

Deforestation, climate change and migration

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"This background document has been realized in the framework of the project, to spread data and information based on a scientific analysis. If you want to know more about this project and be part of its activities, please feel free to contact the leading partner Diaconia in Czech Republic (email: nozinova@diakoniespolu.cz), as well as Focsiv in Italy (email: f.novella@focsiv.it)."

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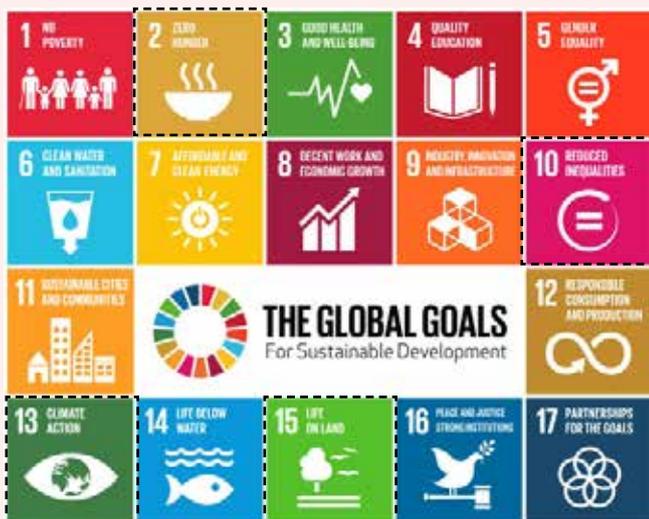
1. ENVIRONMENTAL FACTORS AND MIGRATION: UNDERSTANDING THE LINK

People’s movement is linked to a variety of reasons. Conflicts, persecution, lack of civil and political rights, poverty, food insecurity, are all among the most well-known and “categorized” push factors of migration. That said, underestimating the impact that environmental changes have on humanitarian crises and migration would be a mistake. Although there is no universally recognized definition of climate refugee, there is no doubt that environmental changes and/or climate disasters can lead people to flee their countries.

International instruments developed under the auspices of the United Nations have addressed the link between environmental changes and people’s movement.

Objective n.2 of The Global Compact on Migration, for instance, aims to “**minimize the adverse drivers and structural factors that compel people to leave their country of origin**”, including disaster risks and climate change.¹

Also, taking a step back from the **2030 Agenda** commitments, **SDG 10.7** calls for **facilitating orderly, safe, regular, and responsible migration and mobility of people**, including through the implementation of planned and well-managed migration policies², and **SDG 13** invites to take **urgent action to combat climate change and its impacts**.³



Ph. Global Goals for Sustainable Development



¹ See Objective 2 of the GCM https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_73_195.pdf

² See targets of SDG n. 10 <https://www.un.org/sustainabledevelopment/inequality/>

³ See SDG 13 <https://www.un.org/sustainabledevelopment/climate-change/>

As we have underlined in previous papers⁴, there is not necessarily a direct link between migration and environmental changes, but climate migration usually results from “human factors” that exacerbate the impact climate change has on communities, especially the most vulnerable ones.

Interactions between environmental changes, socio-economic factors, cultural and geo-political factors are to be analyzed, indeed, based on the contexts in which they occur.⁵

The lack of sustainability in policies, uncontrolled urbanization and degradation of rural areas, unsustainable private investments aimed at accumulating profits in the shortest time, land exploitation, mining, and continuous cementing, exacerbate the risks of natural disasters which eventually cause people displacement.⁶

As of the urgency climate change is posing on our everyday life, in recent years, NGOs and research networks have been attentioning **the topic of deforestation** across the world and its effects on both the environment and the population.⁷



Ph. nonsprecare.it



Ph. larepubblica.it



Ph. thelancet.com

⁴ See A. Ianni, M. Giampaolo, Climate change and Migration, Faces of Migration, Focsiv, November 2019, <https://gcap.global/wp-content/uploads/2020/04/Climate-Change-and-Migration-Focsiv-24.02.2020.pdf>

⁵ To go into depth see M.G. Midulla, A. Stocchiero, Migrazione e cambiamento climatico, WWF, Focsiv, CeSPI. 2015, <http://www.focsiv.it/wp-content/uploads/2015/10/WWF-Report.pdf>

⁶ To go in detail see A. Ianni, M. Giampaolo op. cit.

