The Sustainability of Post-Conflict Development: The Case of Algeria

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Abstract: The Algerian civil war, 1992–2002, affected all aspects of life in the country. Major development efforts were therefore initiated in the post-conflict era. Almost 20 years later, the economy remains fragile, and the country’s large hydrocarbon revenues have not been used to develop the infrastructure for sustainability, support energy transition or reduce structural vulnerabilities. This paper provides an overview of Algerian development strategies before and after the conflict, examining in particular the orientation of major development projects involving foreign financing. Two rural development programmes are described to illustrate the outcomes of such projects. The results show that the conflict stopped or hindered many ongoing and planned development projects in the country, especially in the agriculture sector, while new investments in industry started after the conflict. The review of individual development projects further revealed that many projects between 1980–2017 had doubtful benefits with respect to long-term development goals. Initiatives tended to be discontinued once the funding period closed, and the involvement of the private sector was low. It is therefore concluded that additional attention needs to be devoted to long-term and structural impacts of development projects, including considerations regarding sustainability, demographics, and climate-related future changes.

Keywords: post-conflict recovery; development strategies; rural development projects; sustainability transitions; long-term goals; hydrocarbon dependency; MENA region

1. Introduction

Algeria is surrounded by Morocco, Mali, Niger, Libya, Tunisia and the Mediterranean Sea (Figure 1), with a total area of 2.382 million km² and a total population of 41 million. The country has experienced two devastating and brutal wars in modern times. The first was against French occupation, the Algerian War of Independence 1954–1962, which led to about 1 million deaths; the second was the civil war from 1992 to 2002, which led to more than 150,000 deaths.

This article analyses Algeria’s development since the 1980s, focusing on the impact of the civil war and post-conflict development strategies, illustrated by an examination of externally-funded rural development projects. Implications of national and international development choices in the post-conflict era are discussed with respect to lock-in effects, transitions to sustainability, food sufficiency, equity, and economic vulnerability.
1.1. The Confrontation

The socio-economic crises that Algeria experienced in the 1980s, the regime’s failure in addressing these crises, and the military’s refusal of the election results were the immediate contributing factors to the Algerian civil war [2]. In December 1991, the Islamic Salvation Front (FIS), a political Islamic party in Algeria, won the national legislative elections. However, the Algerian military violently nullified the first-round results, cancelled parliamentary elections, banned the FIS, and arrested its leaders and many of its followers, forcing president Chadli Benjedid to resign to prevent a political Islamic party from leading the country [3–5].

The real violence began in March 1992, when armed groups started to attack police officers. By June 1993, FIS could control some areas and launched further attacks, which resulted in further targeting of civilians, especially journalists and intellectuals. The government then created pro-state militias. Some researchers code the conflict as an ethnic conflict [6], while others have underlined the absence of alternative arenas to express political and social discontent, arguing that government interference against the elections was the reason behind this bloody conflict [2]. Roberts [7] has attempted to demonstrate the complexity of the conflict, involving social and political dimensions, as well as diverging conceptions both of religion and state legitimacy.

From the beginning of 1994, the attacks and violence increased against civilians. The rebellion was divided into three camps. The first was led by the Armée Islamique du Salut (AIS) and aimed to induce reform and pressure the regime to legalize the FIS. The second, fronted by Movement pour un État Islamique (MEI), aimed at overthrowing the regime and establishing an Islamic state. The third camp rallied around the Groupe Islamique Armé GIA, which was the most radical group and most ideologically opposed to the AIS, sought to impose strict Salafi Islamic practice on the population when it declared all Algerians to be ‘Takfir’, or apostates [5].

Between 1996 and 1998: GIA massacred hundreds of families in the city of Madea, southwest of Algiers. A series of further massacres followed in July–September 1997 and December 1997–January 1998, in which hundreds of civilians were killed. These massacres precipitated the AIS’s decision to end its armed campaign and negotiate with the government.

1.2. Fatalities

The actual number of civilian and combatant fatalities has been difficult to ascertain. Different resources offer different estimations. In June 1999, President Abdelaziz Bouteflika declared that
100,000 people had been killed, but on 25 February 2005 revised the estimate to 150,000. According to the MAOL (Algerian Movement of Free Officers) report in May 1999, 173,000 people were killed, while certain national human rights organisations claim the number exceeded 200,000 [5].

Taking all published figures into account, Figure 2 presents the fatalities during the civil war that is likely to have approached 165,000 deaths by the end of 2001.

Figure 2. Algerian deaths during the civil war.

1.3. Ideological Clusters and the Role of International Actors

The Islamist opposition groups in Algeria were unable to unify themselves under an organisational umbrella. Due to the lack of coherence in their aims and organisation, they have instead been described as an assortment of tendencies or ideological clusters [8]. Despite the lack of political coherence, the various groups continued to attack government infrastructure, schools and institutions, which led to a significant backlog in infrastructure maintenance and improvement [9]. The groups particularly targeted education, and during the second half of 1994, for instance, 538 schools suffered arson or bomb attacks [8].

