

# AN ECOLOGICAL CITY FOR ALL

*CHALLENGES FOR A SOCIO-ECOLOGICAL  
TRANSFORMATION IN A CHANGING HANOI*

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Photo: AFP



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# INTRODUCTION

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With the increasingly severe effects of global warming and over half the human population living in urban centres, the 21st century will be defined by the city and the climate crisis. Both will drastically impact all of our lives and represent two key issues that pose massive social challenges to humanity.

These are not just two isolated events, as I will argue in this article. They are closely interlinked and mutually dependent, and ecological crises have become particularly drastic in urban areas. In the following, the problem is discussed on two levels. Firstly, I will more abstractly address the connection between urbanisation and ecological crises from a global perspective and show why this is a social and class question. Secondly, I will examine the concrete example of Hanoi. The city and the concrete challenges

which arise during continuing urbanisation and intensifying ecological problems will be discussed.

One goal of this article is to contribute to a socio-ecological transformation and to create concrete knowledge to fight ecological crises for environmental justice. Understanding the interrelationships between capitalism, the urban environment, and nature is necessary in this regard as this field is often excluded from the debate. It will be made clear here why the right to the city and environmental justice are not separate questions but inevitably interact and can only be answered together. I will speak about ecological crises, with climate crises as the most important. We are concerned with a series of interdependent but interlinked crises, all of which arise from capitalism.

# ECOLOGICAL CRISES: AN URBAN QUESTION?

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To understand why the ecological question is an urban question, we need to look more closely at the capitalist mode of production. The transition to capitalism created an ideology of a supposed separation between the urban and the rural; city and nature. The massive release of labour power was necessary for industrialisation in urban areas: “The centralisation of capital finds its most accomplished geographical expression in urban development” (Smith, 2008: 181). This process is, therefore, intrinsic to capitalism and has produced a specific form of human settlement, as Harvey summarises: “The ‘thing’ called a ‘city’ is the outcome of a ‘process’ called ‘urbanisation’” (Harvey, 1996: 418).

However, this process is one which is “undermining the original sources of all wealth – the soil and the worker” (Marx, 1982: 638) and “destroys... the physical

health of the urban worker” (ibid.: 637). From a Marxist perspective, nature cannot be seen as something that exists independently of human society. Instead, in capitalism, nature is part of social production and shaped by capitalist relations. In this sense, nature is no longer ‘natural’ but a product of social production and capitalist relations (Smith, 2008: 49-50). This understanding of the centralisation of workers, capitalist production, and circulation in urban areas overlaps and interlocks with ecological crises. On the one hand, urban areas are responsible for a large part of environmental degradation, and capitalist production and its framework conditions are mainly located in or related to urbanisation. On the other hand, the consequences of interlocking ecological crises are also coming to a head here and drastically affecting the population.

Ecological crises cannot be considered independently of capitalist urban development (Harvey, 1996: 405). The relationship between nature, the city, and capitalism should be understood as an inseparable link in which capitalist urban development is often pursued at the expense of the natural environment. Even if it is only mentioned in passing in many of their works, Marx and Engels were well aware of this problem (e.g., Engels, 1987 [1845]). Of course, conditions have changed in the last 150 years. Urbanisation processes and environmental degradation have increased, production conditions have changed in an imperialist relationship, and the climate crisis has become a global phenomenon from which no one can escape. The urban dimension of capitalist and ecological crises remains, as the Marxist geographer David Harvey says:

" Every city now has its share... of concentrated impoverishment and human hopelessness, of malnourishment and chronic diseases, of crumbling or stressed-out infrastructures, of senseless and wasteful consumerism, of ecological degradation and excessive pollution, of congestion, of seemingly stymied economic and human development, and of sometimes bitter social strife (Harvey, 1996: 403)."

For him, this observation, which he analyses from capitalist conditions, also has a far-reaching political consequence: The first myth is that cities are anti-ecological ('unnatural', 'artificial', or in some way 'outside of nature'). Opposing this is the view that high-density urbanised living and inspired forms of urban design are the only paths to a more ecologically sensitive form of civilisation in the twenty-first century (ibid.: 435). The abstract understanding of the connection

between capitalism, urbanisation, and environmental destruction is substantiated in the following, and these relationships are based on (spatial) inequality. For this, the climate crisis created a global imperialist relationship as well as a power imbalance between the global north and south and at the small-scale level of individual cities. Socio-ecological segregation has different effects, especially for the working class. In concrete terms, the consequences can take very different forms and be specific to particular localities.

## 2.1. Crisis originators

Since 2007, more than half of the global population has lived in urban areas. By 2022, this had risen to 57 per cent. However, this is unevenly distributed

around the world with the simultaneous and continuous growth of the global population (UN, 2022). Growth in less urbanised countries is drastically and significantly faster.

Under capitalist conditions, the creed prevails that "the number of inhabitants of a city is the first driver of energy demand" for the simple reason that the "higher the population, the higher the energy needs" (Vuille et al., 2020: 355).

Globally, cities are the main source of energy consumption, with around 55 per cent of electricity and 30 per cent of total energy use (Vuille et al., 2020: 353). Transport and mobility account for about

one-third of energy consumption, and could increase to half by 2030 (ibid.: 376). Meanwhile, cities are responsible for about 40 per cent of global CO<sub>2</sub> emissions (ibid.: 353). Together with energy generation, especially electricity, and how the switch from CO<sub>2</sub>-intensive to sustainable energy works, massive ecological destruction through mega-construction projects brings significant challenges.

In most countries, the construction sector accounts for one-third of final energy consumption (UN-Habitat, 2011: 28). Further expansion and population concentration require the housing construction industry and the city as lucrative investment opportunities. With drastic consequences for people and the environment, as well as the displacement of previous populations, entire neighbourhoods are flattened to make way for new neighbourhoods and more profitable populations. This implies a massive use of raw materials and huge CO<sub>2</sub> emissions. Meanwhile, the demolition boom means that the so-called 'grey energy' stored in these buildings is lost.

Industrial production is also central and is still located in urban areas or surrounding regions. The labour force remains urban, the ecological question compounds the social challenges of organising production, and the need for answers to social and ecological production is becoming more urgent. This is also accompanied by the issue of pollution, rubbish, and the organisation of the garbage economy: How to prevent pollution by waste, industrial contamination, trash, and other toxic substances.

Cities are globally important and responsible for ecological crises. As such, the problem must be addressed in the urban context. This is also a question of imperialist and class relations, as shown in Figure 1, and how CO<sub>2</sub> emissions are unevenly distributed between the global north and south. Even if economic development has led to an increase in per capita consumption, the historical context must be remembered. We are already experiencing climate change caused by the global north over the last 150 years. This shows a global imperialist-capitalist power relationship in which climate

change is based on an "imperial mode of living" (Brand; Wissen, 2021). In other words, the global north maintains its way of life on the shoulders of the south.

