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Characteristics of India-Germany's Triangular Cooperation Approach in Africa

Sushil Kumar*

Abstract: This paper examines the triangular cooperation approaches of India and Germany in Africa, focusing on pilot projects in Cameroon, Ghana, and Malawi. India's development cooperation, rooted in a consultative model, aligns with the priorities and needs of partner countries, guided by South-South cooperation principles. It emphasises capacity building, agriculture, affordable healthcare, education, renewable energy, and infrastructure development. Germany, a key player in Africa's development, focuses on humanitarian aid and long-term capacity building. Through a joint declaration of intent on triangular cooperation, India and Germany have expanded avenues for collaboration, successfully implementing projects in Cameroon, Ghana, and Malawi. Case studies highlight the tangible impacts of these initiatives. In Malawi, the agri-business incubator model for women in agriculture and food systems established "AmayiHub," the country's first women's incubator, training and supporting over 50 women entrepreneurs. In Ghana, bamboo-based enterprises promote income generation for women and youth, with nearly 50 individuals trained in innovative bamboo product design, diversification, and financial management. In Cameroon, the potato seed production project leverages Rooted Apical Cutting (RAC) technology to enhance access to quality seed potatoes, benefiting 15 scientists, six local entrepreneurs, and 200 farmers. These initiatives highlight the practical impact of triangular cooperation, empowering local communities and contributing to sustainable development. This paper recommends continued prioritization of sectoral cooperation in agriculture, climate change women empowerment and other key areas. Through triangular cooperation, countries can leverage their comparative advantages, accelerate equitable development, and create a more sustainable future. This approach, pooling resources among Global North donors, pivotal Global South countries, and partner nations, ensures cost-effective, impactful development outcomes.

Keywords: Triangular Cooperation, Agriculture, Africa, Development Finance, SSC JEL: O19, F35, F35

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1. Introduction

The history of Indo-German relations is marked by decades of friendship and cooperation, rooted in mutual respect and shared values. After World War II, India was among the first countries to establish diplomatic relations with the Federal Republic of Germany in 1951, laying the foundation for a long-standing partnership. This relationship was further structured in May 2000 with the adoption of the “Agenda for German-Indian Partnership in the 21st Century,” which provided a framework for enhancing bilateral ties¹ and since 2011, regular intergovernmental consultations between both governments have ensured that this partnership remains dynamic and continues to evolve. These consultations serve as the central mechanism for bilateral relations, providing the necessary momentum to expand cooperation into new areas. The 7th Inter Governmental Consultations (IGC), held in October 2024 in New Delhi, underscored the deepening ties and continued commitment to collective global action, particularly in addressing the Sustainable Development Goals (SDGs) and climate change.² A notable facet of this evolving partnership is the Triangular Cooperation (TrC)³ framework, launched in 2022, through which India and Germany have combined their expertise and resources to support third countries in Africa, Asia, and the Indo-Pacific region.⁴ Indo-German relations continue to evolve as a dynamic and multifaceted partnership that benefits not only the two countries but also the broader global community.

It is important to mention that triangular cooperation model leverages the complementary strengths of both nations in development cooperation, offering inclusive, sustainable, and impactful projects aimed at achieving the SDGs. Pilot initiatives in countries such as Cameroon, Ghana, Malawi and Peru have yielded promising results, particularly in sectors like agriculture, agri-tech innovation, women’s entrepreneurship, and climate resilience. By pooling strengths and addressing development challenges collaboratively, India and Germany are not only enhancing their bilateral relations but also contributing to the broader global effort to tackle pressing socio-economic and environmental issues. As Srinivasan & Beck (2020) mention that triangular cooperation between India and Germany allows for leveraging both nations’ unique strengths, with India focusing

on the delivery of low-cost technologies, small-scale infrastructure, and agricultural practices, while Germany contributes through advanced technology, financial resources, and policy support.

At the global level international development cooperation has become increasingly important in these volatile times. The international community also reaffirmed in Buenos Aires at the BAPA +40 conference that triangular cooperation⁵ contributes to achieving the SDGs. The outcome document (BAPA +40, paragraph 12) also recognises triangular cooperation as complementary to South-South cooperation. It recognizes the potential of triangular cooperation to provide a “broader range of resources, expertise, and capacities,” driven by the demand of developing countries for assistance on their development trajectories, for national development, and to meet their international commitments. Triangular cooperation is a dynamic concept that is constantly evolving. It is no longer just a partnership between OECD DAC members and developing countries,⁶ and it’s not a replacement for North-South cooperation or South-South cooperation. It’s an additional effort in terms of reinforcing international cooperation for development. It is also important to mention that the existing literature reveals that triangular cooperation constitutes a relatively small fraction of total development cooperation efforts. For example, TrC accounted for only 0.047 per cent of the total budget of the German Ministry for Economic Cooperation and Development (BMZ) (Wagner & Scholaz, 2022). Moreover, research indicates that only 30 countries and international organisations have developed specific policies, strategies, or guiding documents to support triangular cooperation (OECD, 2019).