⁷ See par. 2



2. THE INTERACTIONS BETWEEN DEFORESTATION AND MIGRATION

According to Greenpeace report “Destruction Certified”, increasing **agricultural production**, animal farming and soya and palm plantations have caused massive deforestation in the last decades⁸. CESifo’s report underlines that many countries of Latin America are among the main areas involved in this environmental degradation⁹.

Deforestation is mainly linked to the value chain associated to **food consumption** in the world. Globalization and the introduction of exotic food in the diets -notably in the western and more industrialized countries- contribute such phenomenon. We are witnessing a gradual increase in fruit, vegetables and meat in western diets. Avocados, Argentinian and Brazilian meat beef as well as mangos and other products are ever more present in supermarkets and large food distribution hubs in Europe and Asia.

As for the CESifo report¹⁰, Paraguay accounts for the fourth largest soybean exporter and produces about 8-9 million tons of soybean. On the farming side, Brazil is the largest exporter of beef worldwide and the production is mainly in the Amazonia regions. Moving to central America, Mexico is the main producer of avocado and, according to the figures in the report, it produces six out of ten avocados consumed in the whole globe.

Today, **the food system** is responsible for one quarter of the total of the greenhouse gasses contributing to climate change, and the decrea-

sing resilience capacities of poor populations of the globe¹¹.

Despite the commitment of some big companies involved in the deforestation, measures taken by the international community do not seem to be very effective in reducing the destruction of the *green lungs* of the earth¹². Forests still represent a vital place for human beings generating “even more social benefits, from disease prevention to water purification and flood mitigation”¹³.

However, the **growing exploitation** of the soil by big companies and the **destruction of hectares of land** -notably in the poor areas of the globe- have caused dangerous effects not only on the environment, but also on human lives. Indeed, if on the one hand the activities of such companies brought to a development of infrastructures in rural areas¹⁴, on the other hand they have affected the social fabric of such populations. Indeed, the more these activities advance the **more social disparities** and exclusion increase. It is undeniable that these effects are among the main reasons that led indigenous and poor populations to abandon those areas.

In this respect deforestation acts as both a push and a pull factor of migration, as explained in Figure 1. According to CESifo report “in summary, there are two overarching dynamics that influence the interaction of migration and deforestation, namely, migration both as a driver of deforestation and as a consequence of it”¹⁵.

⁹ Britta Rude, Bennet Niederhöfer e Fabio Ferrara, Deforestation and Migration, Dice Data Analysis, CESifo Forum 1 / 2021 gennaio Volume 22. <https://www.cesifo.org/DocDL/CESifo-Forum-2021-1-rude-niederhoefer-ferrara-deforestation-january.pdf>

¹⁰ Ibid.

¹¹ See: Aurora Ianni, Mattia Giampaolo, Climate change and migration, Focsiv, Background Paper 1, November 2019, see: <https://gcap.global/wp-content/uploads/2020/04/Climate-Change-and-Migration-Focsiv-24.02.2020.pdf>.

¹² Ibid.

¹³ Deforestation and Migration, op. cit. pp. 49.

¹⁴ It worth noting that this kind of development is strictly linked to favor the interests of this companies. Improving infrastructures means to have a faster track for trade and good exchange.

¹⁵ Ibid. pp. 51.

