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Examining the EU Reaction to a Humanitarian Emergency from a Network Perspective: The Response to Cyclones Idai and Kenneth

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Abstract

This article examines the European Union (EU) involvement and co-ordination of a humanitarian emergency response overseas. In particular, this article will examine the reaction to Cyclones Idai and Kenneth. By combining an exponential random graph model (ERGM) with semi-structured interviews, this article will also apply resource dependence theory in order to identify actor characteristics that conditioned exchanges within the network that responded to this incident. Hence, it provides novel empirical evidence regarding *de facto* responses to humanitarian emergencies that increases understanding of social dynamics among the actors involved in these efforts. The findings of this study show that the co-ordination of the EU response generally followed a multilateral logic. However, the limited empowerment of the local community throughout the response was less consistent with the strategic aspirations of the EU. For their part, donors tended to show less activity within the network than financial aid recipients.

Keywords: Idai; European Union; humanitarian crises; networks

Introduction

Cyclones Idai and Kenneth killed over 1,300 people and left more than 2 million individuals in need of humanitarian assistance in South-East Africa between March and April 2019. Their effects were not circumscribed to a single country: indeed, floods and landslides affected parts of Zimbabwe, Malawi, Mozambique and the Comoros Islands. Massive migration flows originated in the region as a result of the cyclones (Chapungu, 2020). In Mozambique alone, they destroyed over 400,000 houses (Cowan and Infante, 2019) and damaged 'over 700,000 hectares of cultivated lands' (HELP, 2019, p. 118). The subsequent humanitarian response entailed the reconstruction of infrastructure, as well as the provision of livelihood and shelter to affected individuals (DEC, 2019). A spokesperson of the UN World Meteorological Organization referred to this episode as 'one of the worst weather-related disasters in the Southern Hemisphere' (UN News, 2019). Estimates of financial losses derived from this incident amounted to roughly USD2 billion (HELP, 2019).

Despite these circumstances, Idai and Kenneth were not salient events in European media. Images of flooded cities neither hit newspaper headlines nor became a matter of public debate in Europe: certainly, they did not reach the prominence of the 2013–16 Ebola outbreak. For instance, donations from the international community to the humanitarian response amounted to $195.1 million, namely 43.3 per cent of the required funding for this operation (OCHA, n.d.-a). This figure fell short of the $1.56 million (68.9 per cent

of its intended target) collected for the response to the 2013–16 Ebola outbreak (OCHA, n.d.-b). The absence of a direct security threat to Europe and its distant epicentre might explain the low salience of this episode. Nevertheless, previous EU humanitarian interventions in Africa have helped reduce spending on reconstruction efforts. They have also mitigated the risks that potential refugee flows and other transboundary manifestations of political instability in Africa pose to the economic interests of the EU (Joseph, 2014).

Bearing this context in mind, this article will address important gaps in the literature. For example, existing research has examined the legal competences that define the *de jure* EU humanitarian aid system (for detailed information on this subject, see Broberg, 2014; Orbie et al., 2014). We also have information regarding the principles that have shaped the strategic planning of past EU humanitarian interventions in Africa (Joseph, 2014). However, we lack theory-based studies that provide empirical information concerning the *de facto* involvement of EU actors in humanitarian responses overseas (Prakash et al., 2020). Moreover, studying the response to Idai and Kenneth would help assess whether EU humanitarian operations are consistent with the self-perceived EU role as a global actor (Sjursen, 2006).

Recent studies have labelled resource dependence theory as a promising theoretical approach to explain inter-organizational co-ordination throughout humanitarian operations (for example, see Prasad et al., 2018). They hint that certain actor characteristics, such as being financial aid donors or recipients, matter for this purpose. Other papers have examined inter-organizational co-ordination throughout humanitarian responses from a relational perspective (Lai et al., 2019; Moore et al., 2003; Prasad et al., 2018; Tacheva and Simpson, 2019): further pieces discussing the relational dimension of humanitarian responses would help make sense of social dynamics such as donor-recipient homophily in these scenarios (Prakash et al., 2020).

Hence, this article has a twofold purpose. Specifically, it examines the following research questions: Which actor characteristics condition exchanges within humanitarian crisis networks? Which logic guides the EU involvement and co-ordination of humanitarian emergency responses overseas? Whereas the first question pertains to the whole network that participated in the response to Idai and Kenneth, the second one specifically focuses on the involvement and co-ordination of EU Member State and supranational bodies within such a network. By involvement, this article refers to specific humanitarian response actions taken by EU Member State and supranational bodies, and the perceptions of other actors in the network concerning their relative importance and centrality in this effort. For its part, the term co-ordination addresses the ability of such EU actors to communicate among themselves and with non-EU governmental and non-governmental bodies throughout these episodes. In so doing, this article embraces the conceptual shift from examining what the EU 'is' to what it 'does' (Aggestam, 2008) – thus following the 'practice turn' in EU studies (Adler-Nissen, 2016) – by identifying tensions and synergies between EU and non-EU actors throughout humanitarian operations. Additionally, this article will test the applicability of resource dependence theory to humanitarian emergency responses so as to identify actor characteristics that conditioned exchanges within the network that responded to Idai and Kenneth. The findings of this study show that the co-ordination of the EU response generally followed a multilateral logic. However, the limited empowerment of the local community throughout the

response was less consistent with the strategic aspirations of the EU. For their part, donors tended to show less activity within the network than financial aid recipients.