The paper explores the key characteristics and dynamics of the India-Germany triangular cooperation partnership in Africa, highlighting their joint efforts to promote sustainable development and address the development challenges. Section II examines the approaches taken by India and Germany in their triangular cooperation model, focusing on their collaborative strategies. Since the partnership is specifically targeted at Africa, Section III delves into the bilateral cooperation between India and Germany within the African context. Section IV discusses the

framework for triangular cooperation, supported by relevant case studies. Finally, the concluding section offers a way forward, including policy recommendations to strengthen and enhance the partnership's impact in Africa.

2. India and Germany's Approaches for Triangular Cooperation

This section analysis the triangular cooperation approaches of India and Germany. India's approach to triangular cooperation is rooted in its broader development cooperation philosophy, which aligns with the principles of South-South cooperation. This approach emphasises key principles such as respect for sovereignty, demand-driven, no conditionalities, equality, and mutual benefit. India's development cooperation goes beyond simply providing assistance; it focuses on fostering self-reliance in partner countries through a "development compact." In this compact, all modalities of cooperation (concessional finance, grant, capacity building, trade and technology) work in tandem, rather than independently. In the other side Germany has emerged as a significant player in TrC, recognising its potential to address the 2030 Agenda for Sustainable Development.

By linking South-South and North-South cooperation, triangular partnerships foster mutual understanding, learning, and the sharing of resources and expertise. Germany has increasingly emphasised TrC as a means to strengthen strategic partnerships globally, combining financial and institutional resources to further these goals.⁷ Germany's approach to triangular co-operation also includes political-strategic and programmatic-thematic partnerships, where countries like Indonesia, Mexico, and Brazil collaborate with Germany on capacity-building and thematic areas such as meteorology (BMZ, 2022). Moreover, Germany encourages the inclusion of private sector actors and civil society organisations, expanding TrC beyond government-level partnerships. For instance, partnerships with the private sector focus on sustainable development, like improving the sustainability of Chinese textile operations in Ethiopia, while civil society collaborations work on

projects such as financial inclusion in the Middle East and North Africa (MENA) region (OECD, 2022).

2.1. India's Approach of Triangular Cooperation

India's development cooperation approach is rooted in the concept of a "development compact," emphasising the relationships between actors in the Global South and guided by the principles of South-South Cooperation (SSC). According to Chaturvedi (2016), triangular cooperation should be demand-driven, tailored to the specific needs of the partner country, and designed to deliver tangible results. The potential benefits of such cooperation include better returns on past investments, reduced future costs, the effective use of complementary strengths, and the promotion of SSC (Chaturvedi, 2012). India's model of triangular cooperation has several defining characteristics. First, it leverages domestic innovations and the diverse strengths of India's development landscape, scaling up bilateral cooperation through triangular partnerships.⁸ Second, most initiatives are backed by agreements at the highest political levels, aimed at creating strategic partnerships that transcend traditional donor-recipient relationships. Finally, implementation often occurs through non-governmental channels, such as civil society organisations, private sector entities, and research institutes (Chaturvedi & Söyler, 2021).

In this context Triangular cooperation with India can be defined as development cooperation projects that aim to transfer Indian development assistance (i.e. infrastructure, agriculture, renewable energy, women empowerment and health etc), share technology and technical expertise, skills and promote mutual learning, closely involving Indian institution(s), traditional or international development agencies, and host country institution (s) throughout the project cycle, from project initiation, design and implementation, to management and impact assessment, with each party contributing financial resources and/or technical expertise and/or in-kind support and based on the demand-driven, mutual benefit, free of conditions, outcome-oriented and respect the national sovereignty.

2.2. Germany's Approach of Triangular Cooperation

Germany is recognized as a leading partner in Triangular Cooperation worldwide. Its first triangular initiatives began in the mid-1980s, and since then, the country has engaged in over 150 triangular cooperation projects and initiatives across every continent (GPI Spotlight, 2023). The core objectives of Germany's triangular cooperation are twofold: to establish global strategic partnerships for sustainable development and to enhance the effectiveness of development measures in recipient countries. These objectives are realized through two main dimensions: political strategic and programmatic thematic (BMZ, 2022). In 2013, the German Federal Ministry for Economic Cooperation and Development outlined its commitment to triangular cooperation in its strategy paper, "Triangular Cooperation in German Development Cooperation." The paper emphasized the importance of leveraging the numerous opportunities for triangular cooperation, with a goal to "make more use of the many opportunities for triangular cooperation, working together with its partners" (BMZ, 2013).⁹

A key feature of Germany's approach is the use of dedicated funds for triangular cooperation. Notably, the Regional Fund for Triangular Cooperation with partners in Latin America and the Caribbean, which has been operational for over a decade, and the more recent Fund for Triangular Cooperation with Asia, established in 2021, which focuses on India and China as pivotal partners. Beyond these funds, Germany also complements its bilateral programs by engaging in triangular cooperation with key partners. Examples include the Brazil-Germany trilateral cooperation programme and the Mexico-Germany triangular cooperation project (OECD, 2023).

3. India and Germany's Development Cooperation in Africa

This section examines the bilateral development cooperation of India and Germany with Africa. Bilateral cooperation serves as the backbone of most triangular cooperation initiatives, especially those focused on supporting African development. Both India and Germany have established significant

roles in this context, each leveraging their unique strengths and historical ties to the continent.

