

Fuchs, Andreas et al.

**Article**

## China's aid exports to Africa and the COVID-19 pandemic: How much? Where? What?

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**KEY POINTS**

- China's average monthly aid exports to Africa did not increase after the onset of the COVID-19 pandemic—in contrast to those to the rest of the world.
- Significant shifts in the cross-country distribution of China's aid exports created both so-called aid darlings (e.g., Ethiopia) and aid orphans (e.g., Côte d'Ivoire).
- China shifted its aid exports to Africa towards medical goods, but less markedly than in other world regions.
- Chinese aid exports to Africa became less centralized after the pandemic outbreak than before, both regarding its geographic origins within China and the reliance on official aid.
- We recommend to monitor China's aid allocation to avoid the creation of aid orphans.

# PEGNet Policy Brief

## China's aid exports to Africa and the COVID-19 pandemic: How much? Where? What?

Andreas Fuchs, Lennart Kaplan, Krisztina Kis-Katos, Sebastian S. Schmidt, Felix Turbanisch, Feicheng Wang

### Abstract

China's aid to Africa receives significant attention from policymakers, development practitioners, and observers worldwide. This is even more the case since the outbreak of the coronavirus pandemic, given China's importance as a donor of vaccines, ventilators, face masks, disinfectants, and other medical supplies. This PEGNet Policy Brief describes the general patterns of Beijing's so-called "mask diplomacy" and "vaccine diplomacy" compared to China's pre-pandemic aid exports. First, we find that China's average monthly aid exports to Africa did not increase after the pandemic outbreak (in contrast to those to the rest of the world). Second, we observe a shift towards medical aid at the expense of other aid goods after the pandemic outbreak. Chinese non-medical aid to Africa was 26.6% below its pre-pandemic (2017–2019) level. Third, we find significant shifts in the cross-country distribution of Chinese aid exports, creating both so-called aid darlings (e.g., Ethiopia) and aid orphans (e.g., Côte d'Ivoire) across the African continent.

In late 2021, Western nations imposed travel restrictions on South Africans in fear of the rising Omicron variant of COVID-19. At the same time, Chinese President Xi Jinping pledged 1 billion additional COVID-19 vaccine doses to African nations at the ministerial conference of the Forum on China-Africa Cooperation. He stated that "[w]e need to put people and their lives first, [...] and truly ensure the accessibility and affordability of vaccines in Africa to bridge the immunization gap," fostering a narrative of China contributing to a global public good (FOCAC, 2021). However, the increased aid exports of medical goods can also be seen as a strategic refocusing of China's foreign policy towards the African continent from a "debt trap diplomacy" to a "vaccine diplomacy" (The Guardian, 2021). Observers worry that where China's vaccines go, "its influence will follow" (Huang, 2021).

Despite its widely recognized importance, we lack a comprehensive picture of China's aid to Africa in times of COVID-19. This is problematic not just from a geostrategic standpoint but also from a development policy perspective. The pandemic shock has likely created "aid darlings" and "aid orphans," i.e., recipient countries that receive significantly more or fewer donations than anticipated (Davies and Klasen, 2019). Knowledge about aid darlings and aid orphans is crucial for successfully coordinating relief efforts among donors and preventing adverse side effects of aid withdrawals (Nielsen et al., 2011).

### A new method to measure Chinese aid

Investigating possible aid darlings and aid orphans requires data. This is a non-trivial endeavor as the Chinese government does not publish a comprehensive database on its foreign aid activities for Africa or any other world region. Aid is instead considered "a sensitive area, a state secret" (Bräutigam, 2009, p.2). China's leading aid agency, the Ministry of Commerce, ranks last in an evaluation of the transparency of 47 international donor organizations (Tilley and Jenkins, 2020). The white papers on foreign aid published by China's State Council include only aggregate statistics by world regions and groups of years. According to the most recent white paper, 44.65% of Chinese foreign aid was allocated to the African continent over the 2013–18 period (State Council, 2021).