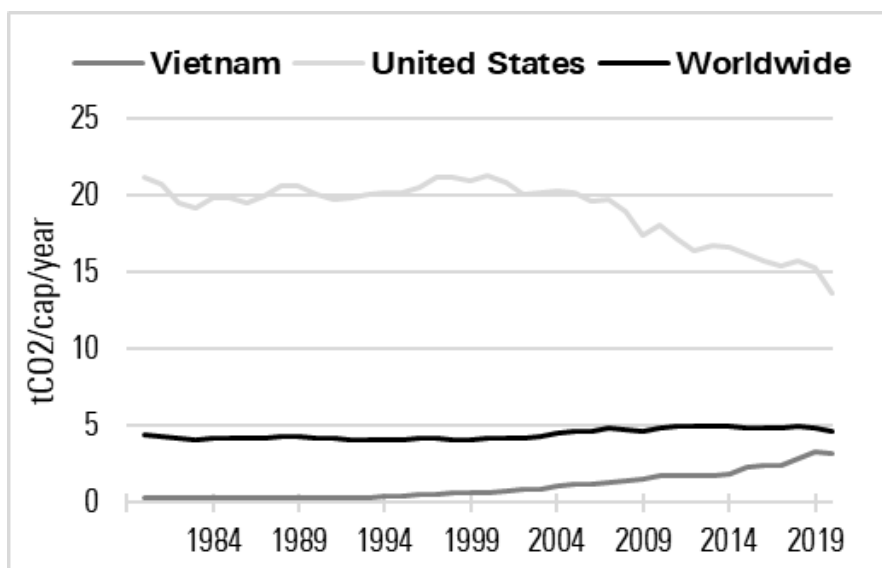


Figure 1: CO<sub>2</sub> per Capital (Source: EDGAR, own presentation)

Moreover, this is a massive class issue. The wealthiest ten per cent emits around 45 per cent of global CO<sub>2</sub>. Meanwhile, the poorest half of the world's population is responsible for just 13 per cent. Of the richest 10 per cent of the global population, one-third now come from developing countries (Chancel; Picketty, 2015: 2). The causes of the ecological crisis lie in the underlying capitalist production patterns and are unevenly distributed both geographically and socially.

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## **2.2. Consequences for cities**

Cities face different problems in different contexts: “The effects of urbanisation and climate change are converging in dangerous ways” and “urban areas... are likely to face the most severe impacts of climate change” (UN-Habitat, 2011: 1). Some points can be identified that belong to general urban problems in different degrees and intensity. The socio-ecological crises that cities face depend on four factors: (i) Their geographical location; (ii) their historical development; (iii) their adaptation strategies, and; (iv) external factors of the climate crisis.

The cause of the climate crisis is characterised by inequality, but the consequences are felt globally and often disproportionately in countries in the global south. Even if cities are affected, the impact is usually unequally distributed.

Mobility is key, and ongoing urbanisation puts this at the centre of attention. Questions around the right to mobility, the social installation of mobility infrastructure, the transition to collective forms of transport, and the prevention of

air and noise pollution need to be answered. Cities are often confronted primarily with how to prevent a complete traffic collapse. The access to mobility and the consequences of noise and pollution are unequally distributed. For instance, low-cost housing is often located directly beside

busy roads, increasing rates of illness and mortality. In rich and gentrified areas, however, this is a minor problem.

Housing itself is an essential issue in terms of its location, surroundings, and structural conditions. Green areas can take on the maximum ambient temperature, absorb water from rain, trees provide shade and humidity which leads to cooling, and water-side locations offer many temperature and climatic advantages. Meanwhile, areas covered with concrete and asphalt cause extreme heating of the local climate. Here, many problems coalesce: Narrow development and few green areas, mainly in lower-class

neighbourhoods, lead to a hotter ambient temperature and poorer air circulation and quality. In addition, living space itself is paramount, and the inadequate quality of housing is central to this. Poorly ventilated accommodation lacking air-conditioning is a big problem, especially in hot months or regions. Meanwhile, there is also energy poverty and a lack of heatable housing in cold areas. During heat waves, the structure of housing and its surrounding area plays a unique role. Heat disproportionately kills older, working-class adults, even in the global north.

Homelessness and, thus, the lack of environmental protection is the most violent socio-ecological consequence for people. Low-income neighbourhoods often have the smallest housing and the least access to mobility (or complete exclusion) to go out into 'nature'.

This affects mainly the lower classes and has physical and mental health consequences (for the German context, see Sander, 2019: 8-10). In addition, polluted or salinated drinking water, energy shortages, wastewater disposal, sewage systems, pollution of rivers and lakes, air pollution, and many other problems - often closely intertwined - are leading to worsening socio-ecological crises within cities.

Climate change, as an 'external'

influence, produces extreme heat, rising sea levels, heavy rainfall, tropical cyclones, and droughts. These extreme weather events have a massive impact on infrastructure and the built environment, and their frequency and impact will continue to increase (Schumacher, 2018: 9-10; UN-Habitat, 2011: 19-21). Climate change, as an 'external' influence, produces extreme heat, rising sea levels, heavy rainfall, tropical cyclones, and droughts. These extreme weather events

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Storms are also an increasingly common

phenomenon. For example, Hurricane

Katrina, a category-

five tropical storm, hit the US city

of New Orleans in August 2005. Levees

failed, around 80 per cent of the city flooded, and 11,800 people died, primarily affecting

the poorer quarters' black population

(Schumacher, 2018: 16). Hazards like this

have "become day-to-day realities for the poor and vulnerable populations in urban

centers" (UN-Habitat, 2011: 2). Rising sea

levels, in particular, have an impact on

billions of people. Cities such as New York,

Miami, Tokyo, Amsterdam, and Shanghai

are built on the the coast, and one-third of

the world's population lives in coastal areas.



Since 1880, sea levels have risen 20 centimetres. Even with effective measures to stop climate change, sea levels will continue to rise. It is difficult to precisely predict the consequences, but a rise of several meters must be expected (Schumacher, 2018: 10). This will mean resettlement, population flight, and loss of livelihood and social security. The intensity of these consequences will be unevenly distributed.

Furthermore, the provision of essential resources, such as food and energy, to urban areas can be considered in the

context of urban development. Droughts, for example, have a massive impact on cities. It is essential to recognise that a city is not an isolated entity. Rather, it exists in a dynamic relationship of interdependence with the 'outside world'. There is a close connection between urban ecological crises and social issues, and this must occupy a central position in our consideration. This abstract discussion has shown that this is not just a specific problem of individual cities, even though it may appear to be so, but rather a global phenomenon rooted in the capitalist economic system.

