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Promoting Europe– China–Africa triangular cooperation on combating climate change: From piloting initiatives to a new development framework



China Dialogue is an independent, non-profit organisation dedicated to promoting a common understanding of China's environmental challenges.

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Introduction

Africa is one of the most vulnerable regions to climate change impacts, facing a very high risk of climate disasters, such as flooding, sea-level rise, heatwaves, and water shortages across different parts of the continent (IPCC, 2022). These climate impacts are contributing to serious humanitarian, social, economic, and political consequences. Africa's less-developed countries (LDCs) are particularly vulnerable as climate disasters are intertwined with various developmental challenges linked to poverty, health, and incomes, which have been exacerbated by the economic recessions and geopolitical stalemate in the post-Covid era (UNCTAD, 2021).

African countries contributed less than 4% of total greenhouse gas emissions globally in 2020, yet face the severest adaptation challenges. Massive international assistance and support are needed to reverse course, yet only a small fraction of multilateral and bilateral climate finance and funding has been invested in Africa's LDCs. UNEP estimated that LDCs would get less than 3% of the annual climate adaptation funding needed between 2020–2030, whereas African governments currently spend between 2–9% of their GDP on funding adaptation programmes (UNEP, 2021). Addressing this challenge will require the scaling of public and private finance from developed countries and emerging economies. There is an urgent need for innovative schemes and transboundary cooperation as climate finance and aid from traditional bilateral and multilateral sources are insufficient and inefficient.

Triangular cooperation, or trilateral development cooperation, has emerged as a potential solution. The key implementation agencies of a triangular development project are often from both traditional and emergent donors. Ideally, it is expected that technology, financial, and managerial capacities and

resources can be exchanged and combined to deliver the desirable development and climate benefits in the recipient countries.

Triangular cooperation is not a new concept; such rhetoric and practice have appeared and reappeared throughout the history of foreign aid, even though the term's meaning and goals have shifted (McEwan and Mawdsley, 2012; OECD and Fordelone, 2009). However, the recent trend of triangular cooperation has mainly focused on the rise of “emergent donors”, such as China, India, and Brazil over the past decade as complementary suppliers in the landscape of foreign aid and international development (Gu et al, 2016; Mawdsley, 2019). These emergent donors have created potential opportunities for cooperation with traditional donors and to work jointly in achieving various UN sustainable development goals (Haug, 2021).

In Africa, China and the EU are the crucial players initiating and implementing triangular development projects to address the urgent needs of combating climate change. As the largest emergent donor and Africa's largest trading partner, China's foreign aid to the continent has increased steadily.¹ Between 2013 and 2018, around 44% of Chinese foreign aid, totalling 120 billion RMB, was directed at Africa and mostly toward LDCs (CIDCA, 2021). Climate change has become one of the key areas of China–Africa cooperation, with pilot adaptation and mitigation projects implemented in Ethiopia, Egypt and elsewhere, plus various capacity-building programmes for climate officials and practitioners. During the 2021 Forum on China–Africa Cooperation (FOCAC), or the triennial ministerial level partnership platform between China and African countries, a groundbreaking joint declaration on combating climate was also announced (MOFA, 2021; Shen, 2021). This declaration highlighted the role of south–south and triangular cooperation.

1. In this paper, Chinese foreign aid refers to grants, interest-free or concessional loans comparable to Official Development Assistance (ODA) principles. Commercial loans and export credit facilities provided by Chinese policy banks and export credit agencies are not included.



Senegal, site of the largest mangrove reforestation project in the world. Nature-based climate adaptation initiatives like this are one area where the EU hopes to enhance engagement with African nations. (Image: Clement Tardif / Greenpeace)

Both parties aim to accelerate the implementation of the approved projects.