This article fulfils these aspirations by combining semi-structured interviews with social network analysis (SNA). SNA is a powerful methodology to study the *de facto* involvement of different actors in humanitarian responses owing to its ability to produce rich empirical evidence regarding formal and informal exchanges (Bravo-Laguna, 2021; Schomaker et al., 2021).[1] Indeed, the use of SNA is increasing in EU studies (for example, see Malang and Leifeld, 2021). For their part, semi-structured interviews provide in-depth qualitative insights into the co-ordination of the response and the logic underlying the involvement of different actors in this effort.

The structure of the article is as follows. It first analyses the EU involvement in humanitarian responses overseas. In Section II, the article discusses the extent to which resource dependencies help explain the co-ordination of humanitarian operations. Section III provides an overview of the methodology used in this study before presenting the results of the analysis. The article concludes by reviewing its main findings and suggesting areas for further research related to the object of study.

I. The EU and the Management of Humanitarian Emergencies Overseas

This section analyses the EU involvement in humanitarian responses overseas. The EU has a specific legal framework and tools to handle such operations. In this regard, Article 214 of the Treaty on the Functioning of the European Union (TFEU) states that 'operations in the field of humanitarian aid shall be conducted within the framework of the principles and objectives of the external action of the Union'. These 'shall be intended to provide *ad hoc* assistance and relief and protection for people in third countries who are victims of natural or man-made disasters'. This legal basis distinguishes external humanitarian disasters from domestic emergencies, which fall under the scope of the solidarity clause in Art. 222 TFEU. It also establishes a clear separation between *ad hoc* humanitarian interventions and longer-term co-operation, which is managed according to Art. 208 TFEU and Art. 212 TFEU (Van Elsuwege et al., 2016). For its part, the European Consensus on Humanitarian Aid – signed in 2007 by the Council, the Commission, and the Parliament – explicitly claims that humanitarian aid 'cannot be used as a crisis management tool' (European Union, 2008, p. 2). Moreover, it clarifies that humanitarian actions promoted by the EU shall be based on the principles of neutrality, impartiality, humanity and independence. Since the adoption of the Lisbon Treaty, Art. 214 TFEU has indeed granted formal independence 'from political, economic, military, and other objectives' to humanitarian aid policy.

EU legislation defines humanitarian aid as a shared competence. Hence, the EU has a mandate 'to conduct a common [humanitarian aid] policy'. Nevertheless, 'the exercise of that competence shall not result in the Member States being prevented from exercising theirs'.[2] Additionally, the Union and the Member States shall account for each other's actions in this area. This framework poses the risk that the overlapping roles of the EU

[1]As opposed to formal interactions, informal exchanges are characterized by the absence of codified and enforced rules, restricted participation and scarce transparency. Unlike formal negotiations, informal interactions cannot lead to binding decisions (Reh et al., 2011; Schomaker et al., 2021).
[2]See Art. 4(4) TFEU.

institutions and the Member States jeopardize the efficiency of humanitarian actions overseas: the principle of complementarity included in the TFEU explicitly intends to reduce this risk (Broberg, 2014). However, the need for coherence in the EU humanitarian aid strategy poses additional challenges for effective action (Orbie et al., 2014).

The EU possesses supranational bodies and tools to manage natural disasters within and beyond its borders. Responsibilities for humanitarian policy implementation are divided among the European Commission Directorate-General for International Partnerships (DG-INTPA, formerly known as DG-DEVCO), the European Commission Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG-ECHO), and the European External Action Service (EEAS) (Cihangir-Tetik and Müftüler-Baç, 2021). DG-ECHO is the main decision-making body and co-ordinator of EU reactions to humanitarian operations overseas (Van Elsuwege et al., 2016): it received competences to handle internal humanitarian crises some years after the establishment of its original mandate, which empowered DG-ECHO to respond to emergencies overseas. Placed under the authority of DG-ECHO, the civil protection mechanism can be activated to assist any EU or non-EU country that requests its deployment (Morsut, 2020). In 2019, contributors to the civil protection mechanism included the 27 EU Member States, the United Kingdom (until February 2020), Norway, Iceland, Montenegro, North Macedonia, Serbia and Turkey. The civil protection mechanism was upgraded in 2019 through the creation of rescEU, namely a reserve of resources (for example, helicopters, medical equipment) that can be deployed to manage emergencies.

The effectiveness of EU humanitarian assistance depends on its successful integration into an array of policy instruments. This circumstance partly stems from the 'Lisbon Treaty's emphasis on enhanced coherence of the EU's external assistance policies' (Cihangir-Tetik and Müftüler-Baç, 2021, p. 442). In this sense, Art. 43 TEU acknowledges that both civilian and military resources may be employed to tackle humanitarian operations (Orbie et al., 2014). While conceived as a 'last resort' (European Union, 2008, p. 7), the possibility to use military means leaves room for the politicization of humanitarian interventions (Orbie et al., 2014).

Besides these capacities, the EU relies on its co-ordination with transnational policy networks where several actors exchange information and resources to manage humanitarian emergencies. These include country governments, individual citizens, NGOs, private firmsor supranational and international organizations (Morsut, 2020). Following a decentralized, horizontal approach to humanitarian assistance, in 2005 the United Nations adopted a scheme that divides the actors involved in humanitarian actions into 11 clusters; each cluster focuses on a specific sector and is led by a different agency. Lead agencies are accountable to the UN Emergency Relief Coordinator, who heads the UN Office for the Coordination of Humanitarian Affairs (OCHA). Reliant on smooth inter-cluster co-ordination, the model has performed satisfactorily since its creation (Tacheva and Simpson, 2019).