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# THE IMPACT ON HANOI

## 3.1. Urbanisation in Vietnam and Hanoi

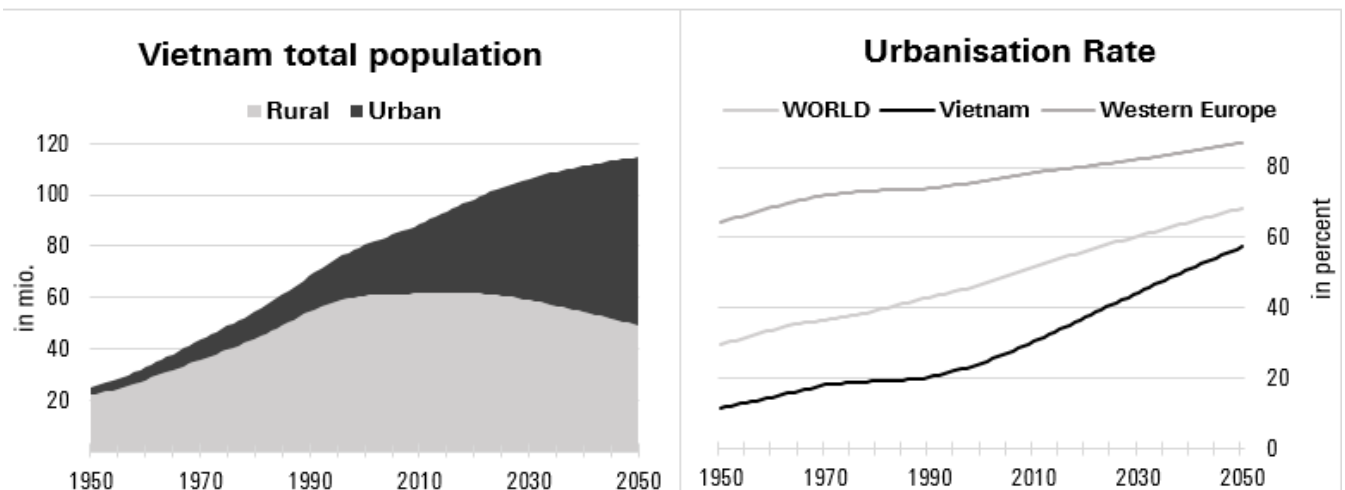
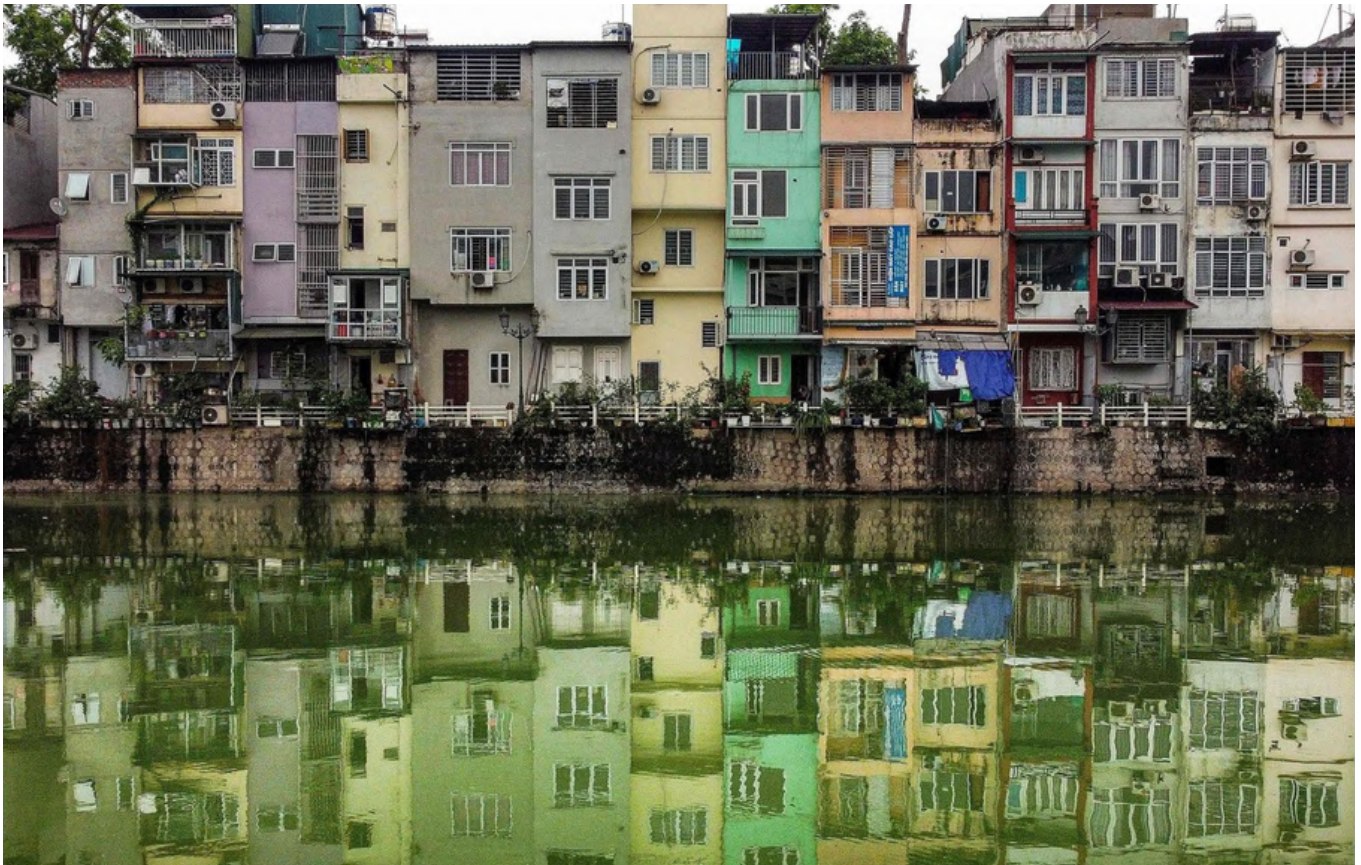


Figure 2: Vietnam's total population in mio and urbanisation rate in per cent (Source: UN 2022, own presentation)

Urbanisation in Vietnam has picked up speed in recent decades. In 1950, less than 12 per cent of people lived in urban areas. By 2018, this had risen to 36 per cent. By 2039, more than half of people will be urbanites, with a simultaneous

increase in the total population, further exacerbating this phenomenon. Figure 2 shows that this trend is behind the world average and far behind Western Europe (UN, 2022).



Picture 1: Tall, thin and brightly colored typical tubes house in Vietnam. (Source: AFP photo)

Vietnam's rate of urbanisation since 2010 has been about three per cent, higher than the Southeast Asian average of 2.5 per cent and only a little lower than China at 3.1 per cent (Labbé, 2021: 1). This rapid rise can be explained mainly by strong economic growth, which simultaneously leads to urbanisation and drastic energy consumption (Lam, Danso-Dahmen, 2018: 52). Vietnam is a good illustration of the connection between capitalist production and massive urbanisation. The curve that appears in Figure 2 starts in the 1990s with the Doi Moi reforms. These reforms, adopted in 1986, established a socialist-oriented market economy and led to the economic and capitalist opening of the country.

Vietnam is characterised by its extended, drawn-out geography with two metropolises: The largest city, Ho Chi Minh City, in the south and Hanoi, the second-largest city and capital, in the north. Located in the Red River Delta area, Hanoi had an official population of around 8,330,000 residents in 2021 (GSO, 2021). The province's population is split into 12 'urban districts' and 17 'rural districts'. In 1874, when the French colonised the city, Hanoi had less than 100,000 people. Under French occupation, growth was slow. This resulted from a lack of urban transformation in the form of missing infrastructure development.

***Vietnam is a good illustration of the connection between capitalist production and massive urbanisation.***

Figure 3 shows the urbanisation of Hanoi's Metro Area and its massive growth over the past 30 years from the economic opening until today and beyond. This massive urbanisation brings challenges, with 'planned urbanisation' and 'spontaneous urbanisation' (Labbé, 2010: 1). This has resulted in "placing intense pressure on local authorities to keep pace with the rising demand for infrastructure, social services, housing,

environmental social services, housing, environmental controls, and public amenities" (Labbé, 2021: 2). These ecological issues will continue to grow and intensify. Therefore, Hanoi must deal with massive urbanisation and its environmental consequences and find adaptation strategies for the impacts of the climate crisis.