The unclear picture of the situation, the conflicts between some of these clusters, and the negative representation of the Islamic parties internationally, made the UN reluctant to interfere. In general, no real efforts were made by the international community to manage the Algerian conflict, while the Algerian government rejected all mediation efforts. The Algerian military, as the principle player in the conflict, did not attend the Rome talks of 1994 [2], and also rejected the offer made by the UN Secretary-General Kofi Annan in September 1997 [10].

In line with its Middle Eastern policy [11], the United States had accepted the nullification of the Algerian elections. Additionally, the Algerian government received a significant amount of external support from the EU. France increased its financial aid to reach 40 million USDs in 1994, which was a fourfold increase from 1990 [12]. Other EU states tactically supported the French position, while some private companies investing in the hydrocarbon sector supported the Algerian government by providing additional revenues [2,12]. Reactions from the international community were thus generally weak but overall tended to support the government in place.

2. The Role of Economic Factors and Natural Resources in the Algerian Civil War

A growing number of research articles examine the role of natural resources in economic dysfunction, authoritarianism and corruption, as well as potentially triggering conflicts [13–16]. Other strands of research include water resource conflict/cooperation as factors [17,18]. It has notably been argued that valuable resources can give belligerent parties the opportunity to start or to sustain
their fighting [19,20]. Collier and Hoeffler [21] contend that the possession of natural resources initially increases the duration and risk of civil war but then reduces it. They additionally point out that civil wars have been more likely to occur in low-income countries experiencing demographic pressures, an argument that could be applied to the case of Algeria. For example, from 1985 onwards, many Algerians faced a decline in their standards of living since the government was unable to address the economic problems following the collapse of oil prices on world markets [22]. Another conclusion in the literature on factors contributing to conflict is that, in general, poor rural areas are more likely to start violence than urban areas [23], while Hagelstein [24] has argued that violence or war is unlikely to take place in unpopulated areas.

In a review of the empirical and theoretical literature on links between armed conflict and the abundance or scarcity of resources, Koubi et al. [25] found that the evidence for scarcity-induced conflicts is weak. By contrast, evidence does point to links between conflicts and the occurrence of high-value non-renewable natural resources, in particular oil, supporting the notion of a “resource curse” in these cases. Such correlations are not automatic, however, and numerous factors appear to play a role, such as institutional capacity, redistributive mechanisms or location of resources.

Shabafrouz [26] has examined the links between Algeria’s dependence on hydrocarbon revenues and the economic and social developments of the country. In the 1970s, oil revenues in Algeria allowed for a system of resource distribution inspired by socialist ideals. At the same time, it led to a neglect of other sectors and dependence on imports of food and consumer goods. The subsequent collapse of oil prices in the 1980s led to an economic crisis, with youth unemployment aggravated by the rapid demographic growth. Shrinking state revenues made it difficult to maintain the social welfare system, and Algeria therefore borrowed heavily. According to some estimates, youth unemployment for ages 16–25 was as high as 75% in 1986 [26]. Rural flight and shortage of housing in towns also meant that young people had to live with their parents and were unable to set up their own households.

Although links between natural resources and armed conflict are far from straightforward, there is a consensus that oil makes the start of a conflict more likely [27], an observation that can be applied to Algeria as well as other MENA countries. Analysis of the relationships between resources and conflicts largely draws on the resource curse and rentier state theories [14]. So-called rentier states are characterised by a lack of democracy as well as economic vulnerabilities, conditions which match the circumstances surrounding the 1990s conflict in Algeria [14]. However, Cavatorta [28] points to the limitations of much of current research on conflict and democratisation processes, to the extent that it tends to look for causal correlations within the characteristics of individual countries, ignoring the wider international setting that these countries evolve in. In the case of Algeria, he concludes that the major concerns of the international community during the civil war and post-conflict have been linked to stability and regional security rather than democracy.

Like many other post-conflict countries, Algeria is highly dependent on revenue from extractive industries and primary commodity exports. Retaining military control over the areas where extractive industries are located thus becomes a major issue, as well as protecting infrastructure connected to transport and export. While many types of industries may shun unstable conditions in post-conflict contexts, extractive industries are located at the sites of extraction. They are therefore typically among the first to return, despite risks or additional security costs. For resource-dependent governments, the immediate access to revenue that such industries offer is an additional incentive to prioritise these operations [29].