In response to this lack of official country-level and project-level data, several research initiatives have collected project-level data from official and unofficial sources. AidData's Global Chinese Official Finance Dataset (Dreher et al., 2022) is the most comprehensive among the various data-gathering efforts. It tracks the universe of Chinese development finance institutions (both aid strictly speaking and more commercially-oriented official financing flows) to the entire developing world since 2000. However, the data end in 2017, rely partially on unofficial information (such as media reports), lack monetary amounts for about 38% of the projects, and do not cover actual disbursement amounts.



**KIEL INSTITUTE FOR  
THE WORLD ECONOMY**  
Kiellinie 66 | 24105 Kiel

E [pegnet@ifw-kiel.de](mailto:pegnet@ifw-kiel.de)  
[www.pegnet.ifw-kiel.de](http://www.pegnet.ifw-kiel.de)

@PEGNetKiel

**Table 1 – Top 15 African countries receiving Chinese aid exports, 2017–2021**

| Rank | Country       | Total aid (M\$) | Global share (%) | Per capita (\$) | Medical aid (M\$) | Unofficial aid (M\$) | Mask diplomacy period (M\$) | Vaccine diplomacy period (M\$) |
|------|---------------|-----------------|------------------|-----------------|-------------------|----------------------|-----------------------------|--------------------------------|
| 1    | Ethiopia      | 126.77          | 3.03             | 1.16            | 35.08             | 42.93                | 58.36                       | 39.52                          |
| 2    | Mozambique    | 85.60           | 2.05             | 2.90            | 10.09             | 0.34                 | 16.44                       | 18.68                          |
| 3    | Zimbabwe      | 72.62           | 1.74             | 5.03            | 14.81             | 2.55                 | 13.31                       | 28.87                          |
| 4    | Djibouti      | 64.48           | 1.54             | 67.24           | 9.36              | 0.34                 | 1.36                        | 31.44                          |
| 5    | Zambia        | 60.74           | 1.45             | 3.50            | 4.68              | 0.22                 | 6.28                        | 20.30                          |
| 6    | Côte d'Ivoire | 56.96           | 1.36             | 2.27            | 1.50              | 0.18                 | 1.16                        | 0.99                           |
| 7    | Burundi       | 51.36           | 1.23             | 4.60            | 3.82              | 0.28                 | 4.95                        | 19.15                          |
| 8    | Kenya         | 49.03           | 1.17             | 0.95            | 12.46             | 0.42                 | 1.67                        | 2.38                           |
| 9    | Mauritania    | 48.94           | 1.17             | 11.11           | 16.62             | 0.31                 | 0.79                        | 19.22                          |
| 10   | Uganda        | 48.27           | 1.16             | 1.13            | 14.84             | 0.65                 | 1.78                        | 10.47                          |
| 11   | South Sudan   | 46.87           | 1.12             | 4.27            | 4.31              | 0.55                 | 5.31                        | 6.31                           |
| 12   | Tanzania      | 42.69           | 1.02             | 0.76            | 14.29             | 0.32                 | 2.74                        | 4.72                           |
| 13   | Gambia        | 40.13           | 0.96             | 17.60           | 1.52              | 0.16                 | 1.75                        | 2.36                           |
| 14   | Niger         | 39.67           | 0.95             | 1.77            | 9.33              | 0.92                 | 6.98                        | 8.90                           |
| 15   | Egypt         | 39.60           | 0.95             | 0.40            | 26.42             | 2.21                 | 10.69                       | 25.45                          |

**Notes:** The table shows the top 15 African countries receiving Chinese aid exports between January 2017 and December 2021. “Rank” is based on total aid values. “Total aid,” “Medical aid,” “Unofficial aid,” and aid during the “Mask diplomacy period” and the “Vaccine diplomacy period” are measured in million US\$. “Global share” refers to each country’s share in China’s global aid exports. “Per capita” aid is measured in US dollars. “Medical aid” is identified as in [Fuchs et al. \(2022\)](#). “Unofficial aid” denotes aid exports under the customs regime “12,” i.e., aid provided by non-government sources. The “Mask diplomacy period” covers total aid from March to December 2020. The “Vaccine diplomacy period” covers total aid from January to December 2021. Data are from [GACC \(2022\)](#).