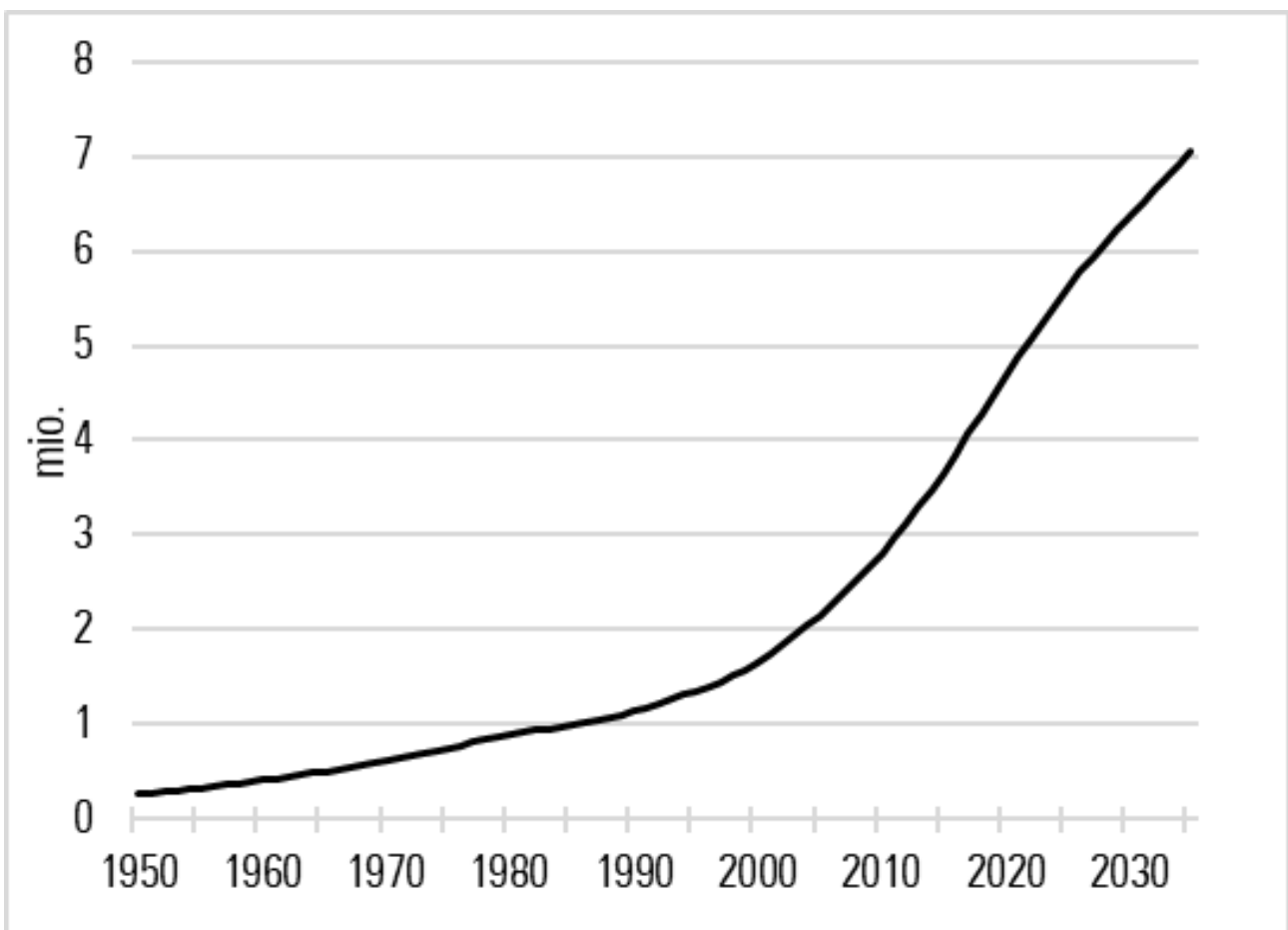


Figure 3: Hanoi Metro Area Population (Source: Macrotrends, own presentation)

## 3.2. Hanoi is facing ecological challenges

In the following sections, the problem of urbanisation and ecological crises will be discussed. The schematic is presented below without claiming to create an all-encompassing picture. Instead, the aim is to elaborate on some central 'crises' and to relate them to socially underrepresented groups. The interaction and intersection of various organically interlocking ecological and capitalist crises can only be addressed in a rudimentary way here.

### A. Heating and the built environment

In 2020, the Climate Risk Index (CRI, 2020) showed that Vietnam is one of the six countries most vulnerable to climate change. This is having dramatic effects on Hanoi. For example, temperatures (see Figure 4) have increased by almost one degree in the last 50 years. A one-degree rise has drastic effects and is only the beginning.

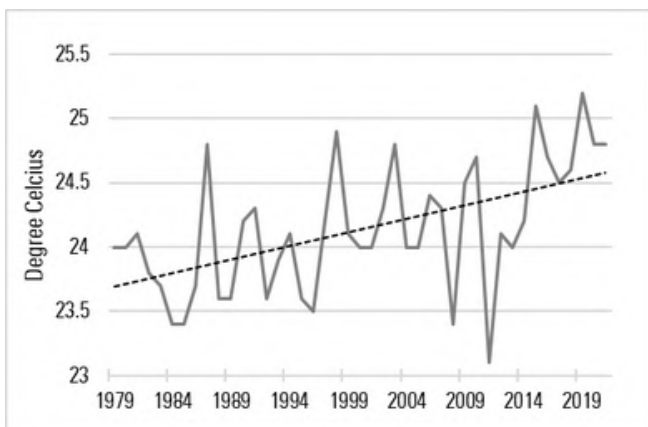


Figure 4: Yearly Temperature Hanoi (Source: Meteoblue, own presentation)

Climate warming is evident, and an increase in extremely hot periods in cities like Hanoi, with particularly bad structural conditions, are especially affected. Figure 5 shows that migration to the city has

drastically increased its population density. A density of 270,000 in the inner core is dramatic for an urban area. Indeed, Hanoi is one of the most densely populated cities in the world (Labbé, 2021: 7). This ever-increasing development removes free space for air circulation and green areas and increases urban density.

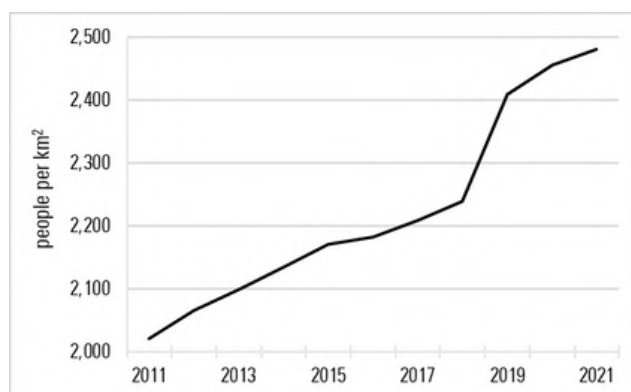


Figure 5: Population density (Source: Statista 2022, own presentation)

Vietnam has a massive lack of green spaces in urban areas. In Hanoi, only two per cent of the total land in the city centre is used for public spaces. The WHO recommends a minimum of nine square meters (Pham; Nguyen, 2021: 27). The planning vision for Hanoi 2030 assumes, in the central area, around 3 square meters per person. To put that in context, Paris has 11.5 and New York over 23. In short, Hanoi's value is far too low (Pham; Nguyen, 2021: 28). This drastically worsens the fact that "in the more central urban districts, over four-fifths of the population do not have access to public space within reasonable walking or cycling distance of their home" (Labbé, 2021: 8). Urban master plans prioritise housing and roads (Chu; Nguyen, 2023: 16), because there is also a massive shortage of space here, as the density of residents shows. The lack of public space



Picture 2: Shrinking green space in the southern gateway of Hanoi. (Source: Hanoi Times)

for private use such as cooking or eating, as playgrounds, by store owners or as coffee areas. The authorities are trying to prevent this. However, this works only partially due to the significant lack of otherwise usable areas, so people have no choice but to use the areas available to them (Labbé, 2021: 8). Limited housing opportunities and uneven distribution of green space, as described below, further exacerbate this problem.