India's relationship with Africa is grounded in long standing political, economic, and cultural ties. Over the years, India has played a critical role in promoting development in the African continent through various initiatives, including trade, capacity building, and technical cooperation. Notably, India's leadership of the G20 saw the African Union (AU) gain membership in the group, marking a milestone in Africa's global diplomatic recognition (MEA,2023). India's engagement with Africa emphasizes the principles of South-South cooperation, focusing on mutual benefits, knowledge exchange, and shared development goals.

Germany, on the other hand, has been one of Africa's largest development partners. In 2022 alone, Germany contributed approximately USD 6 billion in aid to the continent, underscoring its commitment to sustainable development in Africa. Germany's development assistance focuses on areas such as education, climate action, infrastructure, and governance. As a member of the European Union, Germany also works within a broader multilateral framework, complementing its bilateral efforts through international organisations and partnerships. Its emphasis on triangular cooperation often involves collaboration with both emerging and traditional donors to enhance the effectiveness of development interventions, particularly in sectors like renewable energy, healthcare, and governance (GPI,2023).

The intersection of India and Germany's approaches to development cooperation presents a rich area for triangular cooperation, with both countries pooling their respective expertise and resources to tackle the complex challenges faced by African nations. By collaborating on key development initiatives, they are helping to ensure that their collective impact supports Africa's economic growth and sustainable development in a more integrated and effective manner.

3.1. India's Bilateral Development Cooperation in Africa

India's relationship with African countries is centuries old (Chaturvedi, 2016). Notably, India's development cooperation with Africa is a

partnership based on solidarity, non-prescriptive, and mutual benefits. The intersection of African resurgence and India's growing economy and global profile has opened up new avenues for deepening the multi-faceted development partnership between the two emerging growth poles of the world (RIS, 2015). Over time, this partnership has evolved, focusing on shared development priorities and mutual growth (MEA,2023).

In 2018, Prime Minister Narendra Modi took a significant step in redefining India's engagement with Africa. During his address to the Ugandan Parliament, he outlined ten guiding principles that would shape India's future relationship with the continent.¹⁰ These principles underscored India's commitment to Africa's development and its role as a partner in achieving shared prosperity. India's development assistance to Africa has been an essential part of its foreign policy. Through the Development Partnership Scheme, India has been providing development assistance to Africa through many modalities including lines of credit, capacity-building, grants, trade and technology. This comprehensive approach aims to empower African countries by enhancing their development potential.

The framework for this cooperation was first established in 1998 with the Africa-India Summit. This summit introduced initiatives like the "Support Africa" programme, designed to foster human capital development through training and capacity-building activities. India's continued commitment to this cause has been evident through its various forums and partnerships. A pivotal moment in India-Africa relations came in 2008 with the First India-Africa Forum Summit held in New Delhi. During this summit, the Indian government announced a USD 5.4 billion line of credit to Africa for development projects, both bilaterally and regionally. This financial support was aimed at enhancing infrastructure, energy, and other critical sectors across the continent. The Second India - Africa Forum Summit was held in 2011 to enhance cooperation between India and African nations. India announced a USD 5 billion line of credit for development projects, USD 700 million for setting up new institutions and training programmes, and increased Indian Technical and Economic Cooperation (ITEC) slots by 900 to support capacity building and technical training in partner countries.

The Third India-Africa Forum Summit (IAFS-III) further deepened the partnership by prioritising development cooperation. At IAFS-III, India unveiled a substantial financial package for Africa, including USD 10 billion in lines of credit for a range of development projects to be implemented over the next five years. Additionally, a grant assistance of USD 600 million was announced, reinforcing India's commitment to Africa's growth. India's long-standing educational and infrastructural ties with Africa underscore its commitment to fostering sustainable development and mutual cooperation on the continent (See Table 1).

Under the ITEC programme, nearly 40,000 African professionals have been trained in India over the past decade, emphasizing India's role as a capacity-building partner. India also launched initiatives like tele-education and telemedicine to expand access to vital knowledge and healthcare across Africa.¹¹ Moreover, over 15,000 African youth from 22 countries have received scholarships for various academic disciplines, and more than 23,000 African students currently study in India. This educational exchange is complemented by India's establishment of educational institutions in Africa, such as the Indian Institute of Technology in Zanzibar and the National Forensic Science University in Uganda.

India has executed 189 development projects across 41 African countries, with 77 ongoing projects funded by Indian concessional finance (Lines of Credit), totalling over US USD 12 billion. Notably, more than USD 6 billion of this amount has been dedicated to agriculture and allied sectors. The LoCs cover a broad range of projects, including the acquisition of farm equipment, the establishment of agricultural plants, and the development of irrigation networks. Successful projects include a milk processing plant in Mauritania, a tractor assembly plant in Benin, and sugar plants in Ghana and Ethiopia. India has extended support for the development of the cotton sector in 11 African countries (Benin, Burkina Faso, Chad, Mali, Nigeria, Uganda, Malawi, Ghana, Togo, Zambia and Tanzania) providing technical assistance, support, and cooperation in areas like cultivation and processing.