In [Fuchs et al. \(2022\)](#), we introduce a new method to track Chinese aid. The Chinese Aid Exports Database measures China’s aid with official export information by the General Administration of Customs of China (GACC, 2022). Specifically, we extract all export flows that are coded as either “Aid or Donation between Governments and International Organizations” (category 11) or “Other Donations” (category 12). The former category includes all types of aid exports that the Chinese government provides to other governments and recipient organizations. The latter category includes materials donated by non-governmental donors for the purpose of poverty alleviation, charity, and disaster relief.

As we outline in detail in [Fuchs et al. \(2022\)](#), the Chinese Aid Exports Database has several advantages over previous Chinese aid datasets, which stem from the fact that it is based on official customs trade data. First, by relying on official information, it records all foreign aid embodied in goods exports and is thus, by construction, more comprehensive than the existing databases that collect information on in-kind aid (at least partly) from unofficial data sources. Second, the new database captures actual flows of goods rather than commitments (or pledges) of future aid, which might get delayed, suspended, or even canceled. Third, it captures aid flows at a monthly frequency and is updated almost in real time, which allows the tracking of recent policy dynamics at a higher temporal resolution. Fourth, it contains information on the province of origin of aid flows within China and thus enables analyses of the domestic dynamics that drive China’s foreign aid ([Fuchs et al., 2020](#)). Fifth, in addition to official aid, it also covers aid by non-government actors, including civil society organizations and corporations. Sixth, it reports aid information at the detailed product level, following the Harmonized System (HS) classification, rather than being confined to broad sectoral designations. Finally, it covers the entire world, not just the Global South or a single world region, facilitating global comparisons.

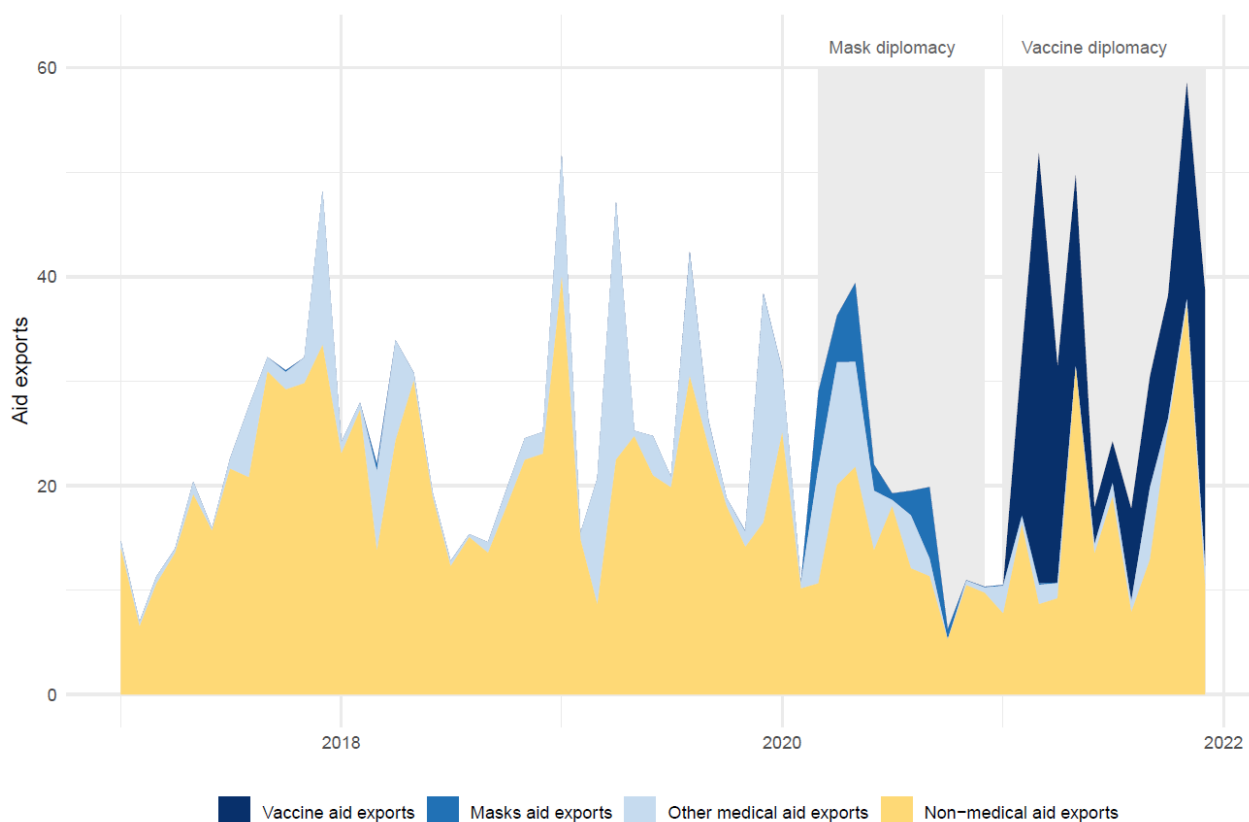
It is important to highlight that these advantages come at the cost of recording only aid embodied in goods shipped from China, i.e., we do not cover the value of Chinese labor, financial aid, or Chinese-financed goods and services purchased locally or from third countries. However, given the dearth of official Chinese foreign aid data, we expect that the database will enable researchers and policymakers to study its allocation and effects and, as such, possibly contribute to improving aid coordination. In what follows, we use these data to describe the broad patterns of how much aid China exports, where it goes, and what kind of aid goods China provides.