Along with the protection of democratic values and human rights, the promotion of multilateralism is a core element of EU humanitarian policy since the 2003 European Security Strategy included it as a strategic aspiration (Kissack, 2010). This logic expects the EU to promote international agreements, laws and institutions created in multilateral fora through formal and informal actions (Christiansen, 2017; Kissack, 2010). Multilateralism remained a central tenet in the 2016 EU Global Strategy, which introduced a more

pragmatic, less normative approach (Barbé and Morillas, 2019). For its part, the EU Strategy for Disaster Risk Reduction in Developing Countries shows the EU self-perception as an actor bridging local, national and international organizations in disaster responses: this document explicitly mentions its willingness to co-operate with the UN system, the World Bank or international and community NGOs (European Commission, 2009).

Despite this rhetoric, the EU often faces difficulties to put its commitment to multilateralism into practice effectively (Christiansen, 2017). For example, shifts in the balance of power in the international system or conflicts with domestic interests might jeopardize the pursuit of this goal (Hyde-Price, 2008). Besides, the EU tends not to pursue legally binding multilateral arrangements contemplating sanctions against non-compliant parties (Sjursen, 2006). Therefore, it is worth testing the extent to which EU actions on the ground are consistent with its rhetorical commitment to multilateralism. Hence, the following expectation is developed:

> *H1* : Throughout the humanitarian response to Cyclones Idai and Kenneth, the EU institutions and the Member States had a higher likelihood than non-EU governments to interact with international and non-profit organizations.

II. Explaining the Co-ordination of Humanitarian Emergency Responses

This section examines the extent to which resource dependence theory helps explain the co-ordination of humanitarian emergency responses. Resource dependence theory suggests that organizations are embedded in interdependent networks where goods are exchanged (Pfeffer and Salancik, 2003). Amid humanitarian operations, actors often compete with one another for such goods (Prakash et al., 2020); a variable need for these goods across network members generates power asymmetries that condition organizational decisions (Pfeffer and Salancik, 2003). For example, the need to guarantee organizational survival leads actors to establish connections with other bodies. Consequently, nodes (in this case, organizations) that are perceived as powerful tend to attract the attention of their network peers (Galaskiewicz, 1985). This growing attention increases their perceived power and generates preferential attachment, namely a tendency for nodes with high activity and popularity to become even more active and popular.

Throughout humanitarian responses, donors possess the necessary financial resources to orchestrate effective actions. Hence, those organizations that specialize in the implementation of humanitarian operations have an incentive to interact with resource-rich bodies. To test whether these dynamics were present in the network examined in this study, the following hypothesis is proposed:

> *H2* : The EU actors, the non-EU governments and the international organizations that donated money for the response to Cyclones Idai and Kenneth have significantly higher popularity (that is, higher in-degree values)[3] than financial aid recipients in the crisis network.

[3]In other words, network actors report a significantly higher number of connections to donors than to financial aid recipients.

Resource dependence theory also suggests that the uncertainty that accompanies humanitarian operations may lead organizations to co-operate in order to make up for resource gaps or information asymmetries. Other advantages of inter-organizational co-operation include increased economic efficiency, enhanced response effectiveness to collective problems, higher chances that all actors agree on a common roadmap and greater access to resources (Berardo and Scholz, 2010; Galaskiewicz, 1985). This impulse for actors to exchange information and other resources with their peers is coupled with a determination to preserve organizational autonomy. In this regard, the existence of various suppliers of a scarce resource reduces the dependence of actors in need of such a good on single providers (Pfeffer and Salancik, 2003). Within this context, the focal NGOs that offer direct humanitarian assistance are frequently held accountable by those stakeholders – for example, governments – who provide them with the necessary resources to carry out their activities. Hence, financial aid recipients would tend to establish different alliances to maximize their chances of receiving enough funding to achieve their goals without compromising their decision-making independence. Based on this reasoning, the following hypothesis is drawn:

H3 : The EU actors, the non-EU governments and the international organizations that donated money for the response to Cyclones Idai and Kenneth have a significantly lower activity (that is, lower out-degree values)[4] than financial aid recipients in the crisis network.

Finally, resource dependence theory highlights that certain social dynamics affect the likelihood that humanitarian network actors interact with one another. All actors involved in humanitarian networks seek to reduce human suffering by using the resources at their disposal (Prakash et al., 2020). Hence, interdependencies between financial aid donors and recipients may appear in such contexts: while donors such as the EU depend on the expertise of fund-seeking organizations, money recipients need donations to achieve their goals. Consequently, fund-seeking organizations have a higher incentive to interact with resource-rich bodies than with other potential financial aid recipients throughout humanitarian operations, and vice versa. If this logic truly guided exchanges in the episode examined in this article, one would expect that:

H4 : There is a significantly higher likelihood of observing exchanges between one donor and one financial aid recipient than between two donors or two financial aid recipients in the network that responded to Cyclones Idai and Kenneth.

III. Methodology

This article uses social network analysis (SNA) to test the above-mentioned hypotheses. SNA is a relational perspective, given its emphasis on the dynamics underlying a system of actors and the interactions among them. As in the case of resource dependence theory, SNA examines how social environments condition the way in which interactions are

[4]In other words, donors report a significantly lower number of connections to other actors in the network than financial aid recipients.

conducted (Pfeffer and Salancik, 2003). Its ability to determine the extent to which systems are effectively co-ordinated by examining formal and *de facto* interactions makes SNA particularly useful for studying humanitarian responses, considering that emergency managers frequently override formal protocols to produce quick and effective responses (Bravo-Laguna, 2021).

