'Are there any ethnic and territorial Civil Wars?', op. cit.

[5] J. Fearon and D. Laitin. 'Ethnicity, Insurgency and Civil War'. *American Political Science Review*, 2003: pp. 75-90. 97(1); Paul Collier, Anke Hoeffler & Måns Söderbom. 'Post Conflict Risks'. *Journal of Peace Research* 2008: pp 461-478. 45 (4); S. Wolf. *Ethnic Conflict: A Global Perspective*. Oxford: Oxford University Press, 2006.

[6] Charles Tilly. 'Avoiding the Ethnicity Trap'. *Sociological Forum.* 2006: pp 523-525. : 21 (3): 524.

[7] See http://worldmap.harvard.edu/data/geonode:Naradov_Mira_GREG

[8] L.E. Cederman, J.K. Rod and N.B. Weidman. 'Geo-Referencing of Ethnic Groups: Creating a new Dataset. Oslo GROW-net Workshop: Oslo, 2006.

[9] J. Montalvo & M. Reynal-Querol. *Ethnic polarization, potential conflict and Civil Wars.* Unpublished Paper. Instituto Valenciano de Investigaciones Economicas, 2004.

[10] M. Murshed, M., & S. Gates, S. *Spatial-Horizontal Inequality and the Maoist Insurgency in Nepal*. op. cit.

[11] Østby, G., Urdal , H., Tadjoeddin, M. Z., & Murshed, M. (2011). Population pressure, horizontal Inequality and Political Violence: A disaggregated Study of Indonesian Provinces, 1990-2003. op. cit. p. 379.

[12] Christopher Cramer. Does Inequality cause Conflict? *Journal of International Development*. 2003. pp. 397-412. 15(4);Luis Fernando Medina. A critique of "resource-based" Theories of Colombia's civil war. *Análisis Politico*. 2008. pp. 44-57. 21 (62).

[13] See http://www.cidcm.umd.edu/mar/data.asp (accessed 10.1.2014).

[14] See http://www.icr.ethz.ch/data (accessed 9.1.2014).

[15] See http://www.ucdp.uu.se/gpdatabase/search.php (accessed 10.1.2014).

[16] See http://www.prio.no/CSCW/Datasets/   (accessed 10.1.2014)

[17] Andreas Wimmer, Lars-Erik Cederman & Brian Min. Ethnic Politics and Armed Conflict: A configurational Analysis of a new Global Data Set. American Sociological Review. 2009. pp. 316-337. 74 (2).

[18] James Mahoney. Rational Choice Theory and the Comparative Method: An emerging synthesis? Studies in Comparative International Development. 2000. pp. 83-94. 35 (2). p. 84. Also: M.D. Toft. *The Geography of Ethnic Violence: Identity, Interests, and the Indivisibility of Territory*. Princeton University Press, 2005.

[19] Alfredo Rangel. *Guerra Insurgente. Conflictos en Malasia, Peru Filipinas el Salvador y Colombia*. Bogota: Intermedio Editores, 2001.

[20] IEPRI Instituto de Estudios Políticos y Relaciones Internacionales. Nuestra Guerra sin Nombre: Transformaciones del Conflicto en Colombia. Bogotá: Grupo Editorial Norma, 2006.

[21] Gustavo Duncan. *Los Señores de La Guerra: de Paramilitares, Mafiosos y Autodefensas En Colombia*. Bogotá: Planeta, 2006.

[22] D. Bushnell. *Colombia. Una nación a pesar de sí misma*. Bogotá: Editorial Planeta, 1996. Also: Marco Palacios. *Entre la Legitimidad y la Violencia: Colombia 1875-1994*. Bogotá: Grupo Editorial Norma, 1995.

[23] Marco Palacios. *Entre la Legitimidad y la Violencia: Colombia 1875-1994*. op. cit.

[24] Nazih Richani. *Systems of Violence: The Political Economy of War and Peace in Colombia*. New York: Sunny Press, 2002.

[25] Marco Palacios. *Entre la Legitimidad y la Violencia: Colombia 1875-1994*. op. cit.

[26] Gonzalo Sanchez & Danny Meertens. *Bandoleros, gamonales y campesinos: el caso de la violencia en Colombia*. Bogota: El Ancora Editores, 1984.

[27] D. Bushnell. *Colombia. Una nación a pesar de sí misma*. op. cit.

[28] IEPRI, Instituto de Estudios Políticos y Relaciones Internacionales. *Nuestra Guerra sin Nombre: Transformaciones del Conflicto en Colombia*. Bogotá: Grupo Editorial Norma, 2006.

