



Development Consequences of Internal Armed Conflict

The development consequences of armed conflict are profound and far-reaching. While the direct victims of war understandably receive most attention, the effects of conflict extend far beyond battlefield casualties and refugee camps. Research has shown that conflict affects all aspects of development covered by the Millennium Development Goals, and that conflict has been an important impediment to achieving these goals.

Brief Points

- The consequences of conflict extend far beyond the battlefield.
- PRIO has documented substantial negative effects of conflict on most developmental indicators.
- The *indirect* effects of conflict may be as great as the direct effects.
- There is a clear case for considering the effects of internal armed conflict when post-2015 MDGs are formulated

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Development in reverse

War is a development issue. War kills, and its consequences extend far beyond deaths in battle. Armed conflict often leads to forced migration, long-term refugee problems, and the destruction of infrastructure. Social, political, and economic institutions can be permanently damaged. The consequences of war, especially civil war, for development are profound.

PRIO has investigated the consequences of internal armed conflict on several of the Millennium Development Goals (MDG). The MDGs are a set of globally recognized development objectives, encompassing the conquest of poverty and hunger; universal education; gender equality; improved child and maternal health; combating HIV/AIDS; achieving environmental sustainability; and building a global partnership for development. The MDGs represent the closest thing we have to a global consensus on developmental priorities. Yet there has so far been no systematic and extensive examination of the effect of civil conflict on the attainment of these goals. The analysis presented here indicates that civil war does indeed have deleterious effects on the achievement of most of the MDGs.

We find that, for instance, that when measured in terms of infant mortality rates, the *indirect* effects of conflict are as important as the direct effects: conflict typically results in surplus infant mortality on a par with the direct deaths observed. This means that in an

average country of ten million inhabitants, for every child casualty in conflict, another infant who would otherwise have lived will not survive. Most countries have experienced reduced infant mortality over recent decades, but conflict-affected countries have experienced a much slower improvement. This overall reduction in progress is clearly seen in a considerable increase in infant deaths both during the conflict and after it has ended.

Conflict and the MDGs

In a recent project we studied the effect of conflict on progress towards seven Millennium Development Goals, represented by ten observable indicators. Conflict countries have less-favorable scores for most or all of these indicators. Figure 1 categorizes developing countries according to their conflict status during the period 2003–2008: countries with armed conflicts causing at least one thousand battle deaths (“conflict”); fragile countries without continuing conflict (“fragile”); countries that did not have continuing conflicts and, although not fragile, had been in conflict in at least one of the preceding ten years (“post-conflict/fragile”); Russia, India and China as a separate category; and countries that had neither had conflicts nor been fragile during this period (“other countries”).

Compare this with Figure 2, which shows the share of MDGs each country is predicted *not* to achieve by 2015; the darker the shade, the fewer the MDGs on track. We excluded industrialized countries since they largely achieved the MDGs a long time ago.

The maps in Figures 1 and 2 clearly show an overlap between not being on track to achieve the MDGs, and armed conflict. Compare, for instance, Yemen and Oman, or Namibia and Botswana. Yemen and Namibia have experienced conflict and are not on track to achieve the MDGs. Oman and Botswana, by contrast, have not experienced conflict and are achieving a higher proportion of the MDGs.

How conflict affects development

This raises the question of whether the gap between conflict countries and other countries is a result of conflict, and not a result of other factors associated with both conflict and poor development. Several studies indicate a causal effect of conflict. Ghojarah, Huth and Russett in their 2003 paper, “Civil Wars Kill and Maim People—Long After the Shooting Stops”, argue that civil wars have long-term effects on civilian suffering. Analyzing the World Health Organization’s measure of Disability Adjusted Life Years (DALYs), they stipulate that 8.01 million DALYs were lost in the year 1999 from civil wars that occurred during the period 1991–97.

The additional burden of death and disability caused by the lingering effects of civil war is nearly double the immediate and direct effects. The primary reason is that internal armed conflicts increase exposure to disease, adversely affect access to the supply of medical care, and destroys health infrastructure.