States that have access to revenue from extractive industries and are dependent on their exports need to ensure the maintenance and infrastructure for these industries, which creates lock-in effects [30] for infrastructure and capacity. Such key industries will also tend to be linked to specific concessions, trade agreements, loans, and foreign relations. A notable effect of the resource curse is thus the vested interests that result from the existing economic structures and the lack of incentives to develop viable alternative sources of revenue and livelihoods. While ensuring the status quo that they have committed to, governments may also need to ensure social stability by rentier mechanisms, by other distributive mechanisms such as subsidies and services, or through policies that promote
wider prosperity. These constraints have implications for the extent to which governments will be able to support the necessary restructuring to enable transitions to sustainability. In the case of oil, other industries may be structured around hydrocarbon availability, and diversification may aim at short-term employment goals rather than longer term resilience. Shabafrouz [26] notes that for these and similar reasons, the dependency on oil and gas exports exposes Algeria to continued crises.

3. The Economic Outlook in Algeria

Oil, natural gas and other related products are the main pillars of the economy in Algeria (95% export earnings), and represent 30% of the gross domestic product (GDP) [31]. The mid-1980s agrarian reform programmes to slow rural flight and develop the agrarian sector had little success. According to the World Bank [32], the rural population in Algeria amounted to 40% in 2000, compared to 29% in 2016. Roughly 3% of the land is arable.

The population has increased rapidly for many decades, and the large number of young people means that demographic growth will continue for at least another generation. In 1970, almost half of the population was under 15 (6.8 million). The proportion had dropped to one-third in 2000, while the share had fallen to 29% in 2015. However, the population growth rate rose from 1.3% in 2005 to 2.0% in 2017 [33]. After the wave of migration to France following independence, migration was long discouraged by government policy. The years 1977–1979 witnessed return migration connected to job opportunities. Outward migration of young Algerians has recommenced from 2000 onwards [34]. Since migrants tend to be of a child-bearing age, the trend might have incidence on demographic developments.

GDP per capita (in current US dollars) for the period 2005–2018 rose from 3100 in 2005, to 4463 in 2010 and 3917 in 2018 [33]. The Consumer Price Index rose in the same period, with 117 for 2005, 146 for 2010 and 183 for 2017, respectively. The food production index had risen to 166 in 2017, in relation to the baseline of 2004–2006. Agriculture represented 8% of value added in 2005, 8.6% in 2010 and 12.2% in 2017. The period witnessed a decline in the share of industry from 59% of value added in 2005 to 37% in 2017, with a corresponding rise in the share of services. Employment in agriculture was estimated at 20% for 2005, 16.5% for 2010 and 12.8% for 2018. Industrial production for the period 2005–2017 remained stable. After several years with positive exports and balance of payment, 2017 witnessed a trade deficit [33]. It should be noted, however, that the nature of actual trade flows may be masked in part by the internal transactions of transnational companies [35].

Examining GDP and the inflation rates between 1980 and 2017 (Figures 3 and 4), it appears that the civil war period (1992–2004) was characterised by low GDP and high inflation rates.

![Figure 3. GDP in Algeria [31].](image-url)
The effect of the onset of the civil war can also be observed in the increase in military expenditure. Figure 5 shows that the military expenditure increased from 700 million USDs in 1980 to about 11,000 million USDs in 2017 [31]. The real increase was clearly noticed during the civil war period 1992–2002, but tensions and armed attacks have persisted in the post-civil war period, and the increase in military spending has continued up to date. Military expenditure was less than 2% of GDP before the civil war and it is now more than 6%. It represents roughly one-third of government spending. Measured by the Global Militarization Index [37], Algeria is the most heavily militarised country of Africa, and ranks as number 15 worldwide. It counts 130,000 active soldiers, a high number of paramilitary militias, and was the seventh largest global importer of arms for the years 2013–2017 [37]. Alongside the army, the National Gendarmerie counts 130,000 members operating under the Ministry of Defence to perform police functions in rural areas. The national police count is approximately 210,000 members [38]. Military spending can have positive or negative effects on economic activity, depending on factors such as if investment is affected by perceptions of the level of security in a country [39]. In Algeria, security expenditures have largely been covered by hydrocarbon revenues [26]. Since the extensive public security expenditure also affects employment and other economic sectors, any demilitarisation processes would need to be coupled with alternative opportunities for employment and income.

The high degree of militarisation and securitisation in Algeria can be explained by the position of the military in government after the civil war and as a means of consolidating this position. Other factors are the continued insecurity [26] with Islamist terror groups and attacks targeting police,
the armed forces or gas plants. It can also be argued, however, that such increasing militarisation is driven by the interests of arms suppliers or foreign investors. For the years 2016 and 2017, the main suppliers of weapons for Algeria were Russia, Germany, China and Sweden. Already during the period 1992–1999, arms were primarily provided by Russia, Belarus and Ukraine, while during the period following the civil war Russia continued to dominate as the arms supplier [40]. The escalation of militarisation in Algeria also has regional effects and appears to be driving arms imports in neighbouring Morocco [37]. Although it plays a minor role in arms supplies, France has been heavily involved in security cooperation with Algeria, both during and after the conflict.

Unemployment reduces the opportunity costs of starting a conflict [21], and the lack of employment opportunities can exacerbate the community situation and maintain any conflict [41], both conditions which are relevant to the Algerian case.