Networks are displayed visually in graphs showing a set of actors (nodes) and the exchanges (ties) between them, as well as in tables providing quantitative information on aspects such as the centrality of each node in the network. This study refers to three measures of centrality, namely degree, closeness and betweenness. There are two different degree indicators: in-degree and out-degree (Wasserman and Faust, 1994). In-degree reflects node popularity (that is, the number of ties that each actor receives from its network peers), whereas out-degree measures node activity, namely how many ties each node reports to its network counterparts. For its part, closeness centrality shows the geodesical distance between each node and other network actors, or how easy it is for each node to reach its partners. Finally, betweenness centrality depicts the likelihood that a given node lies in the closest path between two other actors. The higher these indicators, the more central the node in question is.

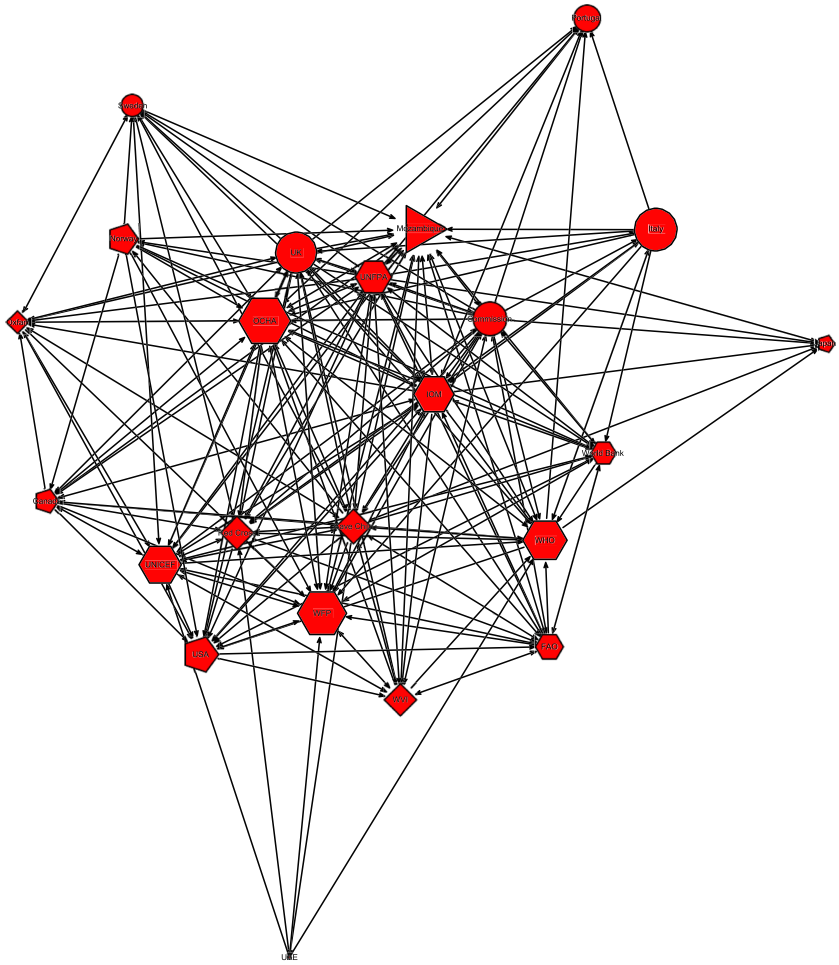
This study presents a directed network. Hence, each tie contains information about its existence and direction. More specifically, arrows near the receiving nodes show who reported ties to whom in Figure 1.

This article will test whether particular features increase the likelihood that actors interact with one another within humanitarian networks by using exponential random graph models (ERGMs). ERGMs are statistical models that provide clues to understanding 'how and why social network ties arise' (Lusher et al., 2013, p. 3). An important theoretical assumption behind their use entails that previous dependencies across network actors and a series of exogenous factors (for example, certain node attributes) influence tie formation (Lusher et al., 2013). The existence of such dependencies makes it impossible to use conventional statistical techniques (for example, regression analysis) to study these phenomena.

In particular, ERGMs carry out stochastic processes that estimate the likelihood of observing structures with the same number of nodes and ties as the analysed network. In other words, ERGMs assess whether certain patterns are present in a network more frequently or intensely than what would be expected by chance alone (Lai et al., 2019). Endogenous patterns may include reciprocity (or whether nodes that receive a tie X from another node tend to send back a tie Y to such a node) or preferential attachment. These models also admit the inclusion of exogenous terms, such as the likelihood that actors with specific attributes (for example, financial aid donor or recipient) develop (homophily) or fail to develop (heterophily) ties among themselves. Figures and tables were obtained by using the R packages 'sna' (Butts, 2020) and 'statnet' (Handcock et al., 2019). Annex 2 includes goodness-of-fit tests, which assess whether the models accurately depict both the observed network and other network dimensions that had not been incorporated into the models (Lai et al., 2019).