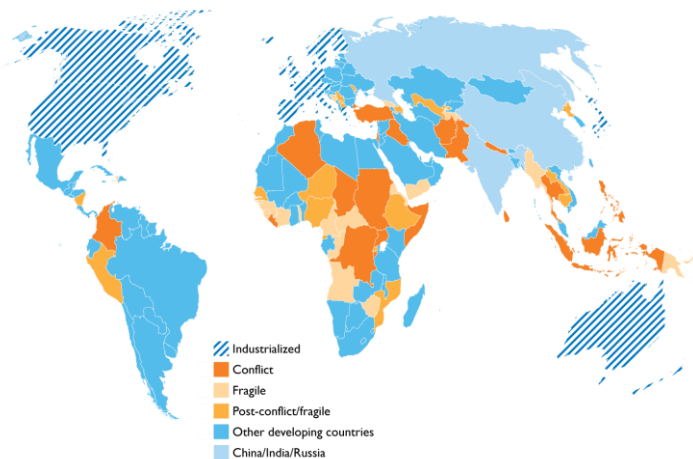


Figure 1: Conflict categories

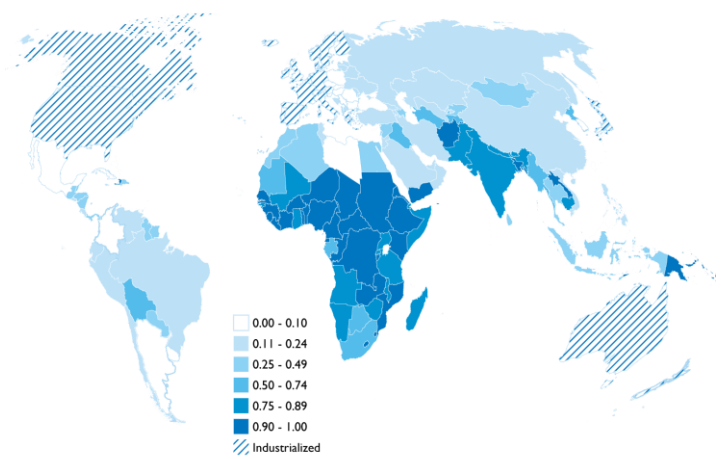


Figure 2: Proportion of MDGs not achieved

Studying the consequences of conflict

To understand the development gap caused by armed conflict, we need to assess the counterfactual – what would the situation have been if civil war had not occurred. In an experimental sense, this implies comparing a treated case with conflict to an identical control case without conflict. In a quasi-experimental setting, we can compare similar countries either by matching or by simulating the effects of conflict for a given country.

Figure 3 compares two relatively similar countries over time – Burundi and Burkina Faso. The two countries followed a similar growth trajectory up to 1990 (upper half of the figure). The lower half of the figure shows their conflict histories represented by bars with heights proportional to the number of battle-related deaths (BRD). Both countries had short, minor conflicts during this period, with no visible effect on the economy. In the 1990s, however, the paths diverged. The civil war in Burundi swiftly destroyed three decades of growth, while Burkina Faso took part in the strong global growth of the post-Cold War area. By 2008, Burkina Faso's average income was more than twice Burundi's.

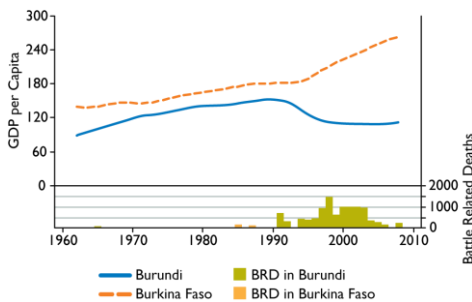


Figure 3: GDP growth in Burundi vs. Burkina Faso

Internal conflicts are particularly devastating since they affect both the supply of and demand for social services and health infrastructure. Violence increases the demand for many types of services. At the same time, countries in conflict are less able to provide these, for at least two reasons: During conflict, regimes divert resources from health and social services to military expenditure. At the same time, fighting itself destroys critical infrastructure such as hospitals and health centers, and the transportation network that brings people to these locations.