Examining the employment percentages during and after the civil war reveals that most people in the agricultural and industrial sectors tended to stay in their previous occupation during the civil war. After the conflict era, people started to discover new opportunities. Figure 6 shows that employment started to increase in the industrial sector due to new investments, while the relative percentages of agricultural employment consequently decreased. Additionally, there was a slight increase in oil and natural gas production after the civil war (Figures 7 and 8).

**Figure 6.** Employment percentages in Algeria [31].

**Figure 7.** Natural gas production in Algeria [36].
4. Post-Conflict Development

4.1. Settlement

Due to the benefits it conferred to certain groups, the conflict was difficult to resolve [2]. However, the horrific deaths in massacres in villages outside Algiers in July–August 1997, December 1997 and January 1998 highlighted the need for a quick solution, or at least a truce. Under these circumstances, Abdelaziz Bouteflika could muster public support in his campaign in 1999 when he declared his willingness to strike a deal with the Islamists to bring peace to the Algeria through national reconciliation, which made all the other candidates withdraw from the elections [42].

Bouteflika came to power after the election of 1999 with the backing of the military. The killing decreased, and the country started to breathe. President Bouteflika extended an amnesty offer to insurgents if they surrendered. In January 2000, AIS received a full amnesty for its members. However, GIA and GSPC refused the amnesty and continued their killing activities till 2005 [2].

In 2005, the Algerian government put forward the ‘Charter for Peace and National Reconciliation’, which was proposed by President Bouteflika and put to a referendum on the 29th of September to stop the civil war [43]. With a participation of 79.76% [44], the referendum results, which did not have any international observers, showed that 97% of the votes supported the charter [42,44].

The ‘Charter for Peace and National Reconciliation’ reflected the president’s determination to bury the past as quickly as possible, without any discussion. However, it took the National Consultative Commission 4 years to close the question of the disappeared people by a financial compensation [42]. After the September attack in 2011, Algeria was able to gain support and improved international relations with USA and several European countries by the position it adopted in the ‘war against terrorism’ [28].

4.2. Development and Infrastructure

The post-independence development plans in Algeria started with the First Three years Plan (1967–1970), then the First Four Year Plan (1970–1973), and the Second Four-Year Plan (1974–1977) which emphasized investment in heavy industry. After this, Algeria went through a transitional period till 1979 to assess the previous plans. From 1980 onward, planning was organised in 5-year plans.

In 1978, the Benjedid government allocated more funds to agriculture infrastructure such as constructing dams and water projects, by which the private sector area was increased to 5 million hectares. Furthermore, the Plan of 1985–1989 aimed to prepare the country for ‘life after oil’ by
increasing agriculture funding from 10% of the total budget in 1985 to 14.5% in 1990. After 1991, individuals and farm cooperatives could engage in wholesale trading in agriculture inputs. The World Bank was the main source of funding for these projects. Table 1 presents the main projects in the water development sector involving World Bank funding. However, due to the security problems in Algeria, many of these projects could not be completed and some of the funds were cancelled. For example, 9,18 million USD were cancelled from the Irrigation Engineering Project.

Table 1. Major water development projects in Algeria in the period 1978–2000.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Signed on</th>
<th>Costs Million USD</th>
<th>Completion (Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewerage works</td>
<td>1978</td>
<td>154</td>
<td>82</td>
</tr>
<tr>
<td>Water Supply Engineering</td>
<td>1979</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Algeria-Bas Cheliff Irrigation</td>
<td>1981</td>
<td>13.32</td>
<td>8</td>
</tr>
<tr>
<td>Irrigation Engineering</td>
<td>1988</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>Second National Water Supply and Sewerage</td>
<td>1988</td>
<td>630.5</td>
<td>250</td>
</tr>
<tr>
<td>West Mitidja Irrigation</td>
<td>1990</td>
<td>425.9</td>
<td>110</td>
</tr>
<tr>
<td>Sahara Regional Development</td>
<td>1991</td>
<td>94</td>
<td>57</td>
</tr>
<tr>
<td>Pilot Forestry and Watershed Management</td>
<td>1992</td>
<td>37.4</td>
<td>25</td>
</tr>
<tr>
<td>Water Supply and Sewerage Rehabilitation</td>
<td>1994</td>
<td>170</td>
<td>110</td>
</tr>
<tr>
<td>El-Kala National Park &amp; Wetlands Complex Management</td>
<td>1994</td>
<td>11.68</td>
<td>9.2</td>
</tr>
<tr>
<td>Second Rural Employment Project</td>
<td>2003</td>
<td>142.9</td>
<td>95</td>
</tr>
</tbody>
</table>


According to the Ministry of public works, the government additionally invested about £47 billion in road infrastructure after the civil war between 2000–2014. In the 5-year plan of 2010, $ 286 billion was allocated to develop and update Algerian infrastructure and provide jobs, aiming to have a direct impact on the tourism sector [45]. In 2017, the construction works on El Hamdania port, 70 km west of Algiers, started to construct a new deep-water port with estimated costs around $3.3 billion, to be financed with loans from China and the African Development Bank (AfDB) [46,47].