European countries are the major traditional donor and have also accelerated their cooperation with African countries on climate change. The EU's newly announced European Green Deal will have a notable spill-over effect on Africa (Usman et al, 2021). In addition, following China's announcement to stop financing new coal-fired power plants overseas in September 2021, the OECD members reached an agreement to end the export credit support for unabated coal-fired power plants (OECD, 2021). The EU also wants to enhance its engagement with African countries, particularly on clean energy, green hydrogen, the circular economy, and nature-based climate adaptation initiatives, such as the Great Green Wall or Great Blue Wall (Chevallier and Benkenstein, 2022). The implementation routes and financial packages to support these ambitious goals are yet to be revealed, but the policy signal is strong and clear.

Inevitably, there are areas where China and the EU are likely to compete in supporting climate-related actions in Africa, given both sides' dedication to market share, resources, and technological leadership (Oertel et al, 2020). One recent example is

competition over strategic mineral resources, such as lithium, cobalt, and copper in Africa due to their critical roles in the global energy transition. However, the cooperative opportunities are also tremendous. Both parties have had a cooperative relationship on climate change for decades, confirmed by several joint statements. The most recent one was issued during the EU–China Summit in 2018.

Yet previous pilot cases indicate that triangular cooperation projects are more complex and protracted compared to bilateral ones. Therefore, the main purpose of this paper is to sketch out a practical framework for considering an effective triangular cooperation project based on a review of previous studies and practices. Such a framework needs to address four specific elements of triangular cooperation. These are: ensuring a demand-driven approach in which activities are proposed by the recipient or beneficiary countries; creating a “pocket of efficiency” in the trilateral governance systems; building inclusive alliances among state and non-state actors; and facilitating mutual learning for all the parties involved (Figure 1). The following sections explain why these four pillars for successful triangular cooperation are relevant to climate mitigation and adaptation projects in Africa.

Triangular cooperation as demand-driven initiatives

The 2011 Busan Partnership Agreement set out the principles of a demand-driven approach for effective cooperation in support of international development (OECD, 2011). Likewise, Chinese foreign aid tends to be demand-driven, meaning it is largely based on requests from recipient governments (Isaksson and Kotsadam, 2020). However, in the recent debate on triangular cooperation, the role sharing and subtle relations between the traditional and emergent donors were often the focal point of discussion, particularly regarding the responsibilities of the pivotal or facilitating agencies. The role and agency of the recipient countries in the trilateral relations are less discussed. The critical role of the beneficiary or host countries to actively engage and ultimately own the triangular development projects/programmes has long been recognised (OECD and Fordelone, 2009). Yet in reality the agency and autonomy of African countries during project design, negotiation and implementation phases has been least examined. It is noted that the African agency in negotiating with China has been a heated academic topic (Corkin, 2015; Mohan and Lampert, 2013). It is generally agreed that the negotiation power and leverage of host African governments varies from country to country and from project to project due to the complex power relations between negotiation parties and the specific features of the project. Yet, when a third (and powerful) donor party with their own preferences and goals joins the decision-making process, the negotiation power of the African countries is likely to be further squeezed. Therefore, maintaining balanced relationships among the three parties is critical for the success of triangular cooperation projects.