Fig. 1: Migration as a driving force and consequence of deforestation

	Type of migration	Deforestation
Migration as a driving force of deforestation	Urban-rural migration/ international migration	In search of better job opportunities and unused resources, migrants from urban areas settle in regions with a lot of land to transform it productively.
	Urban-rural migration/ international migration	Migration leads to changes in the socio-economic characteristics of the remaining population, using the forest in different ways.
	Educational migration: rural-urban migration	Family members who migrate from rural areas generate costs that can be covered by income from productive activities generated from deforested land
	Remittances	Remittances generate additional income, which can take away the pressure on generating profits from deforestation but can also be transformed into investments in the intensification of agriculture.
Migration because of deforestation	Rural-urban migration/ International migration	The transformation of the forest into alternative means of production, such as agriculture or livestock farming, can lead to job losses and poverty, especially in connection with high mechanization and loss of property and land.
	Disaster-induced migration	Deforestation leads to aggravation of climate change through flooding, temperature increase, and habitat destruction.
	Culturally induced migration	Especially with regard to indigenous peoples, the cultural and spiritual habitat is being destroyed, resulting in migration.

Source: CESifo Forum 1 / 2021 gennaio:
<https://www.cesifo.org/DocDL/CESifo-Forum-2021-1-rude-niederhoefer-ferrara-deforestation-january.pdf>.

Regarding migration as a driving force of deforestation, this is because of various factors linked to the social conditions of poor populations. In this context it is important to underline the importance of the remittances sent by urban migrants back to the rural households. According to Juniwati et al., this factor can significantly transform landscapes, for example through the increase of agricultural activities or the building of new houses. On the other hand, rural to urban migration “may lead to overexploitation of the forest by outsiders, because fewer men are available to monitor the forest”. Other aspects are linked to rural-urban migration and deforestation. For example, the relationship between migration and education. Indeed, as outlined by CESifo report “When family members migrate for education, this generates costs for rural households, which can lead to an intensification of agriculture and thus to deforestation”¹⁹.

Once again, according to Juniwati et al. study, when people struggle to pay for education migration, they increase forest exploitation and people with primarily farm-based livelihoods frequently need to intensify their existing livelihood or look for additional sources of income, often from forest products²⁰.

Finally, urban-rural migration is also linked to the social conditions of migrants. The lack of regular jobs in the urban centers, makes migrants try to exploit areas with low population growth to

initiate activities (that are very often illegal and facilitated by the lack of control by the State authorities) such as agriculture, farming and illegal woods trade.

At the same time, the exploitation of wild areas and the increasing deforestation open the way for big enterprises which, in turn, do not guarantee jobs opportunities for local population and push the latter to migrate to other areas. In addition, intensive agricultural methods also have a negative influence on the environment causing climate change and provoking natural disasters²¹.

It is important to observe the **effects of deforestation** on both environment and population. As outlined in previous background papers, natural disasters and climate change are not the direct causes of migration (push factors). Although these phenomena occur everywhere and cause disasters and destruction, **the social conditions** of these populations are the real driver of migration. In other words, “the main factor that influences and provokes climate displacement is the lack of basic services in a given community”²³.

The World Bank issued a report in 2018 wherein it envisages three different scenarios related to climate change²⁴. According to the report, by 2050—in three regions only—climate change could force more than 143 million people to move within their countries²⁵.

¹⁶ Kartika Sari Juniwati, Bimbika Sijapati, Basnett Paul Hasan Thung, I Made Sanjaya, Muhammad Iqbal Busra, Connecting the Dots in the Forest-Migration Nexus: A Case Study from Malinau, Indonesia, Center for International Forestry Research - CIFOR, Bogor, see: https://www.cifor.org/publications/pdf_files/WPapers/WP250Juniwati.pdf.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Deforestation and migration, op. cit. pp. 50.

²⁰ Connecting the Dots in the Forest-Migration Nexus, op. cit. pp. 34.

²¹ Ibid; deforestation and migration, op. cit. pp. 50-1.

²² Ibid.

²³ Ibidem, pp. 5.

²⁴ World Bank, Groundswell, preparing for internal climate migration, World Bank, 2018, see: <https://openknowledge.worldbank.org/handle/10986/36248>

²⁵ Ibid.

