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Research Report

EU development policy and climate change

EconPol Policy Brief, No. 61

Provided in Cooperation with:
Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Samarskiy, Andrey; Waldinger, Maria (2024) : EU development policy and climate change, EconPol Policy Brief, No. 61, CESifo GmbH, Munich

This Version is available at:
https://hdl.handle.net/10419/301679

econPOL
POLICY BRIEF

61
2024

June
Vol. 8

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Key Messages

- The Samoa Agreement in November 2023 marks an expansion of the EU's priority areas of development cooperation.
- It recognizes climate change as a factor that affects all areas of economic, political and social development, especially in poor countries through its impact on the agricultural sector.
- EU development policy should support innovation in financial mechanisms for family farms to mitigate the negative effects of climate-related income shocks.
- In addition, it can bring about lasting structural change by reducing transport costs and thus promoting greater openness in product markets as well as the free movement of people.

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EconPol POLICY BRIEF
A publication of the CESifo Research Network

Publisher and distributor: CESifo GmbH
Poschingerstr. 5, 81679 Munich, Germany
Telephone +49 89 9224-0, Email office@cesifo.de
Shipping not included
Editor of this issue: Clemens Fuest, Florian Dorn

EconPol Europe: www.econpol.eu

EU Development Policy and Climate Change

Andrey Samarskiy and Maria Waldinger *

The European Union (EU) and its member states, together with the 79 members of the Organization of African, Caribbean and Pacific States (OACPS), signed the Samoa Agreement on 15 November 2023. The new legal framework for states with a combined population of more than 2 billion marks an expansion of the objectives of development cooperation. While the previous agreement focused on reducing poverty and integrating OACPS members into the global economy, the Samoa Agreement covers priority areas of economic, political and social development: inclusive sustainable economic growth and development, human and social development, peace and security, migration and mobility, environmental sustainability and climate change as well as human rights, democracy and governance.

Of course, these priority areas cannot be considered or achieved in isolation. In recent years it has become increasingly clear that climate change is a factor that affects all areas of economic, political and social development and will have an even greater impact in the future. The Samoa Agreement recognizes this development by identifying the fight against climate change both as a priority area and a cross-cutting issue to be addressed by projects in all other priority areas.

In this article, we show how climate change affects all economic, political and social priority areas of the Samoa Agreement and which climate change mitigation and adaptation measures are therefore particularly important. Understanding the complex causal links between climate change and a country's economic, political and social development is the basis for identifying effective development policy measures and implementing them efficiently.

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Impact of Climate Change on EU Development Policy Priorities

Inclusive Sustainable Economic Growth and Development

Economic growth and development are important and desirable for developing countries as a means of reducing poverty, even in times of climate change. The latter hampers economic growth, especially in poor countries. Dell, Jones and Olken (2012) show that a temperature increase of 1 degree Celsius reduces annual economic growth in developing countries by 1.3 percentage points. Growth rates in subsequent years are also negatively affected. High temperatures in one year therefore have long-term consequences.

Why does climate change have such a strong impact on economic growth, especially in poor countries? Economic production in developing countries is largely dependent on the agricultural sector. Climate affects economic growth in African countries through its impact on the agricultural sector, on which a large part of the population in developing countries depends (Barrios, Bertinelli and Strobl 2010). This impact is particularly severe in comparison to economically stronger countries, as smallholder farmers often use traditional farming methods that offer little protection against increasingly frequent droughts, erosion and flooding. Adopting more technologically advanced methods requires investments that many smallholders lack the resources for. The introduction of new irrigation methods or more productive seeds also entails increased risks, at least during a transitional period. For households without financial buffers, increased risks, such as more frequent crop failures, directly threaten their livelihoods and sometimes the lives of household members, especially children.

In the absence of resources to adapt, the poorest households in particular can fall into a “poverty trap” (Letta, Montalbano and Tol 2018). Households that are self-sufficient in agricultural production compensate for short-term crop failures by continuing to cultivate the land rather than leaving it fallow to regenerate, thereby increasing yields in the long term (Aragon et al. 2021).

Simulation models also show that the future economic damage caused by climate change will be very unevenly distributed. Regions in the global South will not only suffer from lower agricultural yields (Costinot, Donaldson and Smith 2016), but will also be particularly affected by extreme weather events and rising sea levels (Desmet et al. 2021).

Human and Social Development

Climate change also has a decisive impact on aspects of social development, especially for women and children. For example, the increasing frequency of extreme weather events due to climate change has a negative impact on the health of newborns. Banerjee and Maharaj (2020) show that in rural India, particularly high temperatures (above 32 degree Celsius) during pregnancy cause two deaths per 1,000 newborns. Drought (Rocha and Soares 2015) and desert dust (Heft-Neal 2020) have similar effects.

Extreme weather during pregnancy also has a negative impact on the long-term development of human capital. In Ecuador, workers have lower levels of education and earn 0.7 percent lower wages if they were exposed to temperatures one degree Celsius above the national average while in the womb (Fishman, Carrillo and Russ 2019). When families are affected by weather shocks and their income is reduced, children drop out of school earlier (Marchetta, Sahn and Tiberti 2019), have lower literacy and numeracy skills and are more likely not to be promoted (Deuchert and Felfe 2015; Garg, Jagnani and Taraz 2020; Park, Behrer and Goodman 2021).