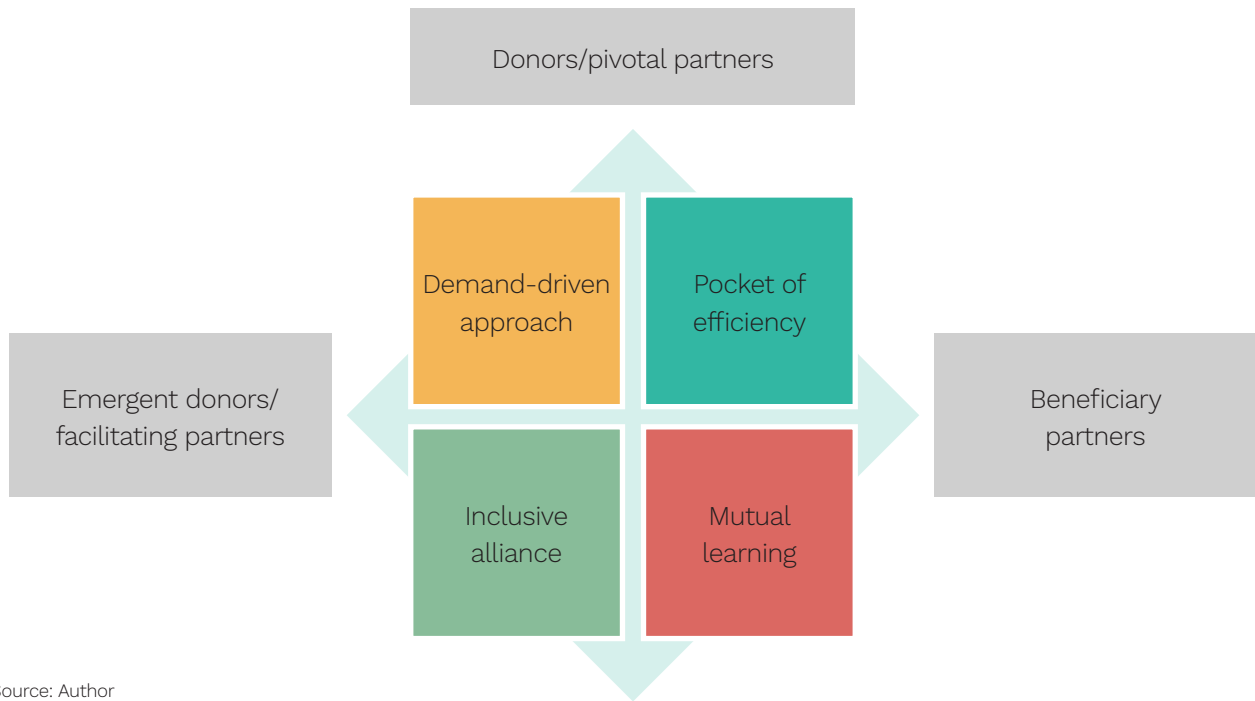
Besides the concern of balancing power among different parties, the demand-driven approach

is particularly relevant for climate mitigation and adaptation projects in Africa. At the outset, local knowledge,² cultural norms, and preferences should be well understood and taken into consideration by the donors in the project design and implementation phase. Even though not all local knowledge is scientifically accurate or useful, and not all cultural norms are in favour of climate action, triangular projects with limited recognition of these norms and beliefs are unlikely to be supported and sustainable even if they are technically sound. Secondly, there are often notable trade-offs between climate and development benefits, particularly when associated with mitigation projects. In addition, the costs and benefits of projects are not evenly distributed among the various stakeholders. The demand-driven principle would ensure a just outcome by attributing costs and benefits in accordance with the local context and specifications. For example, the siting of renewable energy infrastructure needs to take into consideration the economic, political and social realities among different localities within the country. It should not just be based on the resource endowment, technological options or expected economic returns of the project. Consequently, host governments are normally better positioned to decide the ideal project site. Besides site selection, there are other key decisions that need to be taken by host governments. The demand-driven principle should be upheld throughout the project process, including the final outcome and evaluation stage (Bandura and Hammond, 2019). Feedback from the host country, as the customer in the triangular cooperation arrangement, serves as both a crucial performance indicator and the basis for future improvement.

2. In this paper, the terms of local, traditional and indigenous knowledge are used interchangeably.

Figure 1.

A framework for successful triangular cooperation



Source: Author

Nurturing inclusive alliances for triangular cooperation

One of the key concerns of the demand-driven approach, however, is over-reliance on host governments in recipient countries that can lead to capture by elite interests (Isaksson and Kotsadam, 2020). Building inclusive partnerships and networks with non-state actors, including stakeholders from the private sector, civil society, research communities, and impacted residents, is essential to maintaining transparency in triangular cooperation. Most of the EU and multilateral donors have more experience in this compared to China due to their closer networks with non-state communities in Africa. The Chinese foreign aid system is largely dominated by diplomatic communication channels between government agencies and officials. There are limited institutionalised engagement routes with non-state actors globally, particularly in recipient countries. However, the Chinese government has realised this problem in recent years and is promoting partnerships with non-state stakeholders globally and locally (MEE and MOFCOM, 2022).