### How much? The size of Chinese aid exports to Africa

The resulting database traces Chinese aid exports valued at US\$ 4.2 billion from January 2017 until December 2021, of which 37.1% flowed to the African continent. This corresponds to an annual average of US\$ 310.1 million for Africa. Figure 1 visualizes China’s monthly aid exports to Africa from January 2017 to December 2021. We observe substantial fluctuations that could partially reflect seasonality and the lumpiness of certain aid exports. Before the pandemic, Chinese aid exports to Africa were increasing. Whereas aid exports totaled US\$ 277.0 million in 2017, they increased to US\$ 346.9 million in 2019. Not surprisingly, we observed a clear drop in the value of total aid exports to Africa in February 2020, while strict lockdown measures practically froze the Chinese economy. This did not lead to a complete cessation of aid exports, but with US\$ 10.7 million, they clearly fell below the average of US\$ 16.8 million in February of the previous three years.

Once the pandemic started to spread globally in March 2020 (and the situation in China improved), Chinese aid exports to Africa rebounded strongly and reached US\$ 36.3 million in April 2020. After a relative decline in the second half of 2020, Chinese aid exports to

**Figure 1 – Chinese medical vs. non-medical aid exports to Africa in million US\$, 2017–2021**



Notes: Aid exports are measured in million US\$ per month. Medical aid exports are split into vaccines, masks, and other medical aid exports. The mask diplomacy period denotes March to December 2020. The vaccine diplomacy period is from January 2021 to December 2021. Own visualization based on data from GACC (2022).

Africa jumped again in early 2021 when China’s vaccine aid campaign gained traction. While Chinese aid more than doubled outside of Africa with a monthly average of US\$ 65.5 million after the outbreak compared to US\$ 30.0 million in 2017–2019, average monthly Chinese aid exports did not see such an uptick (and even decreased slightly) with US\$ 28.0 million versus US\$ 24.8 million.

**Where? The allocation of Chinese aid exports across Africa**

Our database covers 195 independent countries, of which 184 received aid goods from China, including 53 African countries. Only one African country did not import any aid from China: Eswatini. This is not surprising given that the government in Mbabane recognizes the Chinese government in Taipei on Taiwan rather than the government in Beijing.

Table 1 lists the top 15 African recipients of Chinese aid exports over the 2017–2021 period. It appears that recipient countries are of strategic interest to China top the list. The largest recipient of Chinese aid goods in Africa is Ethiopia (US\$ 126.8), followed by Mozambique (US\$ 85.6) and Zimbabwe (US\$ 72.6). All three countries have established diplomatic relations with Beijing rather than Taipei and have an above-average voting alignment with the People’s Republic in the United Nations.<sup>1</sup> This is in line with previous research that shows that China provides greater aid flows to “friendly” countries (Dreher et al., 2018). In Figure