There are also gender differences: As a result of negative (positive) weather shocks, girls' educational prospects deteriorate (improve) particularly strongly (Maccini and Yang 2009; Björkman-Nyqvist 2013). One explanation for this phenomenon is that households allocate a fixed amount of resources to the education of sons and flexibly adjust the remainder for daughters to the circumstances (ibid.). In cultural contexts where bride prices (transfers from the groom's family to the bride's family) are common, parents are more likely to choose child marriage for their daughter (Corno, Hildebrandt and Voena 2020).

Peace and Security

Climate change also increases the risk of political violence in a country for various reasons. When vital resources become scarce due to temperature and precipitation shocks, unorganized violent conflicts become more common: droughts in sub-Saharan Africa increase the likelihood of disputes over access to water sources (Almer, Laurent-Lucchetti and Oechslin 2017). When livestock farmers are forced to sell their breeding stock at a low price (Maystadt and Ecker 2014), or when farmers are exposed to crop failures (Harari and Ferrara 2018), this existential insecurity leads to uprisings and violent protests. The opportunity cost of participating in organized rebel movements also falls with income (ibid.).

In particular, climatic changes have an adverse effect on the coexistence of various population groups. In sub-Saharan Africa, for example, nomadic peoples can cooperate with neighboring sedentary farmers under normal climatic conditions. During the dry

season, the former drive their herds onto the farmland, leaving behind organic fertilizer. Negative climatic shocks disrupt this symbiotic relationship: in search of usable grazing land, migratory herders move onto nearby farmland during the rainy season, reducing their neighbors' agricultural yields. This conflict of interest leads to violent clashes between the two groups (Eberle, Rohner and Thoenig 2020; McGuirk and Nunn 2024). Conflicts of this kind are particularly conducive to religious disputes, as nomadic peoples are largely Muslim and sedentary farmers are Christian (McGuirk and Nunn 2024).

Migration and Mobility

Throughout human history, migration has been a classic strategy for adapting to climatic changes. However, the relationship between climate change and migration today is more complex than some might think. Studies show that climate change is a key factor influencing migration decisions, albeit primarily internal migration within developing countries and low- and middle-income countries (Hoffmann et al. 2020). Moreover, migration is a costly decision and requires a sufficiently high income (Cattaneo and Peri 2016; Kubik and Maurel 2016; Peri and Sasahara 2019). In other words, particularly vulnerable actors cannot use this adaptation mechanism. Urbanization driven by climate migration offers the possibility of structural change if employable migrants move from agriculture to other sectors (Henderson, Storeygard and Deichmann 2017).

Policy Conclusion

Improved Financial Instruments for Agricultural Adaptation and Modernization

Climate change primarily affects agricultural households, as their sources of income are particularly exposed to weather shocks. This leads to a reduction in income, which in turn hampers economic and social prospects and also increases the likelihood of violence. To mitigate this type of damage, EU development policy can promote credit and insurance instruments for vulnerable households. Indeed, studies show that access to such financial instruments reduces local mortality rates and promotes agricultural investment and household income diversification (Burgess et al. 2017; Karlan et al. 2014; Macours, Premand and Vakis 2022).

In this context, the Samoa Agreement promises to expand innovative financing mechanisms for family farms (Art. 45(3)). Achieving this goal is of considerable

relevance, as existing financial products are inefficiently underutilized (Ahmed, McIntosh and Sarris 2020). Possible reasons include a lack of understanding and trust, liquidity constraints and "present bias", i.e. an excessive focus on the present (Cole et al. 2013). The financial innovations promoted by EU development policy can therefore help to overcome these barriers (Casaburi and Willis 2018; Lane 2024).

Integrating Rural Areas through Improved Transportation Infrastructure

In the long run, climate change will lead to structural changes in economic activity and a reallocation of labor within developing countries. Without additional policy measures, however, there is a risk that this restructuring will lead to inefficient outcomes: Migrant workers do not make the transition to productive, higher-paying industries. This hinders much-needed industrialization. Gollin, Lagakos and Waugh (2014) show that value added per worker is much higher in non-agricultural sectors than in agriculture. This indicates a misallocation of labor.

The integration of rural areas favors individual employment opportunities and long-term industrialization processes. On the one hand, more open product markets promote the specialization in different areas. Regions with high agricultural productivity can exploit their comparative advantages and supply areas severely affected by climate change, while these areas concentrate on other economic sectors. On the other hand, the open movement of people facilitates the migration and allocation of labor (Henderson, Storeygard and Deichmann 2017).

EU development policy can therefore work towards the opening of product markets and the free movement of people. The objectives formulated in the Samoa Agreement focus exclusively on trade and migration between different states (Art. 50-52 and 62-73). However, this ignores the lack of openness of domestic product markets (Henderson, Storeygard and Deichmann 2017) and the fact that the majority of climate migration is not cross-border in nature (Hoffmann et al. 2020).

One way in which EU development policy can create greater openness and thus lasting structural change is by reducing transport costs in the form of public infrastructure (Adamopoulos 2011; Gollin and Rogerson 2014). The provision of railways and bridges improves the labor market prospects for workers, increases agricultural income and yields, and ensures greater food security (Brooks and Donovan 2020; Burgess and Donaldson 2010; Sotelo 2020). Investments in such public goods expand trade linkages and the labor market alternatives for households affected by climate change. This reduces income shocks and creates more favorable migration opportunities.

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