Besides such investments in infrastructure, among the stabilising and peace-promoting measures adopted by the Algerian government, Shabafrouz [26] underlines the reduction of foreign debt and subsidies for basic food and fuel. Such measures are not sufficient, however, to reduce the vulnerability of the economy to shocks on global markets, or to alleviate grievances caused by unequal income opportunities. In an analysis of public spending in Algeria after the civil war, Abdelkader et al. [48] point to the emphasis in government policy on employment, which appears to have been met with some success. They estimate that, as a result, in the period 2000–2007, public consumption almost doubled in monetary terms. The increase was partly offset, however, by a corresponding rise in prices. Abdelkader et al. [48] further stress the vulnerability of government policy, primarily aiming at a short-term increase in employment, while neglecting longer-term investments. Thus, in 2008, only 12% of total investment was publicly funded. This suggests that external funding from FDIs and international development projects will have played an important role in the period with respect to larger infrastructure development and how it has been oriented.
4.3. Agricultural Development

Global warming and changing weather patterns are likely to result in hotter summer temperatures in the MENA [49]. Besides water and heat stress, agriculture will also be exposed to greater extremes and more unpredictable weather. With respect to the call for food self-sufficiency in the Arab world, Khouri, Breisinger and Eldidi [50] point to the need to reduce vulnerability to food price shocks and excessive dependence on imports. At the same time, they stress that appropriate strategies for agriculture in arid climates are necessary, in view of the serious environmental impacts that agriculture can have. Both resilience and adaptation are therefore major issues in rural development. This involves ensuring, among other measures, sufficient diversification of crops, but also mechanisms to equalise risks for farmers. Chaaban et al. [51] assess that agricultural production in the region cannot be substantially increased due to constraints in available water, although certain improvements are feasible through improved water management. In view of the rapid population growth, in Algeria and in the region generally, food security thus becomes a serious issue.

The gap between agricultural needs and demands grew from 30% in 1969, to 50% in 1982, to 80% in 1987 [52]. For example, in 1990, Algeria imported 66%, 25%, 66%, and 90% of its needs from cereal, meat, milk, and cooking oil, respectively [53]. A high dependence on food imports remains characteristic of the Algerian economy today, as in many of the oil-exporting nations.

The Plan National de Développement Agricole et Rural (PNDAR) of 2000 aimed at increasing Algerian food security and ensuring rural development. In line with these aims, in the Economic Recovery Programme for 2001–2004, 6312 of the 15,974 development projects concerned agriculture, irrigation and fishery. However, these projects corresponded to only 12.4% of the budget for the programme [50]. Despite government efforts to halt rural flights, rural-urban migration has continued. In 1950, only an estimated 22% lived in urban centres. The percentage had risen to 39% by 1970, 55% in 1985, 60% in 2000, 71% in 2015 and was estimated to reach almost 73% in 2018 [54]. Only an estimated 2% of agricultural land was used for permanent crops in 2015 [55].