India's support for African economies, particularly through research and development initiatives and marketing support, can play a pivotal role

in strengthening African agricultural and rural sectors. A key step in this direction is the Memorandum of Understanding (MoU) signed between the Government of India and the National Bank for Agriculture and Rural Development Consultancy Service (NABCONS) in 2019. This agreement led to the establishment of the India-Africa Institute of Agriculture and Rural Development (IAIARD) in Malawi. IAIARD is set to serve as a Pan-African hub, offering training to African youth and building their capacity in crucial areas such as micro-financing and agro-financing. This initiative aims to enhance skills in agro-financing and entrepreneurship development, helping African nations boost their rural and agricultural sectors (MEA,2019).

Furthermore, India's non-reciprocal duty-free market access for Least Developed Countries (LDCs) through its Duty-Free Tariff Preference (DFTP) scheme has benefited 33 African nations, promoting deeper economic integration. India's humanitarian assistance to countries such as Malawi, Zambia, and Zimbabwe has also been a key component of its engagement, addressing food insecurity caused by drought. These actions reflect India's adherence to the principles of

Table 1: Commitment of India's Development Cooperation to Africa

India-Africa Summit 2008	India-Africa Summit 2011	India-Africa Summit 2015
USD 5.4 billion offered lines of credit for three years for development projects.	USD 5 billion offered lines of credit for three years for development projects.	USD 10 billion offered lines of credit for five year for development projects.
USD 500 million as a grant assistance for capacity building and human resource development	USD 700 million for new institutions and training programmes	USD 600 million as grant assistance for capacity building
Increased ITEC slots for African countries from 1100 to 1600	Increased more 900 training slots under ITEC.	USD 10 million for India-Africa Health Fund
Duty Free Tariff Preferences (DFTP) for exports from Least Developed Countries of Africa	USD 2 million for the African Union mission in Somalia	USD 100 million for India-Africa Development Fund

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Roll out of the Pan-African E-Network Project	India-Africa virtual university with 10000 new scholarships	50,000 scholarships in India over the next five years
Doubling the long term scholarship for undergraduates, postgraduates and higher education from 244 to 488.	22000 total scholarships for next three years	
The establishment of an India-Africa Volunteer Corps relating to development work through identification of projects in the areas of public health, informal education and women's empowerment.	An India-Africa food processing cluster	
	An India-Africa Centre for Medium range weather forecasting	
	India- Africa University for life and earth sciences	
	USD 300 million for Ethiopia-Djibouti Railway line	

Source: Author's compilation from various Annual Reports of Ministry of External Affairs (MEA).

South-South Cooperation and its ongoing commitment to advancing Africa's development (see table 1).Raghavan (2020), India's approach to development assistance in Africa is distinct in that it emphasizes self-reliance, capacity building, and technological collaboration

3.2. Germany's Bilateral Development Cooperation in Africa

Recently, the BMZ unveiled its Africa Strategy, titled Shaping the Future with Africa. The strategy outlines key priority areas for German engagement with African partner countries, focusing on the social and environmental transformation of the economy (a just transition), the creation of quality jobs for the continent's rapidly growing young population (decent work), and the promotion of gender equality. In terms of financial aid, Germany's assistance to Africa has seen a significant increase over the years.

In 2010, German aid to the continent amounted to USD 2.2 billion. By 2022, this figure had risen to USD 5.9 billion, representing

approximately 18 per cent of Germany's global bilateral aid that year. Through this increased financial support, Germany aims to foster sustainable growth and address the continent's key challenges, particularly in areas of economic transformation, job creation, and gender equality (see table 2). Peters (2017) observes that Germany's approach is marked by a strong emphasis on long-term partnerships and the integration of local stakeholders into development projects to ensure sustainability.

4. Framework of India-Germany's Triangular Cooperation

The collaboration between India and Germany in triangular cooperation was formalised through the Joint Declaration of Intent (JDI) issued by both countries' ministries in 2022. The MEA and the BMZ outlined their intent to jointly design and implement development projects targeting the SDGs in third partner countries, particularly in Africa, Asia. Cooperation activities may also cover developing countries in Latin America and the Caribbean region and Indo-Pacific regions.¹² The primary objective of this partnership is to leverage India's unique development experience, especially in areas like sustainable agriculture, green energy, and social inclusion, alongside Germany's technical expertise in institutional capacity building, environmental sustainability, and climate action. Through this TrC model, India and Germany aim to empower third countries by offering them comprehensive solutions to their development challenges, combining technical know-how with localised knowledge.¹³

The India-Germany TrC is guided by several principles designed to ensure effectiveness and inclusivity. One of the key principles is that the projects are driven by the needs and priorities of the beneficiary partner countries. India and Germany emphasise that the cooperation should be demand-driven, with the beneficiary countries playing an active role in the identification and design of projects. This approach ensures that the solutions provided are relevant, culturally sensitive, and appropriate for the specific challenges faced by these countries.

