The natural resource conflict dataset: 1946-2006
Version 1.0

Codebook

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Codebook summary			
Name	*Description*	*Coding*	*Example*
Distribution mechanism	Disagreements arise over distribution of natural resources or revenues.	1 if the distribution mechanism is present, 0 if not.	Oil resources in Niger Delta, Nigeria (acdid 250)
Financing mechanism	Rebel groups use natural resources to finance rebellion.	1 if the finance mechanism is present, 0 if not.	Diamonds in Sierra Leone (acdid 187)
Aggravation mechanism	Natural resource issues aggravate an ongoing conflict.	1 if the aggravation mechanism is present, 0 if not.	Oil pipelines in Georgia (acdid 197 and 198)
Natural resource conflict	Conflicts where natural resources have affected the conflict through at least one of the three mechanisms.	1 if one or more of the natural resource conflict mechanisms are present, 0 if not.	

INTRODUCTION

The natural resource conflict dataset code whether internal armed conflicts are clearly linked to natural resources. We acknowledge that different types of resources can serve the same purpose in a conflict, or the same type of resource can play different purposes. Thus, the conflicts in the dataset are coded according to the specific roles (if any) played by natural resources in the given conflict. The natural resource conflict dataset identifies three different mechanisms linking natural resources to conflict: (1) disagreements over natural resource (revenue) distribution may motivate rebellion, (2) revenues from natural resources may create funding opportunities for rebels, and (3) natural resources may aggravate ongoing conflict acting either as motivation or opportunity for rebels, but through other roles than as distributional claims or as funding sources. This codebook describes in detail the coding rules employed to ascertain whether an internal armed conflict was natural resource-related or not.

UNIT OF ANALYSIS

The unit of analysis in the natural resource conflict dataset is individual conflict episodes. We rely on the UCDP/PRIO Armed Conflict Dataset version 4-2007 (Gleditsch et al., 2002; Harbom, 2007; Harbom & Wallensteen, 2007), which defines a conflict as "a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths" (Harbom, 2007: 4).[1] Furthermore, a new conflict episode 'is coded whenever a conflict restarts after one or more year(s) of inactivity or if there is a complete change of actors on the opposition side' (Harbom, 2007: 12). According to the UCDP/PRIO codebook, conflict episodes enable 'users to distinguish between different phases in the conflict and, potentially, code these as separate conflicts' (Harbom, 2007: 12).

The observation in the UCDP/PRIO armed conflict dataset is the conflict-year. For our purpose, focusing on the conflict episode only, a cross-sectional data structure is more appropriate. As such, the natural resource conflict dataset uses a conflict episode structure. We use the Armed Conflict Dataset's episode start (*epstartdate*) and end (*ependdate*) date variables to define when the conflict episodes occur. We do, however, use a slightly reduced and modified version of the ACD. First, the dataset do not include all armed conflicts from ACD version 4-2007. Whereas the UCDP/PRIO Armed Conflict Dataset includes four types of conflict: extra-state, interstate, internal and internationalized internal, the natural resource conflict dataset excludes the interstate and the extra-systemic wars. Additionally, a few other cases are also excluded from the dataset due to lack of system membership in Gleditsch & Ward's (1999) list of independent states.[2]

Second, in low-intensity conflicts the number of battle-related deaths may fall below the 25 battle deaths threshold for some years, even though the conflict has not really ended. To account for this we apply Gates & Strand's (2004) coding rule, merging

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[1] For more information about the UCDP/PRIO ACD and detailed coding rules regarding the variables in our dataset that are from the ACD, we refer to the Harbom (2007) codebook.

[2] This includes Puerto Rico (acdid 41) and Hyderabad (acdid 19). Finally, since those carrying out the 11 September 2001 attack were not US citizens, it is questionable whether the conflict really was internal (acdid 224), because of this; the conflict is excluded from our dataset.

two accompanying conflict episodes together into one single episode if the peace period in-between is less than two years (730 days).[3] Consequently, we use the episode start date of the first conflict episode and episode end date of the last conflict episode to define the duration of the new collapsed conflict episode. With the two year coding rule 84 conflict episodes are reduced to 51 episodes.

With these modifications, the natural resource conflict dataset totals 285 conflict episodes (167 conflicts) in 101 countries between 1946 and 2006. The 285 episodes constitute the observations in the dataset and are identified by a unique variable for each period: *conflepid*.