Fig. 2: Deforestation in Latin America with forest area loss in red



Source: Hansen/UMD/Google/USGS/NASA; Earthstar Geographics; Esri, HERE, Garmin, FAO, NOAA, USGS Link: <https://arcg.is/zraTO>³⁰

These regions are Latin America, Sub-Saharan Africa and South Asia, regions that are characterized by huge human intervention and wherein deforestation plays a central role. It is undeniable that Latin America, due to the presence of **Amazonia**, is at the core of this debate. In the last years, notably between 2017 and 2018, the Amazonia deforestation increased by 13,7%, erasing more than 7,900 squared km of forest.

In addition, deforestation is also a direct effect of **zoonosis**, a disease that may be transmitted from animals to humans through animal products contaminated by pathogen agents in the air²⁶. In short, *“the destruction of habitats and biodiversity caused by human activities, changes in land use and the creation of artificial habitats that are poor in nature but with a high human density, break the ecological balance and facilitate the spread of pathogens”*²⁷.

It should be added that **migration toward rural areas** in some parts of the world is increasing due to job opportunities, especially activities in small farms. Scholars as López-Carr and Burgdorfer outline that *“forest frontier colonization*

*by small holder farmer migrants may continue to be the main proximate cause of deforestation -especially of old growth forests of high biodiversity and ecological integrity- in Latin America, exceeding the amount of intact forest conversion caused by the more popular culprits, commercial logging and capital intensive industrial agricultural operations”*²⁸.

Furthermore, the growing land scarcity, notably in rural areas, led those migrants exploit the soil until impoverishing it from all its nutriment and fertility. This process is very widespread in Latin America, particularly in Guatemala. Despite the major role in destroying forests played by the agricultural industry, rural migration also played a central part, according to the study.²⁹

Despite the above scenario, **the agricultural industry**, and the subsequent growing demand for food -fruit, vegetables, and meat- is still the first factor of deforestation in the globe. Fig. 2 shows Latin America has been affected by deforestation in the last years.

²⁶ <https://www.greenpeace.org/italy/storia/7150/deforestazione-e-diffusione-di-nuovi-patogeni/>.

²⁷ Ibid.

²⁸ David López-Carr, Jason Burgdorfer, Deforestation Drivers: Population, Migration, and Tropical Land Use, Environment, 55(1), 2013, see: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3857132/>.

²⁹ Ibid.

³⁰ Secondary source of the image: Britta Rude, Bennet Niederhöfer and Fabio Ferrara, Deforestation and Migration, Dice Data Analysis, CESifo Forum 1 / 2021 January Volume 22, op. cit. pp. 49.

3. CONCLUSION

Deforestation has multiple effects on people and migrants, playing the double role on the latter as push and pull factor.

Indeed, as mentioned above, by moving to rural areas to expand their activities, big agricultural companies have dangerous effects on the environment and biodiversity in particular. In addition, given the loss of cultivable land due to the hyper-exploitation of the soil that reduces its fertility, local populations move toward old-growth tropical forest to cultivate fertile land, producing new processes of deforestation.

On the other side, deforestation -especially in the poor zones of the globe- provokes a gradual erosion of the soil generating floods and natural disasters which push vulnerable populations to emigrate to other areas.

Although in the last years many governments have attempted to halt deforestation by taking measures against the massive soil exploitation by agricultural and farming industries, those measures are far from stopping these practices, as Greenpeace has outlined³¹.

Even though some governments and industries have committed to eliminating deforestation by providing certifications attesting that they are respectful of forests and environment, these certifications seem to be not enough and are simply circumvented³². CoC certification (Chain-of-Custody) is a way for wood processors, manufacturers, brands and others to take a no-deforestation stance by purchasing responsibly sourced forest products that are independently certified to these standards³³.



Ph.futuroprossimo.it

³¹ Greenpeace, Destruction Certified. See: https://www.greenpeace.org/static/planet4-international-stateless/2021/04/b1e-486be-greenpeace-international-report-destruction-certified_finaloptimised.pdf

³² Ibid.