Table 2: Flow of Germany's Aid to Africa (2010-2022), USD Million

Year	Developing countries					Africa					Cameroon			Ghana			Malawi		
	Grant	Loan	Total	Share of Grant in total (%)	Share of Loan in total (%)	Grant	Loan	Total	Share of Grant in total (%)	Share of Loan in total (%)	Grant	Loan	Total	Grant	Loan	Total	Grants	Loan	Total
2010	7	2.6	9.6	73.1	26.9	2	0.3	2.2	88.5	11.5	92.1	0.3	92.4	36.6	22.7	59.3	42.8		42.8
2011	7.2	2.6	9.8	73.5	26.5	2.2	0.5	2.7	81.9	18.1	91	2.5	93.5	34.2	61.3	95.5	25.3		25.3
2012	8.5	2	10.5	81.2	18.8	2.9	0.4	3.3	88.2	11.8	88.7	2.5	91.2	61.6	19	80.6	47.8		47.8
2013	8.3	2.9	11.1	74.1	25.9	2.5	0.5	3	84.1	15.9	81.8	0.1	81.9	44.4	11.1	55.5	26.8		26.8
2014	9	4.7	13.7	65.5	34.5	2.2	1	3.2	69.6	30.4	84.4	0.2	84.6	32.8	2.2	35.1	32.5		32.5
2015	11.8	6.1	17.9	65.8	34.2	2.3	1.5	3.8	60	40	82.1		82.1	32.8	32.7	65.5	46.4		46.4
2016	18.6	5.5	24.1	77	23	2.8	1.6	4.5	63.2	36.8	98.2	0.1	98.4	27.2	3.8	31	55.8		55.8
2017	19.3	5	24.3	79.5	20.5	3.4	1.2	4.6	74.7	25.3	112.4		112.4	37.8	24.4	62.2	72.4		72.4
2018	17.1	5.4	22.5	76	24	3.5	1.4	5	71.5	28.5	114	0.2	114.2	61.6	12.5	74.1	57.3		57.3
2019	17.4	4.7	22.1	78.7	21.3	3.9	1.5	5.5	72.3	27.7	116.9	1.2	118.1	89	7.6	96.6	68.6		68.6
2020	19.5	6.4	25.9	75.2	24.8	4.9	1.7	6.6	73.9	26.1	117.9	1.5	119.4	81.6	10.9	92.5	94	3.3	97.3
2021	21.1	4.8	25.9	81.4	18.6	5	1.3	6.3	79.7	20.3	127.8	0.6	128.4	192	58.8	250.9	87.4		87.4
2022	25.8	7	32.9	78.6	21.4	4.6	1.3	5.9	78	22	116.8	10.6	127.4	92.1	15.2	107.3	73.4		73.4

Source: OECD. Stat. Access on 10-08-2024, Data is based on constant price 2021.

Furthermore, the TrC of India and Germany is intended to complement, rather than replace, bilateral development cooperation efforts. Both countries have their distinct modes of cooperation with developing countries, and the triangular framework serves to enhance the impact of these initiatives by drawing on the combined strengths of both partners. For example, India's extensive experience in South-South cooperation through initiatives like the ITEC Programme complements Germany's long-standing focus on institutional development and technical assistance (GIZ, 2022).

Another crucial principle is the commitment to transparency and mutual consultation. Both India and Germany have emphasised the importance of continuous dialogue and cooperation with all relevant stakeholders, including local governments, non-governmental organizations (NGOs), and the private sector. This collaborative approach ensures that all parties involved in the projects are aligned in their objectives and contribute meaningfully to the project's success.

4.1. Mechanisms of Implementation

To operationalize their cooperation, India and Germany have established a clear set of institutional mechanisms. The Development Partnership Administration (DPA) of India's MEA and the GIZ serve as the respective nodal agencies responsible for the coordination and implementation of TrC projects. These agencies work together to identify priority sectors, select beneficiary countries, and design joint activities.

A steering Committee comprising senior representatives from both sides provides strategic guidance for the projects. This committee is responsible for approving specific initiatives, selecting beneficiary countries, and regularly reviewing progress. Additionally, a Joint Implementation Group (JIG), consisting of representatives from DPA and GIZ, ensures that the day-to-day activities are carried out effectively and efficiently. The JIG also monitors the allocation of resources and tracks the progress of projects, ensuring that they meet the defined goals and objectives (MEA, 2022).

4.2. India-Germany Triangular Cooperation Partnership in Ghana, Cameroon and Malawi

In the JDI on the implementation of TrC projects in third countries signed during the 6th India-Germany Inter-Governmental Consultations in May 2022, India and Germany they have expressed the intent to focus on the Sustainable Development Goals and related climate goals in third beneficiary countries, with a focus on Africa and Asia. TrC projects have since been implemented in several countries, including Cameroon, Ghana and Malawi in Africa.

4.2.1. Developing Bamboo-Based Enterprises for Sustainable Livelihood and Income Generation in Ghana

One of the notable triangular cooperation projects between India and Germany focuses on Developing Bamboo-Based Enterprises for Sustainable Livelihood and Income Generation in Ghana. The initiative aims to harness the potential of local bamboo resources, a renewable and versatile material, to create new income-generating opportunities for women and youth in Ghana.

The primary objective of this cooperation was to empower these key demographic groups by providing them with the necessary skills and knowledge to develop sustainable bamboo-based enterprises. The project involves comprehensive training in bamboo processing techniques, innovative design, and product development, enabling participants to create marketable products that align with both local and international demand.