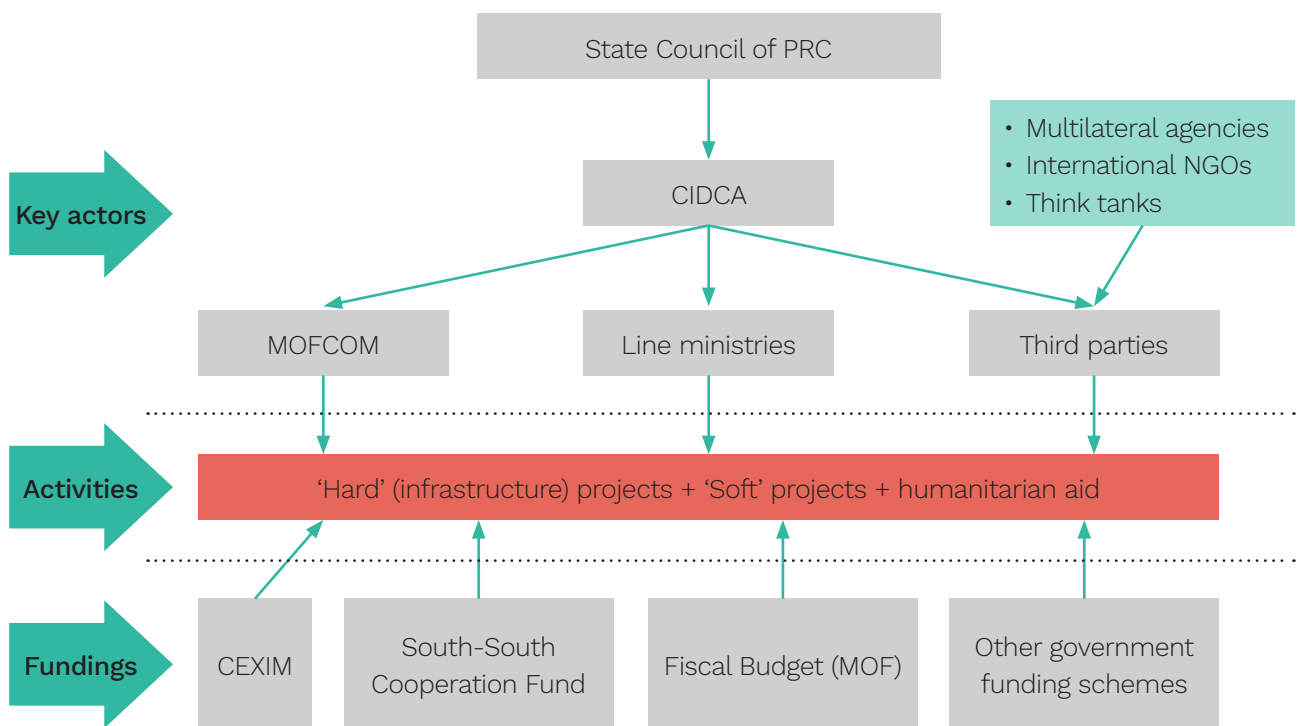
Development projects around climate change require the input of a wide range of non-state and sub-state actors, in addition to central government officials. Most climate projects are intertwined with existing sectors, such as in agriculture, energy, transportation, and industrial or residential development. This means the number of stakeholders is larger and more conflicts and competing interests are expected among them. Climate projects can result in mixed impacts on groups, so decision-making should be based on full consultation with all stakeholders in advance. An active and transparent monitoring system should be in place throughout the implementation process. The cost and responsibility of the consultation and monitoring should be clearly stated in the cooperation document to avoid equivocation among donor agencies.