In Hanoi, recent gentrification processes can be observed, which are also related to an unequal distribution of green spaces and water surfaces. In particular, more desirable areas are well equipped with green space. Moreover, above-

average housing costs are located directly at the lake. These offer better air circulation and cooling, but are accessible only to certain people. This unequal access to green space also impacts temperature. It can affect vulnerable groups - mainly the elderly, people experiencing poverty, and people with pre-existing conditions - especially during hot spells. Not only does an unpleasant urban climate prevail in poorer areas, it can also take on life-threatening proportions and, therefore, exacerbate social inequality.



Picture 3: New Vinhomes Smart City district in the west of Hanoi (Source: Philipp Leserer)

Today, Hanoi is undergoing a massive construction boom, and housing has become a lucrative investment product. New construction sites can be found all over the city. Houses are being demolished, and new higher ones are being built to make as much profit as possible from the available land. The last wastelands have been built on, and the city continues to expand. This speculative housing market has continued to drive the construction of housing developments, but much of this construction has failed to meet needs. As Picture 3 shows, apartments are mostly built for the wealthier population (Labbé, 2021: 12-15). This is accompanied by massive consumption of raw materials and energy.

In particular, massive apartment blocks built around Hanoi show this very clearly. At the same time, in the city centre, one building after another is being demolished and rebuilt. The grey energy stored in these buildings is, therefore, lost, and the massive new construction contributes to the climate crisis in Hanoi. A large part of the city's ever-increasing carbon dioxide emissions can be attributed to this construction boom (Lam, Danso-Dahmen, 2018: 52).

## B. Floods and extreme weather:

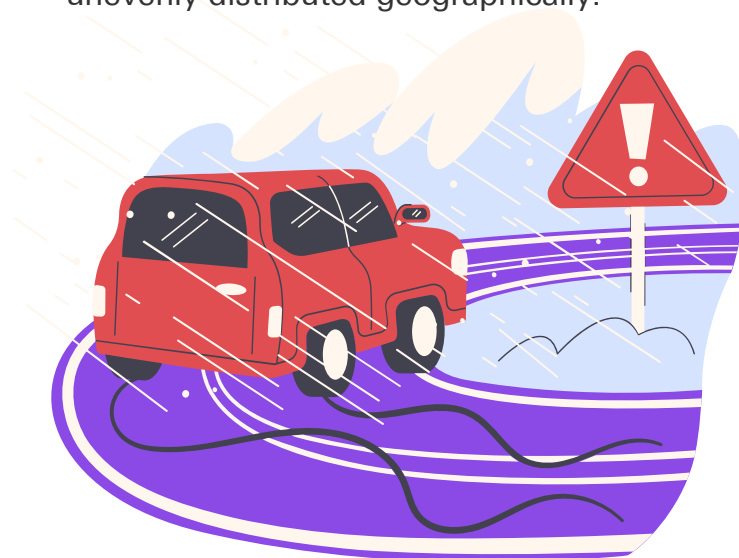
The climate crisis affects the city also through extreme weather events related to heavy rains and storms. Even though the average rainfall over the year has fallen (Meteoblu), heavy rain events are predicted to accumulate and intensify. It is difficult to make concrete predictions, but it must be assumed that Hanoi will

be affected by massive consequences. Climate change is not simply causing warmer weather; it is primarily causing weather extremes: Heat waves, heavy rains, and storms. Due to its location, Vietnam is subject to several tropical cyclones. Especially between June and November, these storms (typhoons) frequently affect Vietnam and Hanoi.

For example, at the beginning of August 2019, tropical storm Wipha hit northern Vietnam and killed 27 people, causing economic damage of USD 43.1 million. In Hanoi, too, the storm had a massive impact, even though the city got off relatively lightly. On 3-4 August, the city saw rainfall of up to 200 mm in 24 hours and experienced strong winds. Many streets were submerged under 30 to 50 cm of water, several large trees were uprooted, and power outages resulted (Kiet, 2019). The most severe flooding in recent decades occurred in 2008, when a

week of continuous rainfall started on 8 October, with precipitation exceeding 500 mm in some areas. Around 20 deaths were reported in Hanoi. Many streets and houses were underwater, food prices exploded, and massive economic damage occurred (Reuters, 2008). These are only two examples from recent years. With increasing global warming, such storms and extreme rain will continue to increase in both intensity and frequency.

The cause of these floods, which are triggered by storms, is primarily intensified by the climate warming made by global capitalism. At the same time, a whole city is never affected equally. Hanoi is mainly affected in its low-lying areas, such as riverside residents on the Red River and urban areas with inadequate infrastructure. These groups are often mainly poorer people who are less able to protect themselves or prepare for extreme weather events. In addition, informal settlements in Hanoi are often located in areas at risk of flooding. This shows that both the causes and consequences are unevenly distributed geographically.



Cities like Hanoi need to find adaptation strategies for this. The lack of ground surfaces in Hanoi is also critical since ground surfaces can absorb water and, thus, prevent flooding. Increasing densification and sedimentation of flat areas make it impossible for water to percolate. Flood protection and drainage systems are other concrete measures that must be taken. Due to the ongoing massive urban growth, it is challenging to maintain and expand infrastructure development (Vietnam Plus, 27 January 2023).

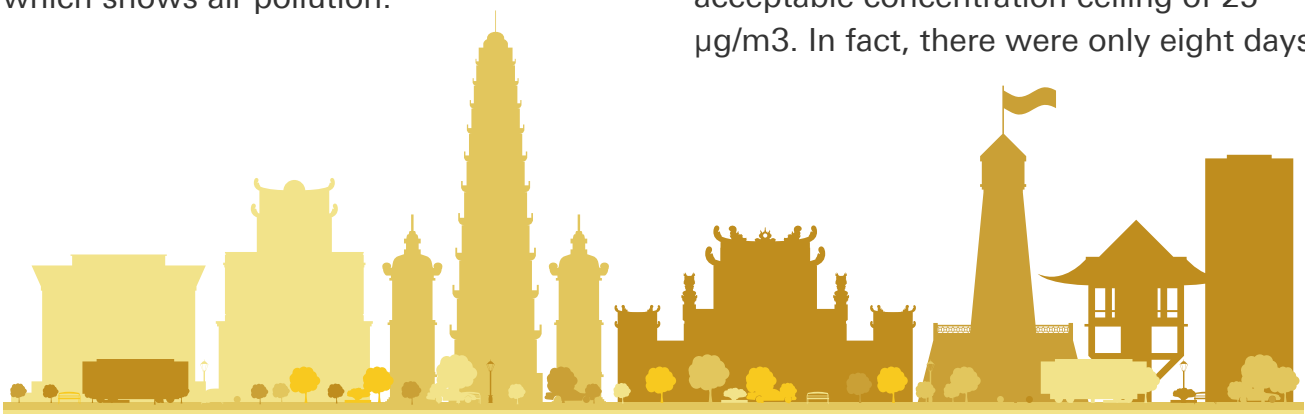
### C. Air pollution:

One of the most visible and noticeable problems in Hanoi is air pollution: Many people have installed an app to monitor daily air pollution. When riding a scooter, a mask protecting against fine dust is an integral part of normal safety equipment, like a helmet. This is not surprising when we look at the data: The WHO says that over 60,000 deaths in Vietnam every year are linked to air pollution (WHO, 2018). Based on the 569,338 officially registered deaths in 2018 (GSO, 2018), this corresponds to around 10.5 per cent of the total mortality rate. The Air Quality Index (AQI) is a fundamental parameter which shows air pollution.