Network data were extracted from a survey sent to staff members of bodies involved in the reaction to Cyclones Idai and Kenneth. These individuals were selected according to two criteria: first, whether they occupied prominent positions in their organizations (that is, the European Commission, the EU and non-EU country governments, international

Figure 1: 2019 Humanitarian Response to Cyclones Idai and Kenneth in Mozambique Management Network. [Colour figure can be viewed at wileyonlinelibrary.com]



Source: Own elaboration. *Notes*: The ties correspond to information exchanges between the nodes. The shape of the nodes indicates the nature of organizations as follows: EU supranational and Member State bodies (circles), Government of Mozambique (triangle), non-governmental organizations (squares), non-EU governmental bodies (pentagons), international organizations (hexagons). *Names of the organizations*: Canada, Government of Canada; Commission, European Commission; FAO, Food and Agriculture Organization; UAE, International Humanitarian City/Government of the United Arab Emirates; IOM, International Organization for Migration; Red Cross, International Red Cross and Red Crescent Movement; Italy, Government of Italy; Japan, Government of Japan; Mozambique, Government of Mozambique; Norway, Government of Norway; OCHA, UN Office for the Coordination of Humanitarian Affairs; Oxfam, Oxfam; Portugal, Government of Portugal; Save Child, Save the Children; Sweden, Government of Sweden; UNICEF, UN International Children's Fund; UK, Government of the United Kingdom; UNFPA, UN Population Fund; USA, Government of the United States; World Bank, World Bank; WFP, UN World Food Programme; WHO, World Health Organization; WVI, World Vision International.

organizations or NGOs included in Table 1); second, whether these individuals had executive responsibilities in the humanitarian response. Most officials were not knowledgeable of the response efforts in all affected countries; therefore, the analysis focuses on the response in Mozambique, where the cyclones caused the greatest destruction. Respondents were asked to identify the organizations with whom they had interacted throughout the effort in a predefined node list: network ties in Figure 1 represent the presence (or absence) of interactions between the organizations (nodes) in the network. Respondents also had to indicate the relevance of such bodies in the humanitarian response and how frequently their own institutions had monitored the actions of these organizations throughout the operation: node sizes were computed by adding the mean aggregated scores (measured on a scale of 0–10) corresponding to the answers to these two questions (see Table 2). Finally, respondents could identify missing actors in the node list and leave additional comments.

An initial list of 23 actors was crafted by selecting the Mozambican government, the 11 organizations (9 foreign governments, the European Commission and the World Bank) that had provided at least $1.5 million to fight these natural disasters, and the 11 NGOs and UN agencies that had received at least $1.03 million during the response effort,

Table 1: Centrality Scores in the Network that Managed the Response to Cyclones Idai and Kenneth

Institution	*In-Degree*	*Out-Degree*	*Closeness*	*Betweenness*
Canadian Government	8	12	0.688	4.258
European Commission	10	20	0.917	13.984
Food and Agriculture Organization (FAO)	12	12	0.688	5.669
International Organization for Migration (IOM)	15	21	0.957	45.253
International Red Cross and Red Crescent Movement	13	10	0.629	9.226
Italian Government	5	9	0.611	0.954
Japanese Government	6	1	0.407	0
Mozambican Government	20	12	0.667	45.401
Norwegian Government	4	7	0.564	0.125
UN Office for the Coordination of Humanitarian Affairs (OCHA)	19	12	0.687	18.704
Oxfam	9	8	0.595	3.038
Portuguese Government	7	3	0.524	0.111
Save the Children	11	20	0.917	34.933
Swedish Government	8	5	0.537	1.033
UNICEF	15	17	0.815	23.135
UAE Government/International Humanitarian City	1	4	0.537	0
United Kingdom Government	13	17	0.815	12.412
UN Population Fund (UNFPA)	12	21	0.957	18.615
United States Government	14	4	0.537	2.888
World Bank	11	9	0.611	2.55
World Food Programme (WFP)	18	10	0.629	12.115
World Health Organization (WHO)	15	10	0.647	15.653
World Vision International (WVI)	9	11	0.667	5.481
Network Density	0.504			

Source: own elaboration.

Table 2: Indicators Used for the Calculation of Node Sizes

Institution	*Frequency of monitoring*	*Importance role*	*Importance role + frequency of monitoring*
Canadian Government	6.83	6.67	13.5
European Commission	7.63	7.5	15.13
Food and Agriculture Organization (FAO)	6.36	7.73	14.09
International Organization for Migration (IOM)	7.5	8.83	16.33
International Red Cross and Red Crescent Movement	6.22	8.9	15.12
Italian Government	8	8.75	16.75
Japanese Government	6	6.25	12.25
Mozambican Government	9.59	9.26	18.85
Norwegian Government	7.5	7.25	14.75
UN Office for the Coordination of Humanitarian Affairs (OCHA)	9.06	9.38	18.44
Oxfam	5	8.13	13.13
Portuguese Government	6.25	7.6	13.85
Save the Children	6.89	8.44	15.33
Swedish Government	6	7	13
UNICEF	8	8.67	16.67
UAE Government/International Humanitarian City	0	1	1
United Kingdom Government	7.7	8.75	16.45
UN Population Fund (UNFPA)	7.63	8	15.63
United States Government	6.8	8.91	15.71
World Bank	6.56	7	13.56
World Food Programme (WFP)	8.62	9.27	17.89
World Health Organization (WHO)	8.44	8.58	17.02
World Vision International (WVI)	7	7.88	14.88

Source: own elaboration.

according to the UN-OCHA website (OCHA, n.d.-a). Only paid contributions were considered for this purpose; hence, pledged or committed donations were disregarded. Placing such financial thresholds ensured a balance between the number of financial aid donor and recipient organizations in the network. For the sake of consistency, governmental actors were not disaggregated into smaller agencies. The European Commission was not disaggregated into two nodes (that is, DG-ECHO and the EU Delegation in Mozambique) either to minimize the chances that respondents failed to identify ties to this actor due to a lack of familiarity with its organigram. After merging the nodes corresponding to the United Arab Emirates (UAE) government and International Humanitarian City,[5] and incorporating UN-OCHA (a missing influential node according to most respondents), the final list included 23 actors: responses (one per organization) have been collected from all of them.

[5]The humanitarian organization 'International Humanitarian City' and the UAE government were merged into a single node after a high-ranking officer approached for this study disclosed his affiliation with both actors.