China's foreign aid and international development system are undergoing significant institutional reform to match the country's growing geopolitical ambition. The China International Development Cooperation Agency (CIDCA) was established in 2018 as part of the grand reform scheme under the State Council. The founding team of CIDCA was the previous Department of Foreign Aid under the Ministry of Commerce (MOFCOM), which has served as the guardian ministry to regulate, plan, and implement foreign aid activities for decades. The decision to upgrade this specific department to a ministry revealed high expectations and ambition among China's leaders to strengthen the country's international development strategy. CIDCA's role has been significantly enhanced. It is now responsible for all the policy-making and planning around foreign aid, including responsibility for promoting further reforms in this area, compiling and processing data, monitoring the usage of funds, making annual budgets, screening projects and evaluating their implementation. With China Eximbank, CIDCA is also responsible for overseeing concessional loans. In theory, CIDCA is also responsible for the development and supervision of triangular or multilateral cooperation around foreign aid.

China is developing a more centralised system in which CIDCA oversees the Chinese international development sector to serve the country's global political and economic strategy (see Figure 2). Yet at the implementation level, the processes are likely to be flexible and inclusive. As the political importance and the scale of Chinese foreign aid are expected to rise in the coming years, climate change will become one of the central components of the Chinese foreign aid package. However, it takes time to build up the capacities in the design and delivery of specific mitigation and adaptation programmes, just as it takes time to nurture institutions, networks and norms in working with various non-state actors both at home and

internationally. Therefore, developing strategic alliances with more experienced peer agencies from developed countries is expected to be a key pathway for the Chinese aid agencies to overcome the steep learning curve during the transition period.

Figure 2.
The outlook of China’s new international development system



Source: Author

Making triangular cooperation more efficient

A challenge facing triangular cooperation schemes is that parties must make considerable efforts to overcome institutional barriers, despite aiming for efficient project execution. Institutional frictions and differences in practices or understanding of key implementation elements, such as project financial management, often delay progress (Zhou, 2018). Patience is essential, particularly for parties involved in cooperative projects for the first time (UNDP, 2016) as frictions are expected to reduce if similar projects occur repetitively. There are other ways to enhance efficiency. Clear division of labour and sharing of the financial burden between different parties can simplify procedures and reduce transaction costs (Bandura and Hammond, 2019). Key performance criteria or standards must be agreed upon early. Programme design should be straightforward with clear and simplified goals. In addition, a willingness to compromise and be flexible, based on a strategy of learning by doing, is useful. Unnecessary complexity should be avoided. At the heart of these requirements is effective and continuous communication underpinned by a relationship of trust between the parties. This should be nurtured long before the execution of the trilateral project. However, all these tips would be in vain if there were no dedicated units among different parties working specifically on the triangulation projects. Successful schemes require parties to develop specialised teams, a so-called “pocket of efficiency” (Whitfield and Buur, 2014) within the bureaucratic decision-making system.

Parties must also identify key resources to be exchanged within triangular projects. In theory, different parties would have unique comparative advantages in providing knowledge, technology, experience and finance, so projects would not be possible if they are implemented by any single agency. As an emerging donor, China’s strong infrastructure development expertise and leading low-carbon technologies, such as in solar power, have created opportunities for trilateral cooperation. Meanwhile, it is argued that China, as a newly industrialised middle-income economy, provides more relevant development experience and knowledge for less developed countries (Yuan, 2020). For example,

China’s experience in achieving universal energy access is potentially valuable for African countries struggling to deliver on electrification. Yet, careful assessment and studies are needed to determine the compatibility of China’s experience in an African context. Proper project design is also required to identify implementation routes to integrate Chinese experience into local development strategies. In this regard, EU donors’ strong experience in developing effective climate programmes and providing intellectual support to local policymakers and non-state actors is of value to Chinese foreign aid agencies.