5. Project Development Examples

Numerous projects in Algeria have been financed by the World Bank, but other international actors have also played a role in development. As an example, Table 2 presents some development projects in Algeria after the conflict financed by the International Development Research Centre IDRC, Canada. The table suggests an increase in Canadian funded multi-countries projects, regardless of the political orientations of the receiving states. It also shows that most of the projects were not closed on time. Jointly, the projects give the impression of serving disparate development agendas, rather than building on achieved outcomes or sustaining the achievements. For lasting impacts, this supposes that internationally-funded projects are in line with domestic long-term development strategies in the concerned countries. It notably supposes that internationally-funded projects are viable with respect to overall social, economic and geographical conditions, and that local governments are both willing and able to ensure a follow-up to international efforts.
Table 2. Major development projects in Algeria after the civil war.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Date</th>
<th>Loan USD</th>
<th>Duration</th>
<th>Countries</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telemedicine in Remote Areas of Algeria</td>
<td>2006</td>
<td>144,800</td>
<td>18</td>
<td>Algeria, North of Sahara, South of Sahara</td>
<td>Closed 7 months of its proposed end date</td>
</tr>
<tr>
<td>Political Party Development in the Arab World</td>
<td>2006</td>
<td>344,400</td>
<td>30</td>
<td>Bahrain, Middle East, Algeria, Iraq, Lebanon, Morocco, Yemen, North of Sahara, South of Sahara, Central Asia, Far East Asia, South Asia, Turkey</td>
<td>Closed after 15 months of its proposed end date</td>
</tr>
<tr>
<td>Sustainable Development of the Algerian Steppe</td>
<td>2007</td>
<td>389,000</td>
<td>36</td>
<td>Algeria, North of Sahara, South of Sahara</td>
<td>Closed on time</td>
</tr>
<tr>
<td>Water, Health and Climate Change Adaptation in Africa</td>
<td>2007</td>
<td>293,800</td>
<td>42</td>
<td>Burkina Faso, Ivory Coast, Algeria, Egypt, Ghana, Guinea, Morocco, Tunisia, North of Sahara, South of Sahara</td>
<td>Closed after 27 months of its proposed end date</td>
</tr>
<tr>
<td>Arab Reform Initiative—International Development Research Centre of Canada (IDRC)</td>
<td>2008</td>
<td>581,600</td>
<td>24</td>
<td>Middle East, North of Sahara, South of Sahara, Central Asia, Far East Asia, South Asia, United States</td>
<td>Closed after a month of its proposed end date</td>
</tr>
<tr>
<td>Exploring Adaptation Scenarios: Cutaneous Leishmaniasis and Climate Change in Algeria</td>
<td>2009</td>
<td>270,700</td>
<td>36</td>
<td>Algeria, North of Sahara, South of Sahara</td>
<td>Closed after 7 months of its proposed end date</td>
</tr>
<tr>
<td>Information and Communication Technologies for Agricultural Development and Natural Resources Management (MENA)</td>
<td>2009</td>
<td>63,300</td>
<td>12</td>
<td>North of Sahara, South of Sahara, Algeria, Jordan, Lebanon, Morocco, Syria, Tunisia, Egypt, Yemen, Sudan</td>
<td>Closed after 9 months of its proposed end date</td>
</tr>
<tr>
<td>Management Models of Forest Resources in the Atlas Mountain Chain (North Africa)</td>
<td>2009</td>
<td>685,900</td>
<td>36</td>
<td>North of Sahara, South of Sahara, Algeria, Morocco, Tunisia</td>
<td>Closed after 11 months of its proposed end date</td>
</tr>
<tr>
<td>Arab Democracy Barometer</td>
<td>2010</td>
<td>589,200</td>
<td>24</td>
<td>Algeria, Iraq, Jordan, Lebanon, Morocco, Egypt, Yemen, Bahrain, Kuwait</td>
<td>Closed after 8 months of its proposed end date</td>
</tr>
<tr>
<td>Arab youth as political actors: Strengthening resilience through new forms of engagement</td>
<td>2011</td>
<td>417,000</td>
<td>24</td>
<td>Algeria, Lebanon, Syria, Tunisia</td>
<td>Active</td>
</tr>
<tr>
<td>Governance of Diversity: Case of the Kurdish and Amazigh Communities in the Middle East and North Africa</td>
<td>2011</td>
<td>494,700</td>
<td>24</td>
<td>Algeria, Egypt, Iran, Iraq, Libya, Morocco, Syria, Tunisia, Turkey</td>
<td>Active</td>
</tr>
<tr>
<td>International Crisis Group Quick-Response Research: Addressing Governance and Security</td>
<td>2011</td>
<td>780,000</td>
<td>24</td>
<td>Algeria, Morocco, Tunisia, North of Sahara, South of Sahara, Belgium</td>
<td>Active</td>
</tr>
<tr>
<td>Translating Genomic Discoveries to Cure Ultrahypermutant Mismatch Repair Deficient Brain Tumours</td>
<td>2015</td>
<td>506,000</td>
<td>36</td>
<td>Algeria, Brazil, Egypt, Jordan, India, Canada, Israel</td>
<td>Active</td>
</tr>
</tbody>
</table>

Adapted from [56,57].
Besides the disparate and uncoordinated nature of the international development projects examined, implementation presents numerous other challenges. The World Bank Group considered corruption to be a major challenge to its twin goals of ending extreme poverty by 2030 [58]. With respect to corruption, Algerian economist Lahouari Addi has contended that during 2002–2014, 200 billion US dollars were wasted because of corruption, including over-pricing of import bills, which represented 20% of the total country’s gain in 12 years [59]. In 2013, the government of Algeria created the Central Office for the Suppression of Corruption (OCRC) to investigate any form of bribery in Algeria, by which several major corruption cases were brought to trial. However, according to reports and public opinion, no charges were made against any current or former senior government officials [60].

To illustrate the situation for rural development projects in particular, both during the conflict and in the post-conflict period, we will discuss two projects: The West Mitidja Irrigation Project; and the Second Rural Employment Project, based on the World Bank evaluation documents for these projects.

5.1. West Mitidja Irrigation Project (WMIP)

The Mitidja plain is a narrow littoral band stretching for 100 km in the north central region that has many farming systems (orchards of citrus and other fruit trees, cereals and horticulture), which depend largely on the use of groundwater resources with a complement of surface water during the summer [61].

The WMIP aimed at completing the existing irrigation scheme and to expand the large-scale irrigation area. The main objectives were to: (1) help private farmers on their on-farm irrigation development; (2) strengthen Algerian irrigation institutions; and (3) expand policy and institutional changes regarding operation, maintenance and monitoring activities. The total cost of the WMIP was estimated to be about 426 million USD, 48% of which was financed by loans. Due to the security situation, about 50% of the loan was cancelled and no supervision missions were carried out after September 1993.