Additionally, 12 semi-structured interviews were conducted between January and August 2021 to gather in-depth qualitative insights into social dynamics among the network actors as well as the logic underlying the EU involvement and co-ordination of the humanitarian response. All interviewees occupied prominent positions within their organizations and had executive responsibilities in the response to Idai and Kenneth: they include officials serving in EU and non-EU country governments, the European Commission, international organizations, as well as local and international NGOs. The names and detailed positions of the interviewees were removed to preserve their anonymity (see Annex 1 for short descriptions of their affiliation).

There are two methodological limitations of the study. First, it takes individual organizations – as opposed to broader platforms of actors – as units of analysis. This picture might therefore not show interactions within or across the humanitarian clusters where such actors worked together. Second, survey results present subjective perceptions of a sample of managers involved in the response. To minimize the likelihood that respondents fail to identify existing ties within the network, the survey targeted individuals with high executive responsibilities in the response effort, following a logic used in previous studies (Bravo-Laguna, 2021; Lai et al., 2019). The validity of the network data was tested further by checking 76 documents elaborated by different institutions[6] and information on the OCHA website regarding financial transfers related to the emergency in Mozambique. A total of 190 network ties were identified by looking at these sources, 65 less than in the network shown in Figure 1. The identification of a lower number of ties in formal sources is unsurprising, as the network in Figure 1 captures both formal and informal interactions. Of these ties, 88.4 per cent were recognized by at least one of the actors involved, whereas 71.6 per cent were identified by both bodies. Together with the high reciprocity rate of this network (47 per cent), these values allow a high level of confidence about the validity of the network data.

IV. Analysis and Results

The humanitarian response to Cyclones Idai and Kenneth can be subdivided into three stages. After prioritizing 'immediate threats of drowning, physical injuries, hypothermia, and electrocution', attention turned to disease prevention. 'Concerns about food security, nutrition, maternal health, and psychological impacts such as post-traumatic stress disorder rapidly followed' (Hope, 2019, p. 338). During the first days, the World Food Programme (WFP) and the NGO consortium COSACA – comprising CARE International, Save the Children, and Oxfam – assumed leading roles. Once the airspace was reopened, OCHA took over and donors such as USAID, DFID and the EU arrived in Beira.[7] Although early action was hindered after basic infrastructure and telecommunications stopped being operational (Institute for Social and Environmental Tradition, 2020), the presence of respondents on the ground when the cyclones hit facilitated a quick reaction.[8]

[6]This figure is broken down as follows: 3 situation reports authored by the Food and Agriculture Organization (FAO), 22 documents of this kind elaborated by UN-OCHA, 13 fact sheets published by the International Organization for Migration (IOM), 9 pieces written by the UN High Commissioner for Refugees (UNHCR), 13 reports released by UNICEF, 9 fact sheets drafted by USAID, and 7 operations updates issued by the IFRC.
[7]Interviews 8 and 12.
[8]Interview 8.

While insufficiently funded, the co-ordination of the response was smooth and efficient.[9] The Mozambican government played an active role in this effort.[10] Partially responsible for this success was the 2018–2019 Mozambique Humanitarian Response Plan, which resulted from previous investments in sanitation and hygiene programming, disaster management, social mobilization campaigns and weather forecasts (Cambaza et al., 2019): the existence of infrastructure and protocols to handle natural disasters helped contain subsequent cholera outbreaks (Chen and Azman, 2019; Institute for Social and Environmental Tradition, 2020), whereas the presence of young, dynamic Mozambican ministers on the ground brought the necessary political leverage for effective co-ordination.[11] Finally, the UN cluster system was activated quickly and worked well throughout the response:[12] its unprecedentedly close co-operation with bodies such as the IFRC was cited as an additional explanatory factor of the successful reaction.[13]

Nevertheless, co-ordination efforts were hampered by technical gaps of the Mozambican government in areas such as gender-based violence, a weak institutional capacity at the subnational level, poorly maintained emergency management equipment and the demanding bureaucratic requirements for customs checks or visa applications.[14] During the first week, tensions emerged between the Mozambican government – which sought to control all procedures[15] – and the foreign agencies that attempted to bypass the action protocols set by the former.[16] The massive arrival of foreign donations that did not meet minimum standards of quality posed further difficulties to humanitarian response managers.[17] Besides, many foreign governments (including some EU Member States) used airplanes to deliver goods that were available in Mozambique at lower prices.[18]

For their part, local organizations could have become more deeply involved in the response, especially after international actors began operating on the ground:[19] the latter tended to impose their strategic vision even when their suggestions were less efficient than those offered by local bodies.[20] Moreover, a language barrier between English-speaking foreign experts and Portuguese-speaking locals hindered co-operation throughout the response.[21] A final challenge involved political tensions that dated back to the participation of Mr. Daviz Simango – mayor of Beira at the time – and Ms. Augusta Maita, who headed the National Disaster Management Institute (INGC), in the 2018 local election in Beira under opposing political parties.[22] Despite this circumstance, the response in Mozambique was not excessively politicized.[23]

Bearing this context in mind, this article will assess the involvement of EU Member State and supranational bodies in the crisis network by examining the graph in Figure 1

[9]Interviews 5, 6, 9 and 12.
[10]Interviews 2, 6, 9 and 12.
[11]Interviews 8 and 12.
[12]Interview 7.
[13]Interview 12.
[14]Interviews 1, 2, 3 and 8.
[15]Interview 9.
[16]Interview 10.
[17]Interview 7.
[18]Interview 8.
[19]Interview 12.
[20]Interview 5.
[21]Interviews 1, 7 and 12.
[22]Interviews 7 and 12.
[23]Interview 12.

and the network descriptive indicators in Tables 1 and 2. These reveal a positive correlation between centrality scores and node sizes. In particular, the Mozambican government, Save the Children, and some UN bodies (namely, WFP, OCHA, IOM, UNFPA) have the highest centrality scores. The opposite applies to non-EU governments such as the UAE, Norway or Japan; to a lesser extent, this is also true of some EU Member States (for example, Sweden and Portugal). The low centrality and small size of the node corresponding to the Portuguese government show that, in contrast to previous crises in Africa (Irrera, 2018), a post-colonial logic did not guide the response effort.