<sup>1</sup> The respective voting alignment for Ethiopia, Mozambique, and Zimbabwe in the General Assembly over the 2017–2021 period is 84%, 85%, and 90%—all higher than the corresponding African average of 83% (Voeten et al., 2009)

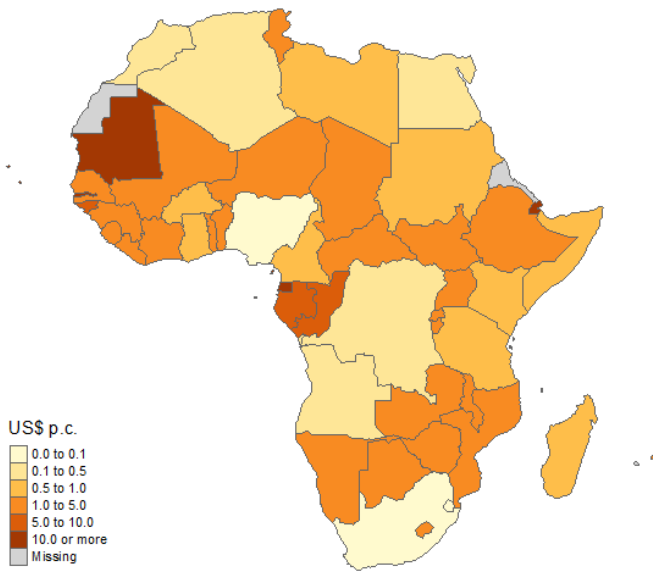
2, we control for the size of countries and visualize the per capita aid inflows by recipient country over the 2017–2021 period. In per capita terms, smaller countries lead the list of aid recipients, with the top three being Cape Verde, Djibouti, and Seychelles.

Many previous recipients experienced increased aid inflows from China. China’s post-outbreak aid darling, i.e., the biggest winner in absolute terms, is Ethiopia. Its annual aid imports were US\$ 45.9 million larger post-COVID-19 outbreak than in the three years before. Egypt (US\$ 18.6 million) and Zimbabwe (US\$ 13.5 million) showed the second and third largest increase. This is not surprising since Ethiopia has been an important destination for Chinese foreign direct investment in Africa and serves as a hub of the People’s Republic’s Belt and Road Initiative, while Egypt is a hub for China’s “vaccine diplomacy.” However, this aid expansion came at a cost since some of China’s traditional aid recipients turned into aid orphans. Côte d’Ivoire suffered the largest loss in terms of total aid values (US\$ 17.1 million), followed by Kenya (US\$ 12.8 million) and the Gambia (US\$ 8.2 million).

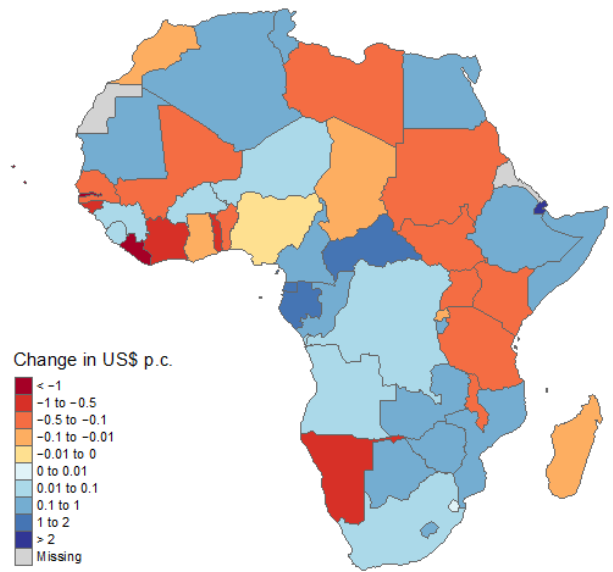
To assess the development opportunities and risks from China’s changed allocation patterns post-COVID-19 outbreak, we also analyze the per capita changes in Figure 3. Once we account for country size, Djibouti, Sao Tomé and Príncipe, and the Central African Republic experience the largest gains and would be considered Chinese aid darlings. In contrast, the Gambia, Cape Verde, and Seychelles suffer the largest reduction in per capita terms (albeit from a high level), leaving those aid orphans more vulnerable during the pandemic.