It appears that the project failed to achieve its objectives due to the security conditions that made foreign contractors and experts leave Algeria, in addition to currency devaluation. Due to these implementation problems, the total costs were estimated to be reduced by 63% and none of the project’s components were adequately achieved. For example, constructing the Boukourdane pipeline and the Djer diversion weir aimed at increasing the irrigation area, however, only 55% of the estimated costs for these subprojects was disbursed and none of the irrigation area sectors could be irrigated, because of uncompleted works. In total, the project failed to achieve its main objectives, since none of the planned irrigation infrastructure were completed that aimed to increase farmers’ income and improve social welfare. In addition to the security conditions, the weakness of central and regional institutions in technical, political and managerial aspects had worsened the project situation and hindered its implementation. Table 3 presents some details about WMIP’s components.

<table>
<thead>
<tr>
<th>Project Components</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water resource development</td>
<td>The construction of the Boukourdane pipeline and the Djer diversion weir had not started or completed on time.</td>
</tr>
<tr>
<td>Irrigation Expansion</td>
<td>Only 55% of the works were completed.</td>
</tr>
<tr>
<td>On-farm development</td>
<td>Irrigation equipment were partially delivered.</td>
</tr>
<tr>
<td>Institutional Strengthening</td>
<td>Surveys and studies had been completed but had not been applied.</td>
</tr>
<tr>
<td>Studies &amp; Technical assistance</td>
<td>Most of them were cancelled.</td>
</tr>
<tr>
<td>Training</td>
<td>Training program could not be carried out.</td>
</tr>
<tr>
<td>Auditing</td>
<td>The audit reports were received but audits of some financial statements were not carried out.</td>
</tr>
</tbody>
</table>
The unsatisfactory results in Table 3 highlight the low level of cooperation, participation and management at the local level, which continued after the conflict [61]. The overall failure of projects such as the WMIP thus illustrate the weaknesses of initiatives intended to prevent rural flight and the collapse of the agricultural sector. Nevertheless, positive developments can also be observed. For instance, the national agricultural development subsidy programme that started in 2002 helped in increasing the cultivated areas and the planted trees in West Mitidja [61].

5.2. Second Rural Employment Project (SREP)

Poverty and employment were the most critical problems in Algeria after the conflict. It was reported that money transfers from migrants played a much more important role in reducing extreme poverty than local income, especially in rural areas [62], which highlighted the need for more attention regarding the employment question.

The SREP aimed at generating and simulating rural employment in poor areas of northwest and north-central Algeria. In addition to this, SREP aimed to improve community involvement and the availability of resources in rural areas, which would contribute to the agriculture growth in the country. The total cost of the project was estimated at 142.9 million USD, 66% of which was financed by a loan from the World Bank. The loan of SREP was scheduled to be completed in 2009. However, the country was able to close it after 34 months from its start.

Outcomes, bank performance and borrower performance were judged to be satisfactory by the WB. However, on closer inspection, it is clear that performance was less satisfactory in relation to future conditions for agriculture. Table 4 presents the achievement of the SREP components based on the target values (TV1 for 30/9/2006 and TV2 for 30/6/2009).

<table>
<thead>
<tr>
<th>Project Components</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment creation</td>
<td>74% and 23% of the TV1 &amp; TV2, respectively</td>
</tr>
<tr>
<td>Rural income generation</td>
<td>73% and 18% of the TV1 &amp; TV2, respectively</td>
</tr>
<tr>
<td>Reforestation</td>
<td>23% and 15% of the TV1 &amp; TV2, respectively</td>
</tr>
<tr>
<td>Rainfed Fruit Tree Plantations</td>
<td>63% and 41% of the TV1 &amp; TV2, respectively</td>
</tr>
<tr>
<td>Irrigated Fruit Tree Plantations</td>
<td>37% and 31% of the TV1 &amp; TV2, respectively</td>
</tr>
<tr>
<td>Vineyards development</td>
<td>28% and 25% of the TV1 &amp; TV2, respectively</td>
</tr>
<tr>
<td>Land Improvement</td>
<td>55% and 34% of the TV1 &amp; TV2, respectively</td>
</tr>
<tr>
<td>Water Supply (water points)</td>
<td>46% and 31% of the TV1 &amp; TV2, respectively</td>
</tr>
<tr>
<td>Water Supply (wells)</td>
<td>14% and 8% of the TV1 &amp; TV2, respectively</td>
</tr>
</tbody>
</table>


It appears from Table 4 that achievements in employment creation and rural income may have resulted from the immediate expenditures in connection with the project, while reforestation and other agricultural improvements are likely to generate long-term livelihoods after the closure of the project appears to have been neglected. No study of the long-term consequences of the project seem to have been made.