With relatively high centrality scores, the European Commission co-ordinated the EU response and communicated with all Member State governments in the network. Ties between Member State governments themselves were rarer – except for the UK, which was connected with the Swedish and Portuguese governments. The UK was indeed the most relevant and central (at the time) Member State in the network. This humanitarian intervention provided British authorities with an opportunity to show their potential as a humanitarian power vis-à-vis the EU amidst Brexit negotiations.[24]

For their part, semi-structured interviews provided valuable insights into the co-ordination of the EU response. In this regard, DGs DEVCO and ECHO were among the first bodies that reacted to the catastrophe.[25] After a request from the Mozambican government, the EU deployed its civil protection mechanism for the first time in Southern Africa on 23 March – less than ten days after the cyclones made landfall on Mozambique.[26] Nine Member States (Austria, Denmark, France, Germany, Italy, Luxembourg, Portugal, Spain and the UK) co-ordinated their response through the mechanism. Additionally, 11 experts from Germany, Finland, the Netherlands, Portugal, Romania, Sweden and Slovenia were deployed on the ground.[27] The Commission and the Member States provided emergency medical teams, field hospitals, water purification tanks, rescue boats and satellite communication modules, among other assets.[28] While the EU reaction was generally assessed as rapid and efficient,[29] the messy integration of the European civil protection team into the operation led to avoidable inefficiencies and became a source of friction with some UN agencies.[30] Finally, the Portuguese government only integrated into the response effort a few days after it began: it primarily focused on ensuring the well-being of the Portuguese citizens and firms operating in Mozambique.[31]

On the other hand, the ERGM data in Table 3 help identify actor characteristics that conditioned exchanges throughout the responses to Idai and Kenneth. Additionally, this evidence sheds further light on the co-ordination of EU actors with their network peers. The three models show a positive and significant tendency for network actors to reciprocate ties. This image is consistent with the high reciprocity rate of the network (47 per cent). Also, the network density score – namely the ratio of existing edges to the number of possible edges in the network – was rather high (0.504). Models I and II

[24]Interview 7.
[25]Interviews 3, 4 and 8.
[26]Interview 3.
[27]See https://ec.europa.eu/echo/news/cyclone-idai-12-million-eu-assistance-mozambique-zimbabwe-and-malawi_en
[28]Interviews 3 and 4.
[29]Interviews 6, 9, 10 and 12.
[30]Interview 12.
[31]Interview 9.

Table 3: Exponential Random Graph Models of the network that managed the response to Cyclones Idai and Kenneth

	Model I	*Model II*	*Model III*
Network Density	-1.57 * (0.64)	0.73 ** (0.27)	-1.46 *** (0.20)
Reciprocity	0.66 * (0.28)	0.66 * (0.28)	0.74 * (0.30)
Geometrically Weighted In-Degree (0.5)	-3.90 ** (1.45)	-4.40 *** (1.28)	
Geometrically Weighted Out-Degree (0.5)	-3.43 * (1.53)	-3.64 ** (1.37)	
Tie EU Actor – Non-EU Govern	0.25 (0.82)		
Tie IO, Moz & NGOs – Non-EU Govern	1.01 (0.68)		
Tie Non-EU Govern – EU Actor	-0.86 (0.99)		
Tie EU Actor – EU Actor	1.09 (0.76)		
Tie IO, Moz & NGOs – EU Actor	1.14 (0.67)		
Tie Non-EU Govern – IO, Moz & NGOs	0.91 (0.70)		
Tie EU Actor – IO, Moz & NGOs	1.73 * (0.70)		
Tie IO, Moz & NGOs – IO, Moz & NGOs	2.16 ** (0.66)		
In-degree Non-EU Government	-1.13 *** (0.25)		
In-degree EU Actor	-1.07 *** (0.24)		
Out-degree Non-EU Government	-1.32 *** (0.26)		
Out-degree EU Actor	-0.50 * (0.25)		
Homophily Donor/Recipient	-0.002 (0.19)	0.04 (0.19)	
Degree Recipient	1.05 *** (0.15)		

Significance codes: ***$p < 0.001$ **$p < 0.01$ *$p < 0.05$.
Source: own elaboration.

tested whether the network showed a tendency towards preferential attachment, as resource dependence theory expects. They did so through the inclusion of the variables 'gwidegree' and 'gwodegree', which stand for geometrically weighted in-degree and geometrically weighted out-degree, respectively. The presence of negative and significant coefficients reveals a tendency for the network to be populated with actors with high and low degree values (thus, actors with medium degree values are less common). In other words, preferential attachment did indeed shape dynamics within the network. This supports the expectations derived from resource dependence theory.