In Hanoi, the level of 'unhealthy for sensitive groups', an AQI of between 101 and 200 (the WHO standard for 'good' is 0-50), was seen in 40-60 per cent of monitored days between 2010 and 2013 and rose to an unprecedented level of 385 (ACP, 2021: 2).

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The second and best-known comparison value is PM2.5. Nguyen writes for a World Bank report that 18,000 deaths nationwide and 5,800 in Hanoi can be attributed to this form of fine dust pollution. There are many other diseases and health consequences for the population. PM2.5 describes fine dust per cubic meter of air with a particle size of less than 2.5  $\mu\text{m}$  and is, thus, particularly harmful to the lungs. The primary health effects of long-term exposure to PM2.5 air pollution are ischemic heart disease, cerebrovascular disease (stroke), chronic obstructive pulmonary disease, lung cancer, acute lower respiratory infections, and type 2 diabetes (Nguyen, 2021). Hanoi's annual mean concentrations of PM2.5, from 2010–2017, ranged from 36.7  $\mu\text{g}/\text{m}^3$  to 66.5  $\mu\text{g}/\text{m}^3$ . These values are over the acceptable concentration ceiling of 25  $\mu\text{g}/\text{m}^3$ . In fact, there were only eight days





in which Hanoi was lower than this national standard (ACP, 2021: 2) and 40 per cent of people in Hanoi were exposed to concentrations exceeding 45 µg/m<sup>3</sup>. That is nearly five times higher than the WHO-specified limit values (Nguyen, 2021).

One-third of this particulate matter comes from the city itself and two-thirds from the surrounding area (Vietnam News, 24 February 2023). The main sources of PM<sub>2.5</sub> in Hanoi include industrial activities (29 per cent), open burning of rice straw (26 per cent), road dust (23 per cent), transport (mainly road transport) (15 per cent), and residential/commercial combustion, craft villages, and waste burning (Nguyen, 2021).

The consequences of this air pollution are also unevenly distributed. With data from the City Department of Natural Resources and Environment and its 34 air monitoring stations, it can be seen that air quality is worse in specific areas. For instance, in the city centre, it is worse than in rural areas. Likewise, around busy streets, air quality is worse than in residential areas (Vietnam News, 10 April 2023). As already seen above, it can be concluded that the consequences are tougher on the more precarious sections of the population. Cheap housing is commonly located on busy roads. Meanwhile, residential areas with more green spaces and, thus, better air quality are more expensive. Moreover, many lower-paid professions such as construction workers, scooter delivery drivers, and other jobs that occur 'on the street' are in daily contact with this pollution.

## D. Mobility

Looking at the daily organised traffic chaos, which has developed an organic life of its own, one can confirm what Altvater (2018: 8) said in relation to Hanoi: "Traffic is not only a matter of technique and rules, of assertiveness and cleverness, but also an influential social form of living together." Hanoi, a city of over eight million people, has around 6.4 million vehicles. Of these, 5.6 million are motorbikes, 600,000 are cars, and about two million are temporary vehicles (Pham, 2021). These figures are incredibly high for an urban region.



Picture 4: New Vinhomes Smart City district in the west of Hanoi (Source: Philipp Leserer)

In 2022, traffic jam hot spots increased by 10 to 45. These traffic concentrations mainly affect radial and ring roads, central urban intersections, and adjacent high-rise buildings (Ministry of Construction, 2023). Not only are these hotspots a problem, but traffic is also an everyday companion on Hanoi's streets with its accompanying noise pollution. This has to do, on the one hand, with the massive urban growth and concentration and, on the other, with mobility planning. Mainstream transport planning experts say that, for a city with a density of 30 people per hectare, 25 per cent of the

space should be occupied by car traffic. With three times that density, Hanoi uses under 20 per cent for streets (Labbé, 2021: 10).

Because of the underdeveloped public transport system, people have few alternatives to motorbikes (Altvater, 2018: 7). The main form of public transport in Hanoi is the bus. However, firstly, the traffic is also a problem for buses, and secondly, there is a real need for more bus connections and infrastructure. The situation was better 40 years ago: “In the early 1980s, the modal share of tramways and bus trolleys was around 25 to 30 per cent” (Labbé, 2021: 11). But, after disinvestments in this sector, public transport nearly collapsed. In 2002, the public bus service was renewed. However, only around 10 per cent of the population uses it. This is far below the 25 to 30 per cent government target (Labbé, 2021: 11). Now, with the “Capital City Master Plan to 2030 and Vision to 2050”, the government plans to construct eight metro lines, three monorail lines, and nine express bus lines. The aim is for public transit to rise from 10 to around 65 to 70 per cent. These plans are far behind schedule (Labbé, 2021: 11).

The Hanoi People’s Committee also plans to ban motorbikes in two steps (2025 and 2030) from inner districts, especially the old quarter. However, there are a lot of open (social) questions about banning motorbikes. What will happen to the mass of workers whose primary jobs are shipping or deliveries? This is a significant labour sector with small barriers to entry. Furthermore, even

though the income is not high, the working resources are cheap; people only need a motorbike and a smartphone.

***The traffic is also a problem for buses, and secondly, there is a real need for more bus connections and infrastructure.***

Another problem is that many roads, especially in Hanoi's old quarter, are not designed for cars. Yangon in Myanmar paints a horrible picture of a possible future, where motorbike bans and the use of cars increases massively and produces worse traffic jams. One car occupies a road surface 5 to 7 times greater than a motorbike, producing 3 to 5 times more air pollution. Car prices have fallen, and more and more people can now afford one - around 30 per cent of motorbike users. Meanwhile, with the small amount of land for streets in Hanoi, the risk of a big traffic disaster in the city centre would increase if more people used cars. Moreover, what will happen to the other 70 per cent of people who cannot afford a car? These plans would mean the exclusion and restriction of mobility for many people.





Picture 5: Motorbikes and cars fight for space on a street in Hanoi, Vietnam. (Source: Tran Van Minh)

It is mainly low-income earners who have turned to motorbikes because this is the only possibility of mobility for them (Pham, 2021). Traffic calming or a car and motorcycle-free city should be the goal from an ecological and social perspective. It would improve air quality, reduce noise, and increase quality of life. An example is the weekends around Hoan Kiem Lake, where the streets are entirely closed to traffic and become a strolling mile and a popular excursion destination.