6. Discussion

Comparing the above-mentioned projects shows the poor management, supervision, implementation and coordination, particularly during the conflict period. By contrast, post-conflict development has benefitted from more favourable circumstances, and the government has played a positive role in some project development after the conflict. Generally, policy appears to have been most successful with respect to employment and immediate income generation, while rural infrastructure projects appear to have been less successful. Such projects may require coordination over larger geographic areas, as well as long-term financing, follow-up and maintenance in order to yield positive impacts. Typically, many infrastructure projects for transport, electricity or irrigation
require complete networks to be functional, so that partial completion, interrupted funding or poor maintenance endanger their success. More generally, the results of this overview raise the question if the organisation of development funding in projects may favour short-term and direct impacts over longer-term structural goals, which has serious consequences with regard to sustainability.

Waterbury [63] points to the decontextualised, unrealistic and often contradictory nature of international recommendations for the MENA region. Certain countries, like Somalia, involved the private sector in some post-conflict rebuilding activities with the support of international organisations [64], which was not the case in Algeria. The long-term consequences of colonial structures for ethnic conflicts globally have been demonstrated by Vogt [65]. (2018). The overview of Algerian development of the present study suggests a similar tendency to conserve colonial economic structures based on extractive dynamics, leading to lock-in effects with respect to transitions away from hydrocarbons. In his analysis of the preconditions for transition to sustainability from the angle of decision-making, Waterbury [63] concludes that MENA governments have little incentive to change the status quo. His conclusions appear to also be applicable to the case of Algeria. Despite the disastrous social and environmental consequences of inaction, governments of the region are reluctant to initiate necessary structural changes. On the one hand, decision-makers tend to prioritise immediate short-term constraints and rewards, while on the other, costs of environmental degradation are mainly experienced by the poorest and least influential segments of society. Available hydrocarbon revenues have therefore not been significantly used to promote diversification or renewable energy sources. While economic performance is generally measured in terms of GDP, trade balances or employment, we therefore wish to argue that environmental concerns cannot be simply treated as an add-on within existing structures. Increased attention needs to be devoted to pathways towards sustainability at structural levels. El-Zein et al. [66] underline the numerous serious threats that environmental degradation poses to human health and living conditions in the Middle East. They observe that, despite robust scientific evidence and the urgency for action, governments in the region appear to have difficulties both in grasping the magnitude of these issues and in adopting necessary measures. In the case of Algeria, the major challenges remain as establishing incentives for energy transitions, proactive action to address water stress and climate variability, and stabilising population growth.

In late 2018, Algerian economist Lahouari Addi pointedly observed that despite sufficient income in the period 2002 to 2014, the state had failed to develop a national offer of goods and services, leading to unnecessary imports of consumer goods. A large portion of revenue has gone to foreign firms constructing infrastructure [59]. Poverty and inequity remain tangible [62], and the population who lives below the poverty line was estimated to be around 35% in 2015 [67]. In April 2019, the 82-year-old president Abdelaziz Bouteflika agreed to resign after weeks of mass demonstrations against him, his clan, and his system [68]. Although, the picture is not clear after one month of his leave as protests are still demanding that an additional 38 key officials resign [69]. It can be hoped that Algeria will have a democratic transition, reduce corruption and recover from the centralisation of power that the regime has represented.

7. Conclusions

To summarise, Algeria has followed an extractivist model of development [15,70], where policies with long-term negative impacts continue to be pursued, since the social and environmental cost is not born by decision-makers or by the industries benefitting from these policies. While certain impacts are reversible, long-term damage to the environment cannot be repaired through financial compensation.

Post-independence economic policy in Algeria was heavily oriented towards industrialisation. However, migration towards the urban centres and problems such as youth unemployment led to some efforts to support agriculture and rural economies. Development after the civil war has done little to alleviate rural poverty or temper regional imbalances in the country. Structurally speaking, dependence on hydrocarbon exports and reliance on food import not only contributes to income inequities, but also constitutes a considerable vulnerability in terms of state revenue and food security.
Importantly, this economic structure generates little income in sectors that might drive diversification or a transition away from oil-dependence. Post-war investments have thus generally consolidated the energy lock-in effects of the pre-existing status quo.

Numerous and complex factors contributed to the civil war in Algeria 1992–2002 and prevented a rapid resolution, including low income, population growth, available resources, and a lack of democracy. Many development projects were stopped or hindered during the conflict, while most of the post-conflict development projects were satisfactorily implemented and completed, considered from a donor perspective, achieving at least some of their targets. Long-term contributions to economic structures and capacity are less certain, however. It can be concluded that capacity-building support should continue some years after completing any project in order to reap benefits from development efforts. Results suggest that further research and increased attention is needed to examine the longer-term effects of both national and international development projects, particularly those involving infrastructure that requires complete networks in order to be functional, and for types of investment that have the potential to restructure the economy away from the present hydrocarbon dependency.

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