SOURCES

Coding relied on Keesing's World News Archive, case studies and other studies on natural resources and conflict, such as Le Billon (2001; 2005) and Ross (2003). In addition the online UCDP database and the United States Library of Congress Country Studies were used extensively. A variety of other sources were consulted for specific cases as well. See online appendix for a description of the natural resource conflicts and related sources.

NATURAL RESOURCE CONFLICT VARIABLES

Below we elaborate on the variables in the natural resource conflict dataset. At first, we describe the general coding criteria used to establish if an internal armed conflict is resource-related or not, thereafter we elaborate on the three different resource conflict mechanisms and associated variables.

Natural resource conflicts are only coded when the sources specifically mention the name of the rebel group or some other information that ensures us that the natural resource information relates to the specific conflict episode in question. This is done to be able to distinguish a resource conflict from a non-resource conflict going on in the same country at the same time. The sources must also specifically describe the natural resource-conflict mechanisms at play. We consider all types of natural resources as potential drivers of armed conflict: land, water, agricultural products, oil, gas, diamonds and other gems, minerals, narcotics, and timber.

All subsequent conflict episodes are coded the same way as the previous episode. For example, we know that the 1989–95 civil war in Liberia (acdid 146) was financed by illegal timber trade and diamond smuggling (Altman et al., 2012), and we assume this had spillover effects to the 2000–03 war as well. However, we do not know if natural resources played a similar role in the 1980 coup d'état in Monrovia.

Finally, one conflict can be coded to have more than one natural resource-conflict mechanism. Thus, the natural resource conflict categories are not mutually exclusive, but rather represent different types of natural resource-conflict links that can be at play in internal armed conflicts.

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[3] For example, the conflict between the Angolan government and the FLEC rebels in Cabinda (acdid 192) originally has five separate conflict episodes, but with the above coding rule the conflict is represented in the natural resource conflict dataset with three conflict episodes.

Natural resource conflict: resource conflict dummy (res_confl)

The crudest measure of a natural resource conflict in the dataset is a dummy variable, *res_confl*, measuring whether at least one of the three natural resource-conflict mechanisms were present in the conflict episode.

   0. **no res_confl**: No natural resource-conflict mechanisms
   1. **res_confl**: At least one resource-conflict mechanism

Natural resource conflict: distribution mechanism (distribution)

A dummy variable recording whether the conflict episode had a natural resource distribution mechanism. Two types of distributional issues are considered: distribution of the natural resource itself such as land, water or agricultural products, and conflicts over the distribution of natural resource revenues. For example the conflict in El Salvador between 1979 and 1991 (acdid 120) was motivated by rural landlessness, while the 2004 conflict in Nigeria between the Niger Delta People's Volunteer Force (NDPVF) and the government was motivated by exploitation of oil resources in the Niger Delta region and a demand for increased resource control. Internal armed conflicts which are mainly ideological or religious, with natural resource distribution claims as side issues, are not included among the cases with distribution mechanisms.

   0. **no distribution**: If the conflict did not include the distribution mechanism
   1. **distribution**: If the conflict did include the distribution mechanism

Natural resource conflict: financing mechanism (finance)

A dummy variable recording whether the conflict episode had a natural resource financing mechanism. All types of natural resources may finance rebel groups, including illegal commodities such as drugs, hence we also code conflicts as having financing mechanisms if the rebel groups raise funds from trading illegal commodities. For example the Revolutionary United Front (RUF) rebel group fighting against the Sierra Leonean government between 1991 and 2000 (acdid 187) raised funds from illegal extraction and smuggling of diamonds, while in the Casamance conflict in Senegal (acdid 180) rebels have been able to raise funds by selling cashew nuts.

   Among conflicts with financing mechanisms only cases where natural resources provided income for the opposition side are included. We assume that natural resources by default finance governments through taxes and state ownership in the same way as other types of income from, for example, tourism and industry; hence we do not expect that natural resource revenues would have a different effect on state-sponsored violence than other types of income.

   0. **no finance**: If the conflict did not include the financing mechanism
   1. **finance**: If the conflict did include the financing mechanism

Natural resource conflict: aggravation mechanism (aggrav)

A dummy variable recording whether the conflict episode had a natural resource aggravation mechanism. The aggravation mechanism represents natural resource-conflict links where resources clearly are important, but neither as a distribution claim nor as a funding source. We coded conflicts to have aggravation mechanisms when our sources described natural resource-related links such as existing or planned oil pipelines

increasing the stake of conflict, grievances caused by extraction of natural resources, or political turmoil over natural resource control. For example, in both the conflict in Abkhazia (acdid 197) and South Ossetia (acdid 198) in Georgia, Russia is suspected of promoting instability to make it less appealing to build oil pipeline crossing Georgia and into Turkey. Another aggravation mechanism example is how environmental degradation and destruction of water due to mining played a role in the 1989-1996 Bougainville conflict in Papua New Guinea (acdid 174).