Consequences of conflict

We estimated statistically the effect of armed conflict on the indicators listed in Table 1. MDGs 3 and 6 are excluded for lack of reliable comparative data, and MDG 8 is excluded for lack of relevance.

MDG Indicator	Effect
1 Undernourishment	Detri-mental
1 Poverty headcount	Detri-mental
1 Life expectancy	Detri-mental
1 GDP per capita	Detri-mental
2 Primary school enroll-ment	Detri-mental
2 Secondary school at-tainment	Unclear
4 Infant mortality	Detri-mental
5 Birth attended by skilled personnel	Unclear
7 Access to potable water	Detri-mental
7 Access to improved sanitation facilities	Unclear

Table 1: Consequences of conflict

We found that conflict had a detrimental effect on most of the MDG indicators. To show how great these effects were, we calculated the effect of a conflict of median severity (2500 battle deaths over a five-year period) on each indicator. We found, for instance, that a median-severity conflict increased the proportion of the population that is undernourished by about 3.3 percent. This corresponds to about 330,000 persons in a country with about 10 million inhabitants. Data sparseness precludes a thorough analysis of the effect of conflict on poverty. Instead, we analyzed the consequences of conflict on economic growth.

A median-size conflict decreased GDP per capita by 15%. Figure 4 shows simulated GDP per capita levels for the 1970–2000 period for a country that started out at USD 1,100 per capita (about the level of Algeria in 1970). The dotted line shows the average growth trajectory for a non-conflict developing country. The dashed line shows the same for an identical country experiencing conflict - specifically, a country that had an outbreak of war in 1974 that lasted for thirteen years (up to 1986).

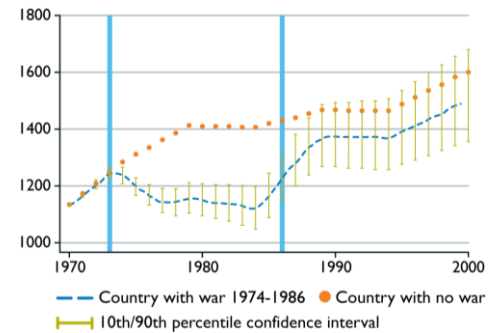


Figure 4: Conflict and growth

Immediately following the outbreak of the conflict, shown by the first red line, the two trends diverge. GDP falls sharply in the conflict country, but continues to grow in the otherwise identical country at peace. This effect notably persists long after the conflict ended (marked by the second red line).

Towards the end of the conflict and in the initial post-conflict years we see evidence of recovery. There is considerable uncertainty surrounding the enduring effect of this recovery. The aggregate recovery growth is on average *not sufficient* to close the gap caused by the conflict; the median conflict country is almost 10% below the trajectory it would have followed without the conflict. (The uncertainty illustrated in Figure 2 includes both growth miracles and persistent disasters.)

Among the other MDG indicators, we find that a conflict with 2,500 battle-related deaths is serious enough to deduct almost one year of the overall population's life expectancy. This effect is closely related to that of conflict on infant mortality: 2,500 battle deaths correlate to a 10% increase in infant mortality, a huge worsening in statistical terms. The current average mortality rate in developing countries is about 50 per 1000 live births. In a median-sized country of about 10 million people and 200 000 births, this corresponds to 10,000 infant deaths per year. A 10% increase, then, means an excess mortality of 1,000 infants per year. Over the five-year period, a conflict with 2,500 battle-related deaths seems to be associated with twice as many infant deaths.