Model I examined the likelihood that two actors form ties with one another according to their membership in three different categories: the first includes EU actors, the second comprises non-EU governmental actors (except for the Mozambican government), whereas a third category encompasses international organizations, NGOs and the Mozambican government.[32] The model offers support for H1, as it shows that – unlike the non-EU donor governments in the network – EU bodies were significantly likely to interact with actors belonging to the latter category. While actors belonging to this heterogeneous group tended to develop ties among themselves during this episode, neither Model II nor Model III shows significant tendencies towards homophily or heterophily in the donor–recipient axis. For example, EU actors did not tend to interact with each other. This evidence contradicts resource dependence theory: H4 is therefore rejected.

[32]Although the distinct characteristics of the Mozambican government suggest placing it in a distinct category, including single-actor categories would make the model collapse. For this reason, this actor was placed in the category that neither includes the EU nor the non-EU donor country governments in the network; after all, the model was designed to compare the behaviour of the former two groups of actors.

Finally, Model III shows that donors were significantly less active than financial aid recipients throughout the response, as expected by resource dependence theory. Among the latter, local NGOs contributed to this effort in various ways, including risk and need assessments, project design and the execution of particular capacity-building enterprises (for example, the rehabilitation of water systems).[33] Some received funds from international organizations and other NGOs: their transfer was, however, subject to the fulfilment of certain conditions, such as the provision of reports detailing how the money would be spent and the creation of accountability mechanisms.[34] In contrast, no strict conditionality (beyond certain performance indicators) was linked to the resources delivered by the EU for humanitarian purposes.[35] For example, humanitarian donations from ECHO were guided by the principle of unconditional cash transfer.[36] Model II disaggregates the tendency for financial aid recipients to be more active than donors by showing that both EU and non-EU donors are significantly less likely than financial aid recipients to receive ties from other network actors. Somewhat surprisingly, this evidence contradicts resource dependence theory and helps reject H2. Likewise, the non-EU and EU donors included in this study were significantly less likely to send ties to other network actors. This information supports H3.

Conclusion

This article provides relevant insights into the EU involvement and co-ordination of humanitarian emergency responses overseas. More specifically, the significant likelihood that EU actors interact with NGOs and international organizations throughout the response to Cyclones Idai and Kenneth suggests that a multilateral logic guided the EU response effort. At least, this appears to be the case after comparing it with those of non-EU governments such as the UAE and Japan, which tended to channel their donations through bilateral exchanges. While this extensive communication with international organizations and NGOs throughout humanitarian operations seems to be aligned with the commitment of the EU to multilateralism, the limited empowerment of the local community throughout the response was less consistent with its strategic aspirations (European Commission, 2009; Joseph, 2014). Promoting local ownership might increase the sustainability and cost-effectiveness of humanitarian networks and help these continue operating after foreign assistance and donations decrease. A step forward in this direction would entail incorporating local organizations to a greater extent into decision-making during humanitarian operations. Co-ordination with local organizations could have also been fostered by involving experts that are fluent in the official languages of the affected countries.

For their part, network indicators and findings from semi-structured interviews show that the EU can mobilize its humanitarian response tools quickly and efficiently, even in reaction to distant incidents that do not pose direct threats to its security. In particular, the European Commission led the EU response and communicated with all Member State governments in the network; ties among the latter nodes were infrequent. The Commission was indeed more relevant and central than the Member States in the crisis network.

[33]Interview 5.
[34]Interview 5.
[35]Interviews 3 and 4.
[36]Interview 3.

This finding is consistent with the observation that the political and financial weight of the Commission in EU humanitarian operations has increased recently (Irrera, 2018). Hence, co-ordination of future EU humanitarian responses overseas might be improved by increasing co-operation among the Member States. Likewise, the European civil protection team – whose growing weight is a by-product of the gradual strengthening of EU humanitarian assistance bodies – needs to be better integrated into humanitarian response networks; this might reduce friction with other organizations in future operations overseas.

On the other hand, ERGM data have shown that particular actor characteristics conditioned exchanges within the humanitarian response network. Indeed, this article identified a tendency towards preferential attachment within this structure: in other words, a few actors tended to concentrate the attention of their peers. This pattern might explain the success of the intervention, considering that centralized structures transmit information effectively (Feiock et al., 2012). Resource dependence theory helped interpret this evidence: in this regard, donors tended to be less active and popular (that is, they had lower in- and out-degree centrality scores) than the organizations that received funds to tackle these natural disasters. Their higher activity and popularity allow financial aid recipients to reduce their dependence on specific donors. However, the findings of the study were not consistent with the theoretical expectation that donor–recipient homophily and heterophily would condition exchanges within the network. These findings point to the greater potential of resource dependence theory to explain social dynamics throughout humanitarian emergency responses at the systemic and individual levels of analysis (for example, preferential attachment, activity, popularity) than at the dyadic level (for example, homophily).

Idai and Kenneth have revealed the high vulnerability of Mozambique to draughts and cyclones: indeed, the country experienced 11 floods and 16 draughts in the period 1970–1998 (Moore et al., 2003). The evident role of climate change in the increasing recurrence of natural disasters demands the incorporation of longer-term development and conflict-sensitive management perspectives to address the vulnerability of the stricken regions. Institutions such as the World Bank have indeed started programmes in Mozambique to increase its long-term resilience against natural disasters.[37]

Besides some limitations inherent to the subjective nature of survey- and interview-based studies, it must be mentioned that the sample of organizations used for this article is rather small. Hence, the dynamics described in this article might not hold for the entire group of actors that intervened in the response. Further research might also illuminate the role of non-governmental and non-EU actors in humanitarian networks.

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[37]Interview 6

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Annex 1. List of interviews. Source: own elaboration.
Annex 2. Goodness-of-fit diagnostics for Model I, Model II and Model III. Source: own elaboration.