[29] Fuerzas Armadas Revolucionarias de Colombia (Armed Revolutionary Forces of Colombia)

[30] Ejercito de Liberación Nacional (National Liberation Army)

[31] Ejército Popular de Liberación (Popular Liberation Army)

[32] Gustavo Duncan. *Los Señores de La Guerra: de Paramilitares, Mafiosos y Autodefensas en Colombia*. op.cit.

[33] M19 stands for the 19th of April movement, in allusion to the 19th of April of 1970 elections, that where labeled as fraudulent.

[34] One of the controversial measures implemented with this policy was that those accused of extortion and/or insurgency were tried in martial courts.

[35] Steven Dudley, S. *Armas y Urnas: Historia de un genocidio Politico*. Bogota: Editorial Planeta. 2008. Also: Gustavo Duncan Del Campo a la ciudad en Colombia. La infiltracion urbana de los señores de la guerra. *Documento CEDE 2005-2*. Bogota: Universidad de los Andes.

[36] Francisco Leal. *En la Encrucijada: Colombia en el siglo XXI.* Bogota: Editorial Norma. 2006.

[37] F.A. Diaz & M. Murshed (2013). "'Give War A Chance': All-Out War as a Means of Ending Conflict in the Cases of Sri Lanka and Colombia". *Civil Wars*, 281-305. 15(3).

[38] Rafael Pardo. *Fin del Paramilitarismo. ¿Es posible su desmonte?* Bogota: Ediciones B-Grupo Zeta. 2007.

[39] Fabio Sanchez. *Las cuentas de la violencia*. Bogota: Ediciones Uniandes, 2008.

[40] Mauricio Rubio. *Las cuentas de la Violencia en Colombia*. Programa de Estudios sobre Seguridad, Justicia y Violencia. Documento de trabajo No 11, 1997- Noviembre.

[41] Gustavo Duncan. *Los Señores de La Guerra: de Paramilitares, Mafiosos y Autodefensas en Colombia*. op.cit.

[42] Natalia Springer. *Como corderos entre Lobos. Del uso y reclutamiento de ninos, ninas y adolescentes en el marco del conflicto armado y la criminalidad en Colombia*. Bogota, 2012.

[43] Ann Masón. La crisis de seguridad en Colombia: causas y consecuencias Internacionales de un estado en vía de fracaso. *Colombia Internacional*. 2000. pp. 82-102. 47 (3).

[44] Francisco Gutierrez Sanin. "Criminal Rebels? A Discussion of Civil War and Criminality from the Colombian Experience". *Politics and Society*. 2004. pp. 257-285. 32(2).

[45] Francisco Gutierrez Sanin. "Stupid and expensive? A critique of the costs-of-violence literature". Crisis States Research Centre working papers series 2, 48. 2009.

[46] Ricardo Vargas Mesa. "Drogas, conflicto armado y seguridad global en Colombia". *Nueva Sociedad*. 2004. pp.117-130. 192.

[47] Marco Palacios. *Entre la Legitimidad y la Violencia: Colombia 1875-1994*.op. cit.

[48] Arango, Monica L Espinoza. "Memoria cultural y el continuo del Genocidio: Lo indígena en Colombia. Antípoda". *Revista de Antropología y Arqueología.* 2007. pp. 53-73. 5.

[49] F.S. Benavides. "Indigenous People's Mobilization and their Struggle for Rights in Colombia". ICIP- International Catalan Institute for Peace Working Papers, pp. 1-58. December 2009.

[50] Centro Nacional de Memoria Historica. *¡Basta Ya! Colombia: Memorias de guerra y Dignidad*. Informe General Grupo de Memoria historica. Bogota: Imprenta Nacional, 2013.

[51] It is worth noting that even mathematical modeling research that is focused on Colombia as an area of study consistently includes political and historical elements as key issues, something neglected in most cross-country economic studies. See Collier , Hoeffler & Soderbom . Post Conflict Risks. op. cit.

[52] A. Prada. *Territorio, gestión local y conflicto en el municipio de El Tambo*. In J. F. Sanchez, & G. Vanegas, *Territorios en Conflicto. Cultura Política, Territorio y conflicto en el Departamento del Cauca*. Popayán: Universidad del Cauca, 2009. pp. 61-103.

[53] D. R. Peñaranda. *El Movimiento Armado Quintin Lame: Una guerra dentro de Otra guerra*. Bogota: Corporacion Nuevo Arco Iris - Arfo Editores, 2010.

[54] F.S. Benavides. "Indigenous People's Mobilization and their Struggle for Rights in Colombia". op.cit.

[55] Consejo de Derechos Humanos. "La situación de los pueblos indígenas en Colombia: Seguimiento a las recomendaciones hechas por el Relator Especial Anterior". Consejo de Derechos Humanos, Asamblea General de la ONU. 2010.