We found that conflict adversely affects education rates, but this finding is somewhat unclear, though it obtains for both primary school enrollment and secondary school attainment rates. Conflicts in a country's neigh-

borhood in contrast clearly appear to hurt secondary education. A country with a neighbor that had five years of minor conflict in the preceding period experiences an average reduction in educational attainment of 1.3% as compared with one without such neighboring conflict. This roughly corresponds to an individual's losing 3–4 years of education relative to an individual located in a similar peaceful neighborhood.

The analysis indicates no clear relation between conflict and access to sanitation, but there is a significant detrimental effect of conflict on access to potable water. The median conflict cuts off access to potable water for about 1.8% points of the population.

Children and conflict

Infants and young children are particularly vulnerable to the consequences of conflict. Poverty, child mortality, and access to potable water and denial of education all directly deprive children of essential ingredients for human development. Water stands out as a critical factor. A lack of access to clean water affects all other development goals. Waterborne disease, especially diarrhea, is a killer. A prolonged lack of access to adequate water supplies can cause brain damage, thereby affecting the development of cognitive abilities with lifelong consequences.

The conflict trap

The consequences of conflict are not confined to the duration of the conflict and its immediate aftermath. Indeed, low levels of socio-economic development are important *causes* of conflict in the first place. Low levels of socio-economic development inhibit the building of stable and strong political institutions capable of mediating and quelling conflict efficiently. Low levels of development,

and especially a lack of employment opportunities, also make an individual's decision to join a rebellion relatively less costly.

While the direct consequences of conflict are detrimental, the indirect consequences can be even worse. Conflict is “development in reverse”. The consequences we have documented are liable to catch countries in what Paul Collier labeled the “conflict trap”. This represents a vicious circle in which low levels of development lead to conflict, and conflict leads to even lower levels of development. The actual total cost of conflict is therefore likely to be much higher than the conservative estimates we present here. And we have so far discussed the effects of only a median intensity conflict. Recent conflicts, such as those in Syria and Iraq, have much higher intensity levels. We find that more intensive fighting leads to much *longer* recovery times.

It should also be noted that many consequences of armed conflict have never been measured, and that some are not even measurable. Among those unincorporated in our analysis is the increased number of young males with war experience; the accumulation of light weapons subsequently used in violent crime; the long-term impact of traumatic experiences; and erosion of trust and emergence of ethnic prejudice.

Another effect not easily measured is the environmental impact of war. Few indicators allow a systematic comparison of this burden. We have shown the detrimental effect of conflict on the accessibility of water and adequate sanitation facilities, which are indicators with a considerable environmental component.

Some consequences of conflict are highly context-specific. In countries such as Cambodia and Liberia, conflict set the stage for large-

scale illegal logging; in other places, other aspects of environmental regulation have broken down; and elsewhere, unexploded ordnance is a major problem even long after armed conflict.

Conflict and the post-2015 development agenda

The global community is now in the home stretch of the MDGs. Armed conflict has been an important obstacle for many of those countries that will fail to meet their goals.

At the same time, the MDG agenda has been a tremendous success. It has focused the world's attention on a set of particular measurable indicators of development in an unprecedented manner. As the global community is gearing up to decide on the next steps, we strongly urge the UN General Assembly to include reduction of conflict as an explicit goal in the post-2015 development agenda.

The post-2015 agenda should set clear goals pertaining to the reduction of conflict. For this to be effective the global community must commit both to addressing the fundamental causes of conflict, and to “treating” the consequences of continuing and recent conflicts. ■

Notes

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THE PROJECT

The Conflict Trends project aims to answer questions related to the causes of, consequences of and trends in conflict. The project will contribute to new conflict analyses within areas of public interest, and works to produce thorough and quality-based analysis for the Norwegian Ministry of Foreign Affairs.

PRIO

The Peace Research Institute Oslo (PRIO) is a non-profit peace research institute (established in 1959) whose overarching purpose is to conduct research on the conditions for peaceful relations between states, groups and people. The institute is independent, international and interdisciplinary, and explores issues related to all facets of peace and conflict.