0. **no aggrav**: If the conflict did not include the aggravation mechanism
1. **aggrav**: If the conflict did include the aggravation mechanism

CONFLICT DESCRIPTIVE VARIABLES

Conflict ID (acdid)
The conflict identification (*ID*) variable from UCDP/PRIO ACD (version 4-2007).

Unique ID for each conflict episode (conflepid)
A unique identifier of each conflict episode. It is constructed as a combination of the UCDP/PRIO acdid and the conflict episode start year.[4]

First year of conflict episode (begin)
Reports the first year of the conflict episode.

Last year of conflict episode (end)
Reports the last year of the conflict episode.

Start date of conflict episode (epstartdate)
Reports the exact date when the conflict episode started (*EpStartDate* in UCDP/PRIO ACD).

End date of conflict episode (ependdate)
Reports the exact date when the conflict episode ended (*EpEndDate* in UCDP/PRIO ACD).

Location of conflict episode (location)
Records the country where the government and/or territory is disputed. This is not necessarily the geographical location of the conflict (*Location* in UCDP/PRIO ACD).

Numerical country code (ccode)
A numerical code identifying the country where the conflict took place (same as location) and is taken from Gleditsch & Ward (1999).

Government side in conflict episode (sidea)
Reports the government side of the conflict episode (*SideA* in UCDP/PRIO ACD).

Opposition side in conflict episode (sideb)
Reports the opposition side of the conflict episode (*SideB* in UCDP/PRIO ACD).

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[4] Note that this identification variable differs from the *pperid* variable identifying post-conflict peace periods in the timevarying dataset used for the analyses in Rustad & Binningsbø (2012).

REFERENCES

Altman, Stephanie, L.; Sandra L. Nichols and John T. Woods (2012) Leveraging high-value natural resources to restore the rule of law: The role of the Liberia Forest Initiative in Liberia's transition to stability, in Lujala, Päivi & Siri Aas Rustad (eds) *High-Value Natural Resources and Post-Conflict Peacebuilding*. London: Earthscan (337-366).

Gates, Scott & Håvard Strand (2004) Modeling the duration of civil wars: Measurement and estimation issues. Paper prepared for presentation at the 2004 Meeting of the Standing Group on International Relations, 9–11September, the Hague.

Gleditsch, Nils Petter; Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg & Håvard Strand (2002) Armed conflict 1946–2001: A new dataset. *Journal of Peace Research* 39(5): 615–637.

Gleditsch, Kristian S. & Michael D. Ward (1999) A revised list of independent states since the Congress of Vienna. *International Interactions* 25(4): 393–413.

Harbom, Lotta (2007) UCDP/PRIO Armed Conflict Dataset Codebook. Version 4-2007 (http://www.prio.no/sptrans/-1750800626/UCDP_PRIO_Codebook_v4-2007.pdf)

Harbom, Lotta & Peter Wallensteen (2007) Armed conflicts, 1946-2006. *Journal of Peace Research* 44(5): 623–634

Keesing's World News Archive (1931–) (www.keesings.com)

Le Billon, Philippe (2001) The political ecology of war: Natural resources and armed conflicts. *Political Geography* 20(5): 561–584.

Le Billon, Philippe (2005) Fuelling war. Natural resources and armed conflicts. *Adelphi Paper* 373.

Library of Congress Country Studies (1988-1998) (http://memory.loc.gov/frd/cs/cshome.html).

Ross, Michael L. (2003) Oil, drugs and diamonds: The varying roles of natural resources in civil war. In: Karen Ballentine & Jake Sherman (eds.) *The Political Economy of Armed Conflicts. Beyond Greed and Grievance*. Boulder, CO: Lynne Rienner, 47–70.

Rustad, Siri Aas, and Helga Malmin Binningsbø (2012) A price worth fighting for? Natural resources and conflict recurrence. *Journal of Peace Research* 49(4): 531-546.

Uppsala Conflict Data Program: UCDP Conflict Encyclopedia, Uppsala University (www.ucdp.uu.se/database).