[56] D.R. Peñaranda, D. R. (2010). *El Movimiento Armado Quintin Lame: Una guerra dentro de Otra guerra*. op.cit. p. 33. Also: A. Prada. *Territorio, gestión local y conflicto en el municipio de El Tambo*. op.cit. p. 17.

[57] A. Prada. *Territorio, gestión local y conflicto en el municipio de El Tambo*. op.cit. p. 63.

[58] R.A. Hudson. Colombia, a country study. Washington: Federal Research Division, Library of the Congress. 2010.

[59] Nikita Bykov. "Security Threats and Ethnic Conflict: The case of Colombian Indigenous People". Master's degree Dissertation. Central European University. Department of International Relations and European Studies. 2010. p. 25.

[60] F.S. Benavides. "Indigenous People's Mobilization and their Struggle for Rights in Colombia". op.cit.

[61] Where indigenous/non-indigenous is the identity frame, this is made even more complicated or obscured by the fact that identifying the boundaries between indigenous and non-indigenous is difficult, as argued by Bykov (see note 59).Therefore a group that is already not visible due to their remoteness and small numbers is further obscured by the difficulty of identifying them clearly.

[62] F.S. Benavides. "Indigenous People's Mobilization and their Struggle for Rights in Colombia". op.cit. p.3.

[63] Manuel Quintín Lame (1880-1967) led an indigenous movement that attempted to retake the lands stolen from indigenous groups by landowners.

[64] D. R. Peñaranda. *El Movimiento Armado Quintin Lame: Una guerra dentro de Otra guerra*. op.cit. p. 31.

[65] Consejo Regional Indígena del Cauca. (2013). Proyecto Político. Retrieved November 11, 2013, from Consejo Regional Indígena del Cauca-CRIC-: Available at: http://www.cric-colombia.org/portal/proyecto-politico/

[66] A. Prada. *Territorio, gestión local y conflicto en el municipio de El Tambo*. op. cit.

[67] A. Prada. *Territorio, gestión local y conflicto en el municipio de El Tambo.* op. cit.

[68] Jorge Restrepo, Michael Spagat & J. Vargas. "The Severity of the Colombian Conflict: Cross-Country Datasets versus New Micro-Data". *Journal of Peace Research*. 2006. pp. 99-115. 43 (1).

[69] Semana. (2008). ¿Qué hay detrás de la protesta indígena? Retrieved June 12, 2012, from Revista Semana: http://www.semana.com/problemas-sociales/detras-protesta-indigena/116641-3.aspx Also: El Espectador. (2008). Marcha Indigena llega a Cali y se prepara para Dialogo con Uribe. Retrieved March 2012, 21, from www.elespectador.com: http://www.elespectador.com/articulo86120-marcha-indigena-llega-cali-y-se-prepara-dialogo-uribe

[70] *El Espectador*, 2008 "Marcha Indigena llega a Cali y se prepara para Dialogo con Uribe". op.cit.

[71] *Radio Santa Fe*. 2008. "Marcha Indigena en Cauca por Incumplimiento del Gobierno". Retrieved May 10, 2012, from: http://www.radiosantafe.com/2009/10/11/marcha-indigena-en-cauca-por-incumplimiento-del-gobierno/

[72] Semana. 2008. ¿Qué hay detrás de la protesta indígena? Retrieved June 12, 2012, from Revista Semana: http://www.semana.com/problemas-sociales/detras-protesta-indigena/116641-3.aspx

[73] See http://www.ucdp.uu.se/gpdatabase/search.php

[74] See http://www.prio.no/CSCW/Datasets/

[75] See http://www.cidcm.umd.edu/mar/data.asp

[76] See http://www.cidcm.umd.edu/mar/assessment.asp?groupId=10004

[77] See http://www.cidcm.umd.edu/mar/assessments.asp?regionId=7

[78] See http://www.cidcm.umd.edu/mar/data.asp

[79] Reid Sarkees (n.d.). "The COW Typology of War: Defining and Categorizing Wars (Version 4 of the Data)". Retrieved November 20, 2013, from Correlates of War: http://www.correlatesofwar.org/COW2%20Data/WarData_NEW/COW%20Website%20-%20Typology%20of%20war.pdf

[80] See Stathis N. Kalyvas. "Promises and Pitfalls of an Emerging Research Program: The Microdynamics of Civil War", pp. 397-421 in S. N. Kalyvas, I. Shapiro and T. Masoud (eds), *Order, Conflict, Violence*, Cambridge University Press, Cambridge, 2009. MICROCON, or "A Micro Level Analysis of Violent Conflict" is a five-year research program funded by the European Commission, which takes an innovative micro level, multidisciplinary approach to the study of the conflict cycle. Reports and Working papers at: http://www.microconflict.eu/ (accessed 15.1.2014).