Republic of Malawi

FY2021 Ex-Post Evaluation Report of Technical Cooperation Project

"Project for Community Vitalization and Afforestation in Middle Shire"

"Project for Promoting Catchment Management Activities in Middle Shire"[1]

External Evaluators: Keisuke Nishikawa, Hiroshi Nishino

Metrics Work Consultants Inc.

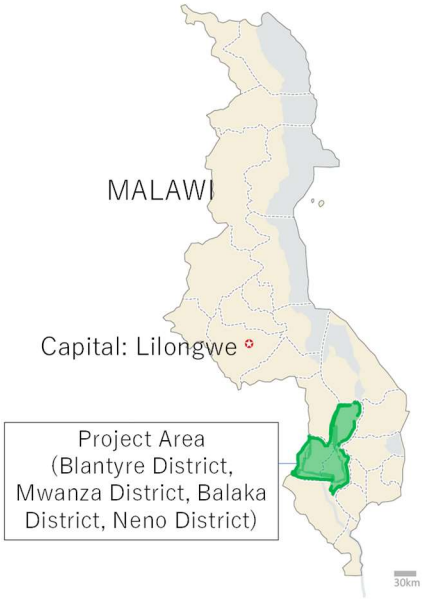
0. Summary

The "Project for Community Vitalization and Afforestation in Middle Shire" and the "Project for Promoting Catchment Management Activities in Middle Shire" as a whole aimed to improve the livelihoods through sustainable forest resource management by village farmers in the southern region of Malawi, where the forest area had significantly decreased. Both projects were consistent with Malawi's development plans and needs at the time of planning and completion, and with Japan's ODA policy at the time of planning. In addition, while there was limited coordination with the support by other organizations, there were synergies observed with JICA's related projects and within the expected scope. Therefore, the relevance and coherence of this project is high. The Project Purposes and the Outputs of both projects were generally achieved, and while the effects were widely seen in the areas targeted by the projects, their expansion to other areas was limited, and the Overall Goals were not fully achieved. However, the effectiveness and impacts of the two projects as a whole are high, as the direct support provided by the project was highly effective. The overall efficiency of the project was judged to be high, since the project period was within the planned period while the project cost exceeded the planned amount for both projects. Regarding the sustainability of the effects generated through the two projects, there were some issues in terms of policies and systems, as well as major financial issues, and it was confirmed that the technology was not fully utilized. Therefore, the sustainability of the project is moderately low.

In light of the above, this project is evaluated to be satisfactory.

[1] The "Project for Community Vitalization and Afforestation in the Middle Shire" was abbreviated as COVAMS, and the "Project for Promoting Catchment Management Activities in Middle Shire" was commonly referred to as COVAMS II. In this evaluation report, these projects are considered as a single project and COVAMS is referred to as "Phase 1" and COVAMS II as "Phase 2."

1. Project Description



Location of the Project
(Source: External Evaluator)

A village where trees were planted in this project
(Source: External Evaluator)

1.1 Background

At the time of planning of this project, a population pressure was rising in Malawi, and deforestation, soil degradation, and water resource depletion were occurring due to the expansion of agricultural land and timber harvesting. As a result, the livelihood foundation in rural areas, where about 80% of the population resided, were being threatened. In particular, the forest areas, the source of wood and charcoal, which account for 90% of domestic fuel consumption, had been decreasing. In 1990, 38% (4.2 million hectares) of the country was covered by forests, but in 2005, the area had decreased to 31% (3.4 million hectares). This declining trend was particularly pronounced in the densely populated southern region of Malawi.

Forest resources in the middle area of Shire River, which flows from the southern tip of Lake Malawi to the southern region of the country, were rapidly declining due to the collection of firewood in line with the increase in the population of Blantyre City, Malawi's largest commercial city, which is located near the area. This caused a decrease in the water retention capacity of the land and a decline in agricultural productivity due to a decrease in soil fertility in the area, further exacerbating the poverty of the local residents whose livelihoods were fragile. In addition, the sediment that flowed into Shire River pushed up the riverbed, causing a decline in the power generation capacity of hydropower facilities on the Shire River system, which provided most of the country's power generation, and the increase in flooding downstream.

Sustainable forest resource management by local communities was essential to address these problems, and assistance was needed to realize it.

1.2 Project Outline

Project for community vitalization and afforestation in Middle Shire (Phase 1)	Overall Goal		Villagers in the target villages practice sustainable forest management (including soil conservation) through the improvement of livelihoods.
	Project Purpose		Productive activities including tree growing and soil erosion control are implemented with consideration of forest conservation and rehabilitation in the target villages.
	Outputs	Output 1	The target villagers acquire knowledge and skills regarding productive activities including tree growing and soil erosion control.
		Output 2	Capacity of the target villagers is enhanced to access necessary resources for productive activities including tree growing and soil erosion control.
		Output 3	Capacity of the counterparts is enhanced in supporting productive activities including tree growing and soil erosion control.
	Total cost (Japanese Side)		401 million yen
	Period of Cooperation		November 2007- November 2012
	Target Area		Blantyre District (TA[2] Kuntaja, TA Kapeni)
Project for Promoting Catchment Management Activities in Middle Shire (Phase 2)	Overall Goal		Catchment management through farmers' activities (CMFA[3]) using COVAMS approach[4] is widely implemented in the target districts.
	Project Purpose		CMFA through COVAMS approach is institutionalized in the target districts.
	Outputs	Output 1	Promotion for the target districts and the ministries concerned to ensure institutionalization and budget for COVAMS is carried out.
		Output 2	Capacity for implementing the COVAMS approach by officers of the target districts is improved.