In addition to the technical skills training, the initiative places a strong emphasis on building financial and managerial competencies. By equipping participants with these essential business skills, the program ensures that women and youth are not only able to establish their enterprises but also manage them efficiently, fostering long-term success and improved income prospects. This approach not only promotes sustainable livelihoods but also contributes to the broader goal of gender equality and youth empowerment in the region.

Through this project, India and Germany were working together to support local communities in Ghana by turning an abundant natural resource into a driver for sustainable development and economic growth.

Table 3: Triangular Cooperation Model of Germany-India-Ghana

	Political Partners of Project	Implementing partners of Project
Partners	Ministry of Land and Natural Resources and Ministry of Trade and Industry – political, Ghana	Forestry Commission Training Centre (FCTC)
	Ministry of External Affairs, Government of India	International Bamboo and Rattan of Organisation (INBAR)*
	German Federal Ministry of Economic Cooperation and Development (BMZ)	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
Framework of Cooperation Model	<p>The political partners provide the political backing for the project, enabling environment for participatory policy dialogue and the steering of the project.</p> <p>BMZ contributes funding for technical expertise or grants to the project through GIZ.</p> <p>INBAR provided technical guidance to FCTC to achieve the project objective; ensured knowledge and technology transfer from India and other parts of Ghana and organised technical training and provided handholding support to the entrepreneurs to set-up their enterprises.</p> <p>FCTC provided the facilities for training and setting up of the innovation hub for the enterprises.</p>	
Characteristics of Triangular Cooperation Partnership	<p>Principals: Demand driven, Self-reliance, Sustainability, outcome oriented, mutual trust</p> <p>Modalities: Capacity building, technology transfer, sharing experience/knowledge, grant</p>	

Source: Author’s compile from the field study and <https://tricofundasia.org/wp-content/uploads/2024/03/TrC-Ghana-flyer.pdf>

*As implementing pivotal partner to facilitate the knowledge and technology transfer from India to Ghana. It will work closely with its West Africa office.

During the pilot phase of this project, significant strides were made to establish a vibrant bamboo industry in Ghana. One of the first steps in this journey was a study tour to India, where a delegation from FCTC learned from India's established bamboo ecosystem. India's success in bamboo processing and production offered valuable lessons that could be replicated in Ghana. In addition, two Indian bamboo design experts spent four weeks in Ghana, training local artisans and developing new product ideas. From innovative building materials to furniture and souvenir handbags, these collaborations not only inspired creativity but also helped develop practical solutions for local needs. The partnership brought expertise and skills directly to Ghana, empowering micro and small enterprises to diversify their bamboo offerings.

The bamboo training hub, established in Ghana during the pilot phase, became a launchpad for 45 micro and small bamboo enterprises. By providing local entrepreneurs with technical training and product development support, the initiative helped enhance their business capacity and fostered growth in the bamboo sector. These enterprises now have the potential to scale, with an increased ability to create jobs, improve livelihoods, and contribute to sustainable development in their communities.

4.2.2. Agri Business Incubator Model for Women in Agriculture & Food System in Malawi

TrC pilot project, commissioned by the BMZ, brings together the Governments of India and Malawi, along with various stakeholders, to implement an innovative initiative in Malawi. The primary focus of this pilot was to facilitate the development of a sustainable incubator ecosystem in Malawi, with the aim of extending knowledge and technical support from India. One of the key objectives was to establish a proof-of-concept (POC) for an agri-business incubator model specifically designed for women. These incubators empowered women entrepreneurs to develop start-ups that have the potential to transform supply chains, enhance value addition, and foster innovation in food products. The ultimate goal is to meet the evolving demands of producers and modern

consumers, thus contributing to economic empowerment and sustainable development in Malawi.

As shown in Table 4, this cooperation programme brings together political, government, and implementing partners from Germany, India, and Malawi to carry out a six month pilot project. The aim is to establish a POC for an Agri-Business Incubator Model focused on Women in Agriculture & Food Systems in Malawi. This innovative model has the potential to spread across the country and create a significant impact on both women and agricultural farming communities, ultimately advancing economic inclusion and rural development.

This TrC Pilot facilitates the transfer of knowledge and technical expertise from India to Malawi, focusing on the development of agri-business incubator models for women and the creation of a sustainable innovation ecosystem. The initiative supports emerging start-ups, particularly those led by small and marginal women farmers, helping

Table 4: Agri Business Incubator Model for Women in Agriculture & Food System in Malawi

	Political Partners of Project	Implementing partners of Project
Partners	Facilitating Partner- German Federal Ministry of Economic Cooperation and Development (BMZ),	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), India and Malwai
	Pivotal Partner- Ministry of External Affairs, Government of India	National Institute of Agricultural Extension Management (MANAGE), Hyderabad, NITI Aayog, Government of India
	Beneficiary Partner- Ministry of Industry & Trade, Malawi.	Small and Medium Enterprises Development Institute (SMEDI).