Since the pandemic outbreak, there have been rising concerns that China’s decisions to provide aid have become more politicized and were

**Figure 2 – China’s aid exports to Africa by importing country in US\$ per capita, 2017–2021**



**Figure 3 – Darlings and orphans in Africa: Change in yearly average per capita aid exports in US\$ after March 2020**



Note: Monthly aid exports are measured in US\$, summed over January 2017 to December 2021, and divided by recipient-country population size. Export data come from GACC (2022); population data (2020 values) originate from the World Development Indicators.

Note: The map displays the change in Chinese aid exports per capita measured in US\$ after the global coronavirus outbreak (March 2020–December 2021) relative to the pre-pandemic period (January 2017– December 2019). Monthly aid exports are re-scaled to refer to annual averages. Own visualization based on data from GACC (2022).

primarily driven by strategic calculations aimed at improving the country’s image and influence rather than recipients’ needs (CSIS, 2021). In Fuchs et al. (2022), we investigate for a worldwide dataset (rather than our Africa subsample) whether such a shift towards a stronger politicization of aid giving has taken place more systematically by regressing the size of average monthly aid exports on a set of partner-country characteristics in cross-country regressions. Whereas before 2020, significantly more Chinese aid exports were channeled towards poorer countries and China’s political friends, after the COVID-19 outbreak, our regression results show the declining importance of recipients’ economic needs and political alignment as explanatory factors. More precisely, in the first pandemic year (2020), countries’ voting alignment in the United Nations and poverty have become less associated with Chinese aid exports. As we show in Fuchs et al. (2022), this can be mainly attributed to the rise of aid through non-government sources. Political factors and need orientation quickly regained importance in China’s aid allocation once the first pandemic shock subsided.

dimensions to learn more about the patterns of China’s aid giving in the years before and after the pandemic outbreak. First, we separate unofficial aid, i.e., aid flows from non-government sources, from official aid. We find that only 4.7% of the total aid exports to Africa originate from non-government sources, compared to 10.5% for the entire world. Chinese aid to Africa is thus even more government-controlled than Chinese aid is in general. The share of unofficial aid was negligible before the pandemic (0.4%), increased enormously in the period of mask diplomacy (to 30.3%), but reduced quickly once again (to 1.4%) in 2021 when vaccines became the dominant Chinese aid product.

**What exactly? The composition of Chinese aid exports**

Second, we geographically disaggregate Chinese aid exports to Africa. Before the pandemic outbreak, 58.2% of all aid exports were performed by donors based in Beijing, such as the ministries and policy banks active in foreign aid. In the period of mask diplomacy (March 2020–December 2020), the capital’s share in total aid exports was significantly reduced to 38.7%. It increased again to 68.0% in 2021 when vaccines became the most important aid good exported to Africa. Similar ups and downs in the degree to which Chinese aid exports originate from official sources and Beijing are visible outside of Africa (Fuchs et al., 2022).

The database allows us to disaggregate China’s aid exports in three

Third, we can analyze the importance of product groups, such as medical





**Table 2 – Top 3 aid goods and their top 10 African recipient countries, 2017–2021**

| Rank | Vaccines for human medicine | Semi-milled or wholly milled rice | Computed tomography scanners |
|------|-----------------------------|-----------------------------------|------------------------------|
| 1    | Egypt                       | South Sudan                       | Ghana                        |
| 2    | Zimbabwe                    | Kenya                             | Kenya                        |
| 3    | Ethiopia                    | Zimbabwe                          | Sudan                        |
| 4    | Mauritania                  | Uganda                            | Tanzania                     |
| 5    | Mozambique                  | Chad                              | Uganda                       |
| 6    | Djibouti                    | Sierra Leone                      | Mauritania                   |
| 7    | Uganda                      | Burkina Faso                      | Cape Verde                   |
| 8    | Niger                       | Burundi                           | Togo                         |
| 9    | Cameroon                    | Malawi                            | Benin                        |
| 10   | Senegal                     | Niger                             | Guinea                       |