Lastly, it is expected that triangular cooperation would enhance the overall efficiency of climate mitigation and adaptation in Africa by avoiding unnecessary overlap or duplication in programmes by individual donors. Communication between traditional and emergent donors through triangular projects would enhance the exchange of information regarding their climate aid programmes and future initiatives. It would also facilitate coordination beyond the boundary of the individual projects so that aid and support could be more optimally allocated among different project types or host countries. Triangular projects would help to create a more integrated and coherent system to allocate global climate finance and aid.



Installing solar panels in rural areas of Hebei province, as part of a 2015 nationwide poverty alleviation project. African countries struggling to electrify their power grids could learn from China’s experience in achieving universal energy access. (Image: Yang Shiyao / Alamy)

Ensuring mutual learning

Resolving climate disasters and delivering development simultaneously is an unprecedented task; no country has yet achieved high-income status in a carbon-constrained world. In addition, the complex and unique contexts of LDCs mean there is no standard pathway to achieve the dual goals of development and decarbonisation. Since traditional and emergent donors have no established model, triangular cooperation must take the form of mutual learning and joint solution discovery (Kato, 2012). Triangular cooperation is essentially a mutual learning process of co-creating and sharing knowledge, which requires each party involved to be as adaptive and flexible as possible, and to be ready to humbly explore the best practices in a learning-by-doing fashion. Capacity building is required both for the recipient countries and the donors.

During this process of knowledge co-production, each party should focus on specific areas for learning. China needs to use cooperation to identify the best practices of traditional donors and integrate this knowledge into its unique political economy and governance system. In addition, previous lessons should be remembered and pitfalls avoided. For the recipient countries, besides hardware components such as technology and finance associated with climate aid, developing managerial capacities and expertise to design and implement climate adaptation or mitigation projects is the central task of learning. As for traditional donors, triangular cooperation provides opportunities to reflect on their own practices and improve existing strategies, based on learning the practices of emerging donors and local contexts. The purpose of mutual learning is not just to share each party's past experiences and lessons, but to seek innovative solutions jointly.

A vertical and horizontal learning process is needed between peer groups, such as central or local government officials from different countries, or between different groups of actors within the

same country, such as workshops or learning hubs that constitute both public, private and civil society organisations. Learning networks established via these horizontal or vertical ties would encourage highly motivated professionals to get involved in the projects and provide opportunities for continuous knowledge sharing and enhancement beyond project cycles (Kato, 2013). In this regard, proper institutions are needed to facilitate and monitor the learning process at all stages. For example, the learning outcome of all the parties should be assessed throughout the projects. Currently, most of the triangular projects focus narrowly on the learning outcome of the recipient country, often through various capacity-building or training programmes.

Case study: Cooperation on renewable energy between China, Ghana/Zambia and the UNDP

In the above sections, the four major issues to emerge from existing triangular cooperation projects were discussed. We will now apply the framework to assess a flagship triangular cooperation project – the China–Ghana/Zambia–UNDP Trilateral Cooperation on Renewable Energy (RETT). This was operated by China’s Ministry of Science and Technology (MoST) and the United Nations Development Program (UNDP), together with Ghana’s Energy Commission (EC) and Zambia’s Ministry of Energy, Water and Mines (MEWM). As part of the UN Secretary General’s Sustainable Energy for All (SE4ALL) initiative, these two landmark triangular cooperation initiatives were funded by the Danish International Development Agency (DANIDA) between 2014 and 2018. Their aim was to promote off-grid community-based electrification, increase the share of renewable energy, and promote the productive use of energy in each country. The twin projects also focused specifically on technology transfer (in a broader sense) that facilitated learning from China’s experience promoting universal electrification and nurturing domestic renewable energy technologies. The project set out to establish synergies with two DANIDA-funded previous initiatives in China and Ghana addressing similar issues, namely the Ghana Climate Innovation Center (GCIC) and the China National Renewable Energy Centre (CNREC).