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<p>Framework of Cooperation Model</p>	<p>The political partners provided the political backing for the project, participate in the sectoral policy dialogue and the steering of the project.</p> <p>BMZ contributed funding for technical expertise or grants to the project through GIZ.</p> <p>MANAGE Agri Business Incubator and NITI Aayog from India to undertake key initiatives in Malawi.</p> <p>Beneficiary partner SMEDI was targeted for setting up Agri incubators for MSME & collective enterprises by women farmers</p> <p>Goal: To establish a ‘proof-of-concept’ (POC) for an Agri Business Incubator Model for Women in Agriculture & Food Systems in Malawi.</p> <p>The pilot is aligned with SDG 1 (Reduction in Poverty), SDG 5 (Gender Equality), and SDG 8 (Decent Work & Economic Growth), and extends knowledge & technical support from India to Malawi for the following key components:</p> <ol style="list-style-type: none"> Development of an Agri Business Incubator for Women Entrepreneurs, Building capacities of at least one local institution as Trainer of Trainers and competencies of at least 50 Women Entrepreneurs Policy recommendations for developing Agri Business Incubators.
<p>Characteristics of Triangular Cooperation Partnership</p>	<p>Modalities: Capacity building, technology transfer, sharing experience, Grant</p>

Source: Author’s compile from the field study and <https://tricofundasia.org/wp-content/uploads/2024/03/TrC-Malawi-flyer.pdf>

to improve their quality of life and ensure their inclusion in the formal economy. The incubators empowered women to transform supply chains, add value to products, and innovate in food processing.

In December 2022, the first-ever incubator for women in Malawi, AmayiHub, was established by the SMEDI under the Ministry of Trade and Industry, Malawi. Through this pilot project, more than 50

women entrepreneurs have received training and incubation support. Additionally, Training of Trainers sessions were organised with the assistance of MANAGE, India, aimed at enhancing the skills of SMEDI staff to effectively manage and operate incubators.

4.2.3. Potato Seed Production through RAC Technology in Cameroon

This project, which ran from August 2022 to March 2023, aimed to facilitate the transfer RAC technology from India to Cameroon. The University of Horticulture Sciences of Bagalkot, India, served as the lead partner, while MINRESI, through IRAD Cameroon, acted as the beneficiary partner, and GIZ played the role of the facilitating partner.

The project successfully trained over 200 farmers and more than 25 seed producers, providing them with technical support and ensuring a continuous supply of in vitro plants. Additionally, mutual visits were organized, enabling farmers and researchers from Cameroon to gain valuable first-hand experience in India.

Several key lessons emerged from the project's implementation. One crucial lesson was the vital role of youth as the true frontline actors in agricultural development. Another significant takeaway was the effectiveness of having experts conduct direct site visits, which proved essential for efficient knowledge sharing. Perhaps the most critical insight was the importance of adapting solutions through a bottom-up approach, emphasizing the cost-effective utilisation of locally available resources.

Table 5: Potato Seed Production through Rooted Apical Cutting (RAC) Technology in Cameroon

	Political Partners of Project	Implementing partners of Project
Partners	Ministry of Agriculture, Government of Cameroon	The Institute of Agriculture Research for Development (IARD), Cameroon
	Ministry of External Affairs, Government of India	The University of Horticultural Sciences, Bagalkot (UHSB), Karnataka
	German Federal Ministry of Economic Cooperation and Development (BMZ)	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

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Framework of Cooperation Model	<p>Pivotal Country – India represented by UHSB</p> <ul style="list-style-type: none"> • Design the pilot phase project in consultation with IARD. • Share expertise on RAC technology for developing an ecosystem for local seed potato production • Technical support in developing knowledge content- suitable training manuals. • Technical support in the implementation of the project in Cameroon through IARD. • Capacity development of different partners in beneficiary country. • Support for monitoring of the project. <p>Beneficiary country – Cameroon by IARD</p> <ul style="list-style-type: none"> • Deputing suitable scientists & experts for the project implementation. • Offer access to its infrastructure and other facilities for training, trials, extension activities etc. • Selection of suitable villages and farmers for the implementation of the project. • Design and implement suitable strategies to engage various stakeholders, leading to the creation of an ecosystem favourable for decentralised potato seed production. <p>Facilitating country – Germany by GIZ</p> <ul style="list-style-type: none"> • Coordination with the political partners in both pivotal & beneficiary countries • Fund management by facilitating suitable contracts with beneficiary country partners and pivotal country partners. • Technical cooperation for the execution of the project. • Facilitate the monitoring of the implementation of the project. • Cooperation for south-south exchange.
Characteristics of Triangular Cooperation Partnership	Modalities: Transfer the knowledge and technology, Capacity building, Grant

Source: Author's compile from the field study and <https://tricofundasia.org/wp-content/uploads/2024/03/TrC-Cameroon-flyer.pdf>

However, they also faced challenges during the project's implementation. These included, among others, the socio-political crisis in the northwest region, which hindered efforts to follow up in the area. Additional challenges involved a lack of adequately trained personnel and the unavailability of key materials, such as substrates or nets. Furthermore, the high cost of locally sourced inputs, such as trays, posed a significant barrier, making it difficult to sustain projects using local materials.