**Notes:** This table shows the top 10 African recipient countries for three aid goods from January 2017 to December 2021. These three goods represent China's top aid export goods to Africa with respect to export volume at the 8-digit HS code level. The corresponding HS codes are HS 30022000 (vaccines for human medicine), HS 10063020, 10063080 and 10063090 (semi-milled or wholly milled rice), and HS 90221200 (computed tomography scanners).

goods, in China's aid portfolio. We observe that electrical machinery and equipment (HS 85) takes the first place in terms of total export values, closely followed by cereals (HS 10) and pharmaceutical products (HS 30). At the more detailed 8-digit product level, human vaccines (HS 30022000) lead the list of the most important aid goods exported, followed by rice (HS 10063010 and 10063020) and computed tomography scanners (HS 90221200). Table 2 shows the top 10 recipient countries of these three leading aid goods.

Figure 1 shows a split of Chinese aid exports into medical and non-medical goods. Unsurprisingly, we observe that medical products play a much larger role in Chinese aid exports to Africa after the pandemic outbreak. In the three pre-pandemic years (2017–2019), medical aid exports to Africa amounted to 17.1% of total aid exports, which is around twice the global benchmark value of 8.4%. After the beginning of the global pandemic, almost half of Chinese aid exports to Africa were medical products (45.9%). However, this is below the global value of 55.1%, which experienced a steeper increase. The increase in medical aid came with a reduction in non-medical aid in absolute terms. Average monthly non-medical aid to Africa fell from US\$ 20.6 million over 2017–2019 to US\$ 15.1 million over the 2020–2021 period, corresponding to a 16.3% decline.

Finally, the dataset also allows us to study aid origins within China. Most aid to Africa originates from Beijing (57.5%), followed by Jiangsu (12.5%) and Shandong (5.46%).

## Conclusions

China's aid to Africa receives significant attention from policymakers, development practitioners, and observers worldwide. This is particularly the case since the outbreak of the coronavirus pandemic: China donates significant amounts of vaccines, ventilators, face masks, disinfectants,

and other medical supplies. This PEGNet Policy Brief applies the method introduced in Fuchs et al. (2022) to measure Chinese aid to the African continent. This allows us to sketch the patterns of Chinese aid giving before and after the outbreak of the COVID-19 pandemic. First, we find that 37.1% of China's US\$ 4.2 billion aid exports between January 2017 and December 2021 went to the African continent. In contrast to the rest of the world, China's average monthly aid exports to Africa did not increase after the pandemic outbreak. Second, we find significant shifts in the cross-country distribution of Chinese aid exports, creating both aid darlings (e.g., Ethiopia) and aid orphans (e.g., Côte d'Ivoire). Third, we observe a shift towards medical aid after the outbreak of the COVID-19 pandemic. This came at the expense of non-medical aid, which was 26.6% below its pre-pandemic (2017–2019) level. We also document that China's aid to Africa became less centralized after the pandemic outbreak, both regarding its geographic origins within China and the reliance on official aid.

These findings complement our analysis of the entire world in Fuchs et al. (2022) and deserve the attention of policymakers. First, we highlight that China has become an important actor in international health assistance, whereas much of the debate centers around Chinese infrastructure projects. Second, since the distribution of Chinese aid exports has significantly changed, a coordinated international development policy requires monitoring China's aid allocation to avoid the creation of aid orphans. For instance, the World Health Organization has coordinated South-South donations by India and the United Arab Emirates to the Gambia (The Point, 2022). Third, the data we introduce constitute a valuable resource for real-time tracking of Chinese aid and can help understand the behavior of a leading but opaque donor. This can help, for example, to investigate whether "food diplomacy" will become the new "vaccine diplomacy" during the ongoing food crisis among African nations.



**Author****Andreas Fuchs**

University of Göttingen  
Kiel Institute for the World  
Economy (IfW)  
mail@andreas-fuchs.net

**Lennart Kaplan**

University of Göttingen  
Kiel Institute for the World  
Economy (IfW)  
German Institute of Develop-  
ment and Sustainability

**Krisztina Kis-Katos**

University of Göttingen

**Sebastian S. Schmidt**

University of Göttingen  
Kiel Institute for the World  
Economy (IfW)

**Felix Turbanisch**

University of Göttingen

**Feicheng Wang**

University of Groningen

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