The goal, however, must be a socio-

ecological transformation which includes mobility for all, especially those on low incomes. For this, a different concept of mobility is needed – one which is accessible to all, affordable, suitable for everyday life, and that takes social aspects into account in the rationalisation of construction projects. The question of mobility is, therefore, a social and ecological one. For Hanoi, this will remain one of the critical issues for the city in the future due to increasing urbanisation, air pollution, and lack of space.

***The goal, however, must be a socio-ecological transformation which includes mobility for all, especially those on low incomes. For this, a different concept of mobility is needed – one which is accessible to all, affordable, suitable for everyday life, and that takes social aspects into account in the rationalisation of construction projects.***

## E. Garbage:

Hanoi is facing a significant garbage problem. On the one hand, there is the sheer mass of waste produced by the massive increase in population and density. On the other, there is the huge consumption of plastic and other packaging materials. Garbage can be seen every day in the city and on every corner.

At the same time, disposal is done through garbage collection on the street and not according to fixed drop-off stations or collection systems. Likewise, the city lacks trash cans, meaning that a lot of trash ends up on the street. Even if workers regularly pick up this garbage, much of it ends up somewhere else such as lakes, 'nature', rivers, and,

ultimately, the sea. However, this problem is now on the agenda of government authorities, and they have launched an anti-plastic waste movement. Plastic waste accounts for 7-8 per cent of garbage. Since it cannot degrade, it is one of the world's biggest environmental problems. Measures taken to reduce plastic waste include switching to other products such as banana leaves, using paper straws and reusable cups, and creating greater awareness of waste (Kiet, 2021).

Landfills face massive overfilling and pose critical challenges to local authorities. The largest landfill in Hanoi is in Nam Sơn which opened in 1999. It dumps 5,000 tons of garbage daily, reaches 1.8 million tons annually, and

covers an area of 157 hectares. Further expansions are planned for the next thirty years. However, this is not enough to solve the dumping problem in Hanoi. The overloading of landfills can have drastic effects such as air pollution, water pollution, and unpleasant smells. Attempts have been made to curb this



Picture 5: Garbage situation, collection and burning in Hanoi  
(Source: Philipp Leserer)

problem with the help of new high-tech landfills, which are about to open and which will also help generate electricity for Hanoi's energy supply (Vietnam News, 9 April 2021).

What is still everyday life for many people in Hanoi and can be seen on many street corners is the burning of gauze in front of houses. This contributes to air pollution in Hanoi. In 2019, although 90 per cent of mull was collected, 700 tons per day is still said to have been burned privately (Thanh Tat, 2019). Waste will continue to be a significant problem because, even though progress has been made on many levels, it remains a challenge to address this problem logistically, raise awareness, and tackle the causes at the production level.

# CHALLENGES FOR THE FUTURE

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The previous chapter briefly outlined some of the critical challenges facing Hanoi. These are only some central points and questions about energy supply, the warming earth, water supply, noise pollution, and others which need to be further addressed. At the same time, these challenges are not isolated but, as indicated, are interwoven. Traffic, garbage, and energy production all impact air pollution. But how the city is built also has an influence. Fresh air, green areas, and construction density are also influential here.

As the example of Hanoi has shown, ecological crises and problems are always linked to a social question. The consequences of ecological crises affect everyone, but in different ways and intensities depending on class relations as well as race and gender. What is often played off against each other is not so much a contradiction as the same question. For this reason, solutions must, first and foremost, be examined for their social compatibility. Often, ecological answers are played off against social issues and, thus, played out on underrepresented social groups. This cannot be the answer. Under capitalist conditions, ecological questions are always social questions. As such, it makes sense to think of these questions

together: This is the only way to adequately solve the ecological question. For a socio-ecological transformation, a different capitalist production and organisation is needed. Here, the urban fabric must be at the centre of a revolution for green socialism.

The further urbanisation in Hanoi, and the worsening of climate and other ecological crises, must mean that the central focus for a socio-ecological transformation here requires a more intensive examination. This paper aims to contribute to an increased focus on urban ecological issues in Hanoi and beyond, but this work can only provide an overview and a strategic argument. There is a need for further research on this topic, especially for a joint discussion between different actors, that does not stop at the level of a moral critique but asks systematic questions about urban operations. The key here will be urban planning and a consideration of people's needs. At the same time, the city cannot be seen as a machine where a few screws are adjusted, and then everything runs again. The city represents a more complex interrelation between spatial organisation, capitalist production, and social actions. Moreover, for an ecological socialist society, a new formation of the urban space is needed.

## REFERENCES

- Altwater, E. (2018), "Prologue", Social-ecological Transformation. Perspectives from Asia and Europe, edited by Danso-Dahmen, Liliane and Degenhardt, Philipp, Rosa Luxemburg Stiftung – Manuskripte Neue Folge 20, pp. 7-9.
- Ambitious City Promises (ACP) (2021), "Addressing Air Pollution in Hanoi, Vietnam", Vietnam Policy Brief, no. 02, April 2021, [https://acp.iclei.org/wp-content/uploads/2022/02/VIE\\_Air-Quality.pdf](https://acp.iclei.org/wp-content/uploads/2022/02/VIE_Air-Quality.pdf) (last accessed on 21 April 2023).
- Brand, U.; Wissen, M. (2021), The Imperial Mode of Living: Everyday Life and the Ecological Crisis of Capitalism. London: Verso Books.
- Chancel, L.; Piketty, T. (2015), "Carbon and inequality: From Kyoto to Paris. Trends in the global inequality of carbon emissions (1998–2013) and prospects for an equitable adaptation fund", Paris School of Economics Paris, 3 November 2015, <http://piketty.pse.ens.fr/files/ChancelPiketty2015.pdf> (last accessed on 21 April 2023).
- Chu, K.D.; Nguyen, H.P. (2023), "Think Playgrounds. The Adventure Playground and Community Garden Model as a Solution for Social-Ecological Transformation in Urban Areas", Building the Social-Ecological Future, edited by Philip Degenhardt, Rosa Luxemburg Stiftung SEA, <https://www.rosalux.de/en/publication/id/49848/building-the-social-ecological-future> Pp. 15-20 (last accessed on 21 April 2023).
- Climate Risk Index (CRI) (2020), "Global Climate Risk Index 2020 - Who suffers Most from Extreme Weather Events? Weather-related Loss Events in 2018 and 1999 to 2018" Germanwatch, <https://www.germanwatch.org/en/17307> (last accessed on 21 April 2023).
- Emissions Database for Global Atmospheric Research (EDGAR), "Energy, Climate change, Environment" European Commission, [https://edgar.jrc.ec.europa.eu/country\\_profile/](https://edgar.jrc.ec.europa.eu/country_profile/) (last accessed on 21 April 2023).
- Engels, F. (1987 [1845]), The condition of the working class in England, London: Penguin classics.
- General Statistics Office (GSO) (2018), "Number of deaths registered by province by cities, provinces, year and timely registration" General Statistics Office, 2018, <https://www.gso.gov.vn/en/px-web/?pxid=E0231&theme=Population%20and%20Employment> (last accessed on 9 May 2023).
- General Statistics Office (GSO) (2021), "Area, population and population density by province" General Statistics Office, 2021, <https://www.gso.gov.vn/en/px-web/?pxid=E0201&theme=Population%20and%20Employment> (last accessed on 21 April 2023).
- Harvey, D. (1996): Justice, Nature and the Geography of Difference. Oxford: Blackwell.
- Kiet, A (2019), "Downpours from storm Wipha flood many Hanoi streets", Hanoi Times, 8 April 2019 <https://hanoitimes.vn/downpours-from-storm-wipha-flood-many-hanoi-streets-46298.html> (last accessed on 21 April 2023).
- Kiet, A. (2021), "Hanoi reduces plastic waste from small deeds", Hanoi Times, 20 June 2021, <https://hanoitimes.vn/hanoi-reduces-plastic-waste-from-small-deeds-317760.html> (last accessed on April 2023).
- Labbé, D. (2010), "Facing the urban transition in Hanoi: recent urban planning issues and initiatives", Montral Institut national de la recherche scientifique, Centre - Urbanisation Culture Société <https://espace.inrs.ca/id/eprint/4986/1/HanoiUrbanization.pdf> (last accessed on 21 April 2023).
- Labbé, D. (2021), "Urban Transition in Hanoi. Huge Challenges Ahead", ISEAS – Yousof Ishak Institute Singapore, issue 2, [https://think-asia.org/bitstream/handle/11540/13072/TRS2\\_21.pdf?sequence=1](https://think-asia.org/bitstream/handle/11540/13072/TRS2_21.pdf?sequence=1) (last accessed on 21 April 2023).