According to the project document, the specific project objective was:

“To contribute to climate change mitigation and reduce poverty by increasing access to renewable energy solutions through enhanced investment and production of Renewable Energy Technologies (RET) in Ghana (and Zambia), within the framework of South–South Cooperation between Ghana (Zambia) and China.” (UNDP, 2014)

The project also aimed to strengthen China’s capacity for south–south cooperation by supporting the creation of a South–South Center within MoST, and facilitating direct Chinese support for rural electrification in both countries. The project design established a favourable institutional environment in the recipient countries to welcome Chinese renewable energy technologies suitable for rural electrification. It also identified the most appropriate renewable technologies among solar, wind, and biomass (clean cookstoves) to be transferred, and discovered suitable business/financial models for scaling the chosen technologies in the rural pilot sites. On



A Chinese delegation, comprised of experts on solar, small-scale hydropower, wind and bioenergy, visited Zambia in 2015 as part of the Renewable Energy Technology Transfer Programme. (Image: UNDP)

the China side, the project created institutional platforms and networks of Chinese stakeholders in the public, private and civil societies who were interested in engaging in rural electrification in both countries. The projects also led to the inception of the South–South Cooperation Center for Technology Transfer under the Administration Center for China’s Agenda 21 (ACCA21), affiliated with MoST.

A demand-driven approach was embedded in the project design. Its objectives were closely aligned with Ghana and Zambia’s national energy planning and climate policy goals, and country officials were actively involved in project meetings throughout the project cycle. Local demand for electricity access and specific renewable technologies to be applied were studied by the joint research teams, including Ghanaian and Zambian experts. The pilot sites were selected following careful examination by China and Ghana and Zambia of relevant geographic, social, economic, cultural and political differences. The potential for product modification of the renewable technologies to the specific local context was also considered in the decision making. Testing sites were set up by experts from China and Ghana, who provided on-the-job training for maintenance servicing of the chosen renewables to ensure the sustainability of the pilots. As the project also aimed to nurture domestic private companies to deliver renewable energy technologies and services, studies were made on the local market, business practices, and financial schemes at an early stage in the project implementation.

Nurturing inclusive alliances was crucial to the success of RETT. The project aimed to establish communication platforms and networks horizontally between the Chinese, Danish, Ghanaian, Zambian and UNDP officials, and vertically between the public, private, research, and civil society groups in China and the recipient countries. It should be noted that most of the Chinese energy infrastructure projects in Africa under the banner of China’s Belt and Road Initiative are large-scale utility developments, predominately undertaken by big state-owned

companies and supported by policy finance institutions (Shen, 2020). There are few Chinese private renewable energy companies willing to engage in rural electrification activities in Africa, yet they previously received considerably less political and financial support. RETT provided opportunities for these companies to scale up their activities in Africa and form alliances to demand more support from the government and financial institutions. It also provided training for Chinese companies with limited local access and knowledge. Within Ghana and Zambia, encouraging private companies’ involvement and supporting renewable energy start-ups was one of the core objectives of RETT. In addition, the projects were based on previous alliance-building efforts and established platforms such as the Climate Innovation Center. However, there was less engagement with civil society groups and local governments during the project implementation than expected.

Regarding efficiency, on the surface, RETT had a complex governance structure involving Danish, Chinese, Ghanaian, and Zambian actors in addition to UNDP offices in different locations. The project management arrangement was decentralised by design. The Project Steering Committee (PSC) was established in China and two recipient countries, but only met once a year. It was perceived that the two national PSCs, together with the coordinating role of UNDP, would ensure adequate steering of the project processes. The projects were executed within the existing UNDP framework and UNDP officials were responsible for the coordination and financial auditing during the project implementation. MoST, EC and MEWM as implementation agencies set up Project Management Units (PMU) within their respective institutions comprised of a National Project Director (NPD), Project Manager (NPM), and additional support staff, which would take overall responsibility for the project execution. International procurement was mainly handled by the UNDP country offices upon request of PMU. The project developed a communication strategy from the beginning, which was updated

annually. In general, such an arrangement aims to make the best use of the existing programmes and institutional arrangements centred around UNDP and its local offices, which can largely reduce transaction costs arising from lengthy negotiations and preparation works.