5. Conclusion and the Way Forward

This paper analyses India-Germany development cooperation, specifically focusing on TrC in Africa. The study highlights India's significant role as a development partner for Africa, exemplified by its execution of 189 development projects across 41 African countries. Of these, 77 are ongoing projects funded by Indian concessional finance, in the form of LoCs, with a total value exceeding USD 12 billion. Notably, over USD 6 billion of this funding has been directed towards agriculture and related sectors.

These LoCs span a wide array of initiatives, including the acquisition of farm equipment, establishment of agricultural plants, and development of irrigation networks. Through development cooperation India has made substantial contributions to boosting agricultural productivity and supporting sustainable livelihoods across Africa.

On the other hand, Germany also plays a crucial role in the development of Africa. In 2022, Germany disbursed USD 5.9 billion in bilateral aid, accounting for approximately 18 per cent of its total global aid for the year. Germany's development cooperation emphasises both humanitarian assistance and long-term capacity-building. Furthermore, in May 2022, the two countries - India and Germany - signed a Joint Declaration of Intent during the 6th India-Germany IGC. This agreement underscored their commitment to implementing triangular cooperation projects, particularly those focused on the SDGs and climate-related targets in third countries, with a strong emphasis on Africa.

The study reveals that the India-Germany TrC represents an innovative model of collaboration aimed at addressing global development challenges. It draws on India's experience in South-South cooperation and Germany's technical expertise to provide sustainable, contextually relevant solutions in third countries, particularly in Africa and Asia. TrC projects are designed to be technically advanced, capacity-building focused, and responsive to local needs across sectors such as clean energy, agriculture, green mobility, and education. The framework established through the JDI ensures the

smooth implementation of these initiatives through mechanisms like joint steering committees, technical coordination, and participatory capacity-building programmes.

Agriculture remains a central pillar of livelihoods in the Global South, and it is no coincidence that the majority of Indo-German TrC initiatives have been concentrated in this sector. These projects are designed not only to enhance food security and resilience but also to serve as platforms for innovation diffusion and institutional capacity building (Kumar, 2025).

The analysis of three case studies of triangular cooperation projects in Africa shows the positive impact on development for instance, in Malawi, the Agri-Business Incubator Model for Women in Agriculture and Food Systems has been established, where over 50 women entrepreneurs have received training and support through “AmayiHub,” the first women’s incubator in the country. In Ghana, the focus is on promoting bamboo-based enterprises, with specific efforts to enhance income generation for women and youth. This initiative involves training nearly 50 individuals in innovative bamboo product design, diversification, and financial management. In Cameroon, the Potato Seed Production project employs innovative RAC technology, improving access to quality seed potatoes and benefiting 15 scientists, six local entrepreneurs, and 200 farmers. These initiatives demonstrate the practical impact of TrC, empowering local communities and contributing to sustainable development.

By fostering partnerships that go beyond traditional financial aid, the TrC model emphasizes long-term sustainability and inclusivity. The collaboration between India and Germany sets a new benchmark for global development, moving beyond mere financial support to a more holistic approach based on shared knowledge, resources, and experiences. This framework not only strengthens bilateral cooperation but also contributes to the broader multilateral development agenda. Through shared goals, flexible strategies, and transparent coordination, the India-Germany partnership offers a new model for addressing

pressing development challenges. The study recommends that sectoral cooperation in agriculture, climate change, and other key areas should continue to be prioritised. Through TrC, countries can leverage their comparative advantages, accelerate equitable development, and create a more sustainable future for all and it offers a solution by pooling resources among Global North donors, pivotal Global South countries, and partner nations and this approach ensures cost-effective, impactful development outcomes (Chaturvedi, 2025).

Endnotes

- ¹ see <https://www.auswaertiges-amt.de/resource/blob/2680288/8909ac2c501ab85d55deff7d1b8b75d/241016-fokus-indien-data.pdf>
- ² <https://www.bundesregierung.de/breg-de/aktuelles/joint-statement-7th-india-germany-inter-governmental-consultations-igc--2317664>
- ³ We use in this paper Triangular cooperation which is same as TDC
- ⁴ <https://www.mea.gov.in/Portal/LegalTreatiesDoc/DE22B3830.pdf>
- ⁵ Triangular cooperation involves Southern-driven partnerships between two or more developing countries, supported by one or more developed countries or multilateral organizations, as stated by the United Nations Office for South-South Cooperation(2021).
- ⁶ https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/01/triangular-co-operation-with-india_ee643afb/285b1a9a-en.pdf(page 12)
- ⁷ <https://triangular-cooperation.org/wp-content/uploads/2023/10/GPI-Spotlight-Germany-V1.pdf>
- ⁸ See Chaturvedi &Söyler, 2021
- ⁹ https://www.deval.org/fileadmin/Redaktion/PDF/05-Publikationen/Berichte/2020_Dreieckskooperation/DEval-2020-Trilateral-cooperation.pdf
- ¹⁰ PIB (2028)
- ¹¹ https://www.mea.gov.in/SpeechesStatements.htm?dtl/39573/EAMs_address_at_the_Africa_Day_Celebrations_May_28_2025
- ¹² <https://www.mea.gov.in/Portal/LegalTreatiesDoc/DE22B3830.pdf>
- ¹³ <https://www.mea.gov.in/Portal/LegalTreatiesDoc/DE22B3830.pdf>

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