³³ Tom Ehart, Il ruolo delle certificazioni di sostenibilità nel mitigare la deforestazione, SCS Global Services, 17 novembre 2021, see: <https://it.scsglobalservices.com/blog/the-role-of-sustainability-certifications-in-mitigating-deforestation>.

To overcome these shortcomings, we mention the **policy recommendations** drafted by Greenpeace and aimed at implementing measures on farming and agricultural industry.

Box 1: Key aspects determining certification scheme effectiveness

• Governance and decision making:

The main issue in the governance of certification schemes is that the business sector tends to be disproportionately represented in these schemes' governing bodies, giving it an outsized role in decision making and greater influence over the schemes. This *'entrenches power in favor of corporations – the entities they seek to regulate'*.

• Standards:

Certification schemes' standards should at a minimum include: no deforestation or natural ecosystem degradation or conversion; protection of high conservation values (HCVs), High Carbon Stock (HCS) forests, conservation areas and Intact Forest Landscapes (IFLs); restoration of converted ecosystems and restitution of social harms; Free, Prior and Informed Consent (FPIC); Indigenous and community land rights; and labour rights.

However, in many instances, they do not or are simply too weak to prevent environmental and social harms. Certification schemes also differ in their scope; they may cover certain important risk areas, such as environmental damage or Indigenous rights, but not address others, such as the use of child labour, pesticides or genetically modified organisms (GMOs). Most schemes do not require corporate group level compliance with certification standards, resulting in consumers being offered certified 'sustainable' products

containing commodities produced by companies linked to ecosystem destruction and/or human rights abuses. Further, standards may change depending on the country and region. This adaptability has a twofold result: it can either strengthen these standards when locally adapted or weaken them whenever national standards depart considerably from the global principles and criteria.

• Traceability and transparency:

A truly unbroken traceability system enabling commodities to be tracked from source to end product and vice versa is not implemented for any FERCs. Of particular risk are 'mixed' product systems that contain both certified and uncertified materials. Full transparency (public disclosure of the entire supply chain) is similarly lacking. Further, most schemes do not require the provision of maps or data for publication on remaining natural ecosystems or conservation values in certified areas. None of the schemes requires full transparency concerning the ultimate ownership of certified companies and their corporate groups. There is variation across schemes, ranging from essentially no transparency to full reports of audits and maps being made publicly available.

• Auditing:

Auditing suffers from the inherent flaw that scheduled audit visits present only a snapshot of conditions at a particular location, at a specific time, and allow companies to 'prepare' for the audit. Furthermore, certification schemes often only specify performance standards for the primary producer or processor. In the case where multiple certificates are used in the supply chain, they are often audited by different certification bodies (CBs), lacking transaction verification. Finally, it is common practice for CBs to be paid directly by the clients they are auditing, who can always choose

another CB if they are dissatisfied with the results of an audit, creating financial dependence on the clients and an intrinsic conflict of interest.

- **Implementation:** While certification schemes claim they have a positive impact, systematic reviews of the evidence by academics and other researchers typically point to sparse, limited, and often context-specific benefits. Certification schemes often fall short in how their standards are interpreted, implemented, and enforced. The case studies in the report show how the RTRS³⁴, ProTerra³⁵, FSC³⁶ and RSPO³⁷ have all certified companies that have been accused of breaching standards and/or having links to environmental destruction and/or human rights abuses. And when certificate holders or CBs breach certification standards, the consequences are not necessarily swift or severe.

Source: https://www.greenpeace.org/static/planet4-international-stateless/2021/04/b1e486be-greenpeace-international-report-destruction-certified_finaloptimised.pdf



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³⁴ Round Table on Responsible Soy Association, see: <https://responsiblesoy.org/about-rtrs?lang=en#que-es>

³⁵ See: <https://www.proterra.com/>

³⁶ Forest Stewardship Council, see: <https://us.fsc.org/en-us/what-we-do/mission-and-vision>.

³⁷ Round Table on Palm Oil, see: <https://rspo.org/>.



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