RETT aimed to facilitate mutual learning through the exchange of visits, capacity building and training programmes, and joint research between Chinese and local officers and researchers. These activities helped enhance mutual understanding of the local regulatory framework, policy goals and market conditions. As part of the main project objectives, these activities also sought proper pathways for knowledge transfer from China to Ghana and Zambia, particularly in the area of energy sector governance and rural electrification. UNDP as the major coordinator and evaluator also prepared a project lessons-learned log to ensure ongoing learning and adaptation within the organisation. A lessons-learned report is conducted at the end of the project. Chinese partners appeared to have gained sufficient knowledge and experience through RETT, as its newly established South-South Cooperation Center for Technology Transfer launched another triangular cooperation project on solar and biogas between China, Ethiopia and Sri Lanka in 2019, which does not involve any partner from the global north and multilateral organisations. Meanwhile, expert communities and knowledge networks were created and maintained during four years of project implementation, which helped to facilitate continuous learning beyond the project cycle and serve as the basis for future collaboration.

In general, RETT as a flagship pilot programme for triangular cooperation on climate change largely followed the four principles identified in this report. The initiative was demand-driven to suit Ghana and Zambia's national policy goals and market conditions. It has established relatively stable alliances from both the supply and demand sides, which are motivated to participate in the joint efforts to enhance rural electrification in both countries. RETT also created a pocket of

efficiency within the rather complex institutional framework of China and recipient countries, thanks to the active role of UNDP in providing standardised implementation procedures, coordination mechanisms and monitoring or evaluation services. Lastly, it facilitated mutual learning for all parties. China nurtured expertise in developing its own triangular cooperation programmes on renewable energy technologies via RETT, whereas Ghana and Zambia gained knowledge from Chinese experience promoting rural electrification, green industrial policy and energy sector planning. As for the UNDP and Danish government, their understanding of Chinese aid governance and practices are also enhanced, and they have gained insights into climate and development policy implementation in Ghana and Zambia.

However, there is room for improvement. One notable area is to enhance the role of local communities, sub-national government and civil society groups in contributing their insights and local knowledge. Their demand and concerns should also be consulted and taken into consideration in the decision-making process. It is noted that most of the representatives on the PSC or PMU from both ends included few community level actors or experts, which may have affected the acceptability and sustainability of the projects. Likewise, although poverty alleviation and job creation were mentioned at the project design stage, how these goals were to be achieved and evaluated was unknown.

Conclusion: promoting triangular cooperation amid institutional reforms

Triangular cooperation is not a new idea or practice for China (Huang and Tang, 2013; Yuan, 2020) and EU countries have been active partners with China in the past decades, particularly in the area of combating climate change. However, the benefits and challenges of triangular cooperation are both well documented. In this paper, we proposed a framework to assess the success of such cooperation based on the four pillars of a demand-driven approach, inclusive alliances, pockets of efficiency and mutual learning. We applied this framework to examine one of the flagship triangular cooperation projects on renewable energy transfer in Africa, to identify major achievements and lessons learned.

One remaining issue needs to be discussed, related to the impacts of China's ongoing reforms to its international development system. As mentioned earlier, China's current reforms not only aim to scale up the volume of its international development finance and aid, but to strengthen its governance too. In the future, it is likely that the newly created CIDCA would play a central role in integrating fragmented foreign aid programmes currently administered by various line ministries, including those parallel mechanisms on climate change. Such reforms are necessary and urgently needed given China's rising influence globally and particularly in the global south.

But how to make sure the accumulated knowledge and expertise are not lost amid rapid institutional changes should be taken into consideration. For example, there are different climate-related schemes under the MEE, NDRC and MoST. It is crucial that the networks, capacities and knowledge are maintained once they are administered in a more integrated manner in the new system. The EU countries should also take into consideration the transitional nature of the Chinese system when selecting Chinese partners with which to cooperate on triangular projects.

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