- Lam, T.T.S.; Danso-Dahmen, L. (2018), "The Social-Ecological Transformation Debate and Grassroots Discussion in the Light of Hydropower Development – A Case Study from Vietnam", Social-ecological Transformation. Perspectives from Asia and Europe, edited by Danso-Dahmen, Liliane and Degenhardt, Philipp, Rosa Luxemburg Stiftung – Manuskripte Neue Folge 20, pp. 50-61.
- Marcotrends, "Ha Noi, Vietnam Metro Area Population 1950-2023", Marcotrends, <https://www.marcotrends.net/cities/22457/ha-noi/population> (last accessed on 21 April 2023).
- Marx, K. (1982 [1867]), Capital: A Critique of Political Economy. Volume I, London: Penguin books.
- Meteoblu, "Klimawandel Hanoi", Meteoblu, [https://www.meteoblue.com/de/climate-change/hanoi\\_vietnam\\_1581130](https://www.meteoblue.com/de/climate-change/hanoi_vietnam_1581130) (last accessed on 21 April 2023).
- Ministry of Construction (2023), "Good urban planning to help reduce traffic jams in Hanoi", Ministry of Construction Vietnam, 2 February 2023, <http://moc.gov.vn/vn/tin-tuc/1273/75157/good-urban-planning-to-help-reduce-traffic-jams-in-hanoi.aspx> (last accessed on 21 April 2023).
- Nguyen, T.T.L. (2021), "Air Quality in Hanoi Current Situation & Policy Intervention", The World Bank, June 2021 <https://thedocs.worldbank.org/en/doc/acbf27f6f2af77ba7f92059a584c0dbc-0070012021/original/Air-Quality-in-Hanoi-Current-Situation-and-Policy-Intervention-June-2021.pdf> (last accessed on 21 April 2023).
- Pham, D.T.; Nguyen, T.M.H. (2021), "Vietnamese Social-Ecological Practices. Human and Non-human Entanglement in Times of Change" Rosa Luxemburg Stiftung SEA, [https://rosaluxhanoi.org/en/publications/publication\\_details/515.html](https://rosaluxhanoi.org/en/publications/publication_details/515.html) (last accessed on 21 April 2023).
- Pham, T.A. (2021), "How to go to work in Hanoi if no bike is allowed after 2025?", Vietnaminsider, 10 December 2023, <https://vietnaminsider.vn/no-bike-is-allowed-after-2025/> (last accessed on April 2023).
- Sander, H. (2019) Städtische Umweltgerechtigkeit. Zwischen progressiver Verwaltungspraxis und sozial-ökologischen Transformationskonflikten. [German only] Rosa Luxemburg Stiftung – Analysen, [https://www.rosalux.de/fileadmin/rls\\_uploads/pdfs/Analysen/Analysen58\\_Umweltgerechtigkeit.pdf](https://www.rosalux.de/fileadmin/rls_uploads/pdfs/Analysen/Analysen58_Umweltgerechtigkeit.pdf) (last accessed on 21 April 2023).
- Schumacher, J. (2018), "Climate Change. A Question of Justice" Rosa Luxemburg Stiftung – Analysen, <https://www.rosalux.de/en/publication/id/39648/climate-change> (last accessed on 21 April 2023).
- Smith, N. (2008[1984]), Uneven Development: Nature, Capital, and the Production of Space (3rd Edition), Athens: University of Georgia Press.
- Statista (2022), "Population density of Ha Noi, Vietnam from 2011 to 2021", Statista, August 2022, <https://www.statista.com/statistics/1188695/vietnam-hanoi-population-density/> (last accessed on 21 April 2023).
- Thanh, L.; Tat, D. (2019), "Hanoi burning its way to pollution", VN Express International, 27 December 2019, <https://e.vnexpress.net/news/life/trend/hanoi-burning-its-way-to-pollution-4033434.html> (last accessed on 21 April 2023).
- UN-Habitat (2011), "Global Report on Human Settlements 2011: Cities and Climate Change", United Nations Human Settlements Programme, <https://unhabitat.org/global-report-on-human-settlements-2011-cities-and-climate-change> (last accessed on 21 April 2023).
- UN (2022), "World Population Prospects 2022", United Nations, <https://population.un.org/wpp/> (last accessed on 21 April 2023).
- Vietnam News (2021), "Hà Nội's landfills struggle to deal with increased garbage", Vietnam News, 9 April 2023, <https://vietnamnews.vn/society/921276/ha-noi-s-landfills-struggle-to-deal-with-increased-garbage.html> (last accessed on 21 April 2023).

Vietnam News (2023), “Two-thirds of Hà Nội's air pollution comes from outside the city”, Vietnam News, 24 February 2023, <https://vietnamnews.vn/society/1489671/two-thirds-of-ha-noi-s-air-pollution-comes-from-outside-the-city.html> (last accessed on 21 April 2023).

Vietnam News (2023), “Hà Nội makes efforts to reduce air pollution”, Vietnam News, 10 April 2023 <https://vietnamnews.vn/society/1517755/ha-noi-makes-efforts-to-reduce-air-pollution.html> (last accessed on 21 April 2023).

Vietnam Plus (2023), “Urban flooding needs concerted solutions”, Vietnam Plus, 27 January 2023, <https://link.gov.vn/b7c7BMNz> Vietnam News 01.27.2023 (last accessed on 21 April 2023).

Vuille, F.; Maréchal, F.; Cajot, S. (2020), “Energy Challenges in Urban Systems”, Sustainability Assessment of Urban Systems, edited by Binder, C. R., Wyss, R., and Massaro, E., Cambridge: Cambridge University Press, pp. 353–383.

WHO (2018), “More than 60,000 deaths in Viet Nam each year linked to air pollution” World Health Organisation, 2 May 2018, <https://www.who.int/vietnam/news/detail/02-05-2018-more-than-60-000-deaths-in-viet-nam-each-year-linked-to-air-pollution> (last accessed on 21 April 2023).



## **AN ECOLOGICAL CITY FOR ALL: CHALLENGES FOR A SOCIAL- ECOLOGICAL TRANSFORMATION IN A CHANGING HANOI**

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