[2] Traditional Authority: In Malawi, land belongs to local communities, and chiefs manage the land on behalf of the entire community according to customary land laws established in each territory.
[3] Community-based catchment management activities using soil conservation and improvement of water harvest technologies (improved contour ridges, tree planting and growing, and gully reclamation)
[4] The COVAMS approach refers to a village training method that utilizes the 'Specified Village Training Approach (SVTA).' SVTA is a technology dissemination method that targets a large number of residents and conducts training in the places where they live, based on the needs of the residents, but with a narrow focus on training areas. This enables the project to steadily spread relatively simple dissemination content over a wide area in a short period of time by having project-trained government extension workers train Lead Farmers (LFs) and having LFs manage the entire process of training all farmers in their area of responsibility under the management of the project.

		Output 3	Effectiveness of the COVAMS approach, both extension method and extension subject, is verified.
		Output 4	The commitment of the COVAMS approach among leaders of all levels is enhanced.
	Total cost (Japanese Side)		538 million yen
	Period of Cooperation		April 2013 - March 2018
	Target Area		Blantyre District (TA Lundu, TA Chigaru), Mwanza District (TA Nthache, TA Govati, TA Kanduku), Balaka District (TA Chanthunya, TA Phalura), and Neno Dictrict (TA Mlauli, TA Symon)
Implementing Agency			Department of Forestry, Ministry of Forestry and Natural Resources
Other Relevant Agencies/ Organizations			Department of Agricultural Extension Services, Ministry of Agriculture, Irrigation and Water Development Department of Land Resources, Ministry of Agriculture, Irrigation and Water Development Department of Community Development, Ministry of Civic Education, Culture and Community Development
Organization in Japan			Forestry Agency, Ministry of Agriculture, Forestry and Fisheries
Related Projects			<Technical Cooperation> (Development Survey) - The Master Plan Study on Watershed Rehabilitation in Middle Shire (1999-2000) - Pilot Study on Community Vitalization and Afforestation in Middle Shire (2002-2004) (Japan Overseas Cooperation Volunteer) - Tree-Planting Extension Officer (2006-2008) (JICA Expert) - Forest Conservation and Management Advisor (2012-2014) <Other International Organizations> USAID: Community Partnerships for Sustainable Resource Management II (2004-2009) EU: Improved Forestry Management for Sustainable Livelihoods Programme (2006-2009) World Bank: Shire River Basin Development Project (2012-2018) UNDP/GEF: Private Public Sector Partnership on Capacity Building for SLM (Sustainable Land Management) in the Shire River Basin (2010-2014)

1.3 Outline of the Terminal Evaluation

Since the efforts in Phase 1 were carried over to Phase 2, this section describes the expected achievement of the Project Purpose and the Overall Goal and the recommendations at the time of terminal evaluation of Phase 2.

1.3.1 Achievement Status of Project Purpose at the Terminal Evaluation

The four outcomes planned for Phase 2 were achieved or largely achieved by the time of terminal evaluation, leading to the achievement of Project Purpose. Two indicators related to Project Purpose were also expected to be achieved by the completion of the project.

1.3.2 Achievement Status of Overall Goal at the Terminal Evaluation

Regarding the further dissemination of CMFA utilizing the COVAMS approach, it was expected that Overall Goal would be achieved within three years after the completion of this project, since dissemination activities based on the "Lean COVAMS (low-input COVAMS) approach" had already started in this project to promote dissemination in other regions to the extent possible without investing a large amount of budget, and examples of its application in the projects supported by other donors had been observed.

1.3.3 Recommendations from the Terminal Evaluation

In the terminal evaluation, the following two recommendations were made regarding the activities after the completion of this project.

(1) The district governments in the four target districts of this project need to develop an action plan for dissemination activities for three years after the completion of the project in order to disseminate CMFA based on the COVAMS approach to the villages and TAs that were not covered by this project and to strengthen CMFA in the villages that received support under this project.
(2) In order to mobilize the necessary resources for sustainable CMFA based on the COVAMS approach, it is essential to verify and provide concrete evidence of the effectiveness of CMFA introduced in this project in watershed management. Therefore, it is important to design and introduce a simple and feasible monitoring system to record changes in forest cover, soil runoff, etc. at the sites where CMFA is implemented by means of fixed-point observation using georeferenced digital photographs or satellite images.

2. Outline of the Evaluation Study

2.1 External Evaluator[5]

Keisuke Nishikawa[6] and Hiroshi Nishino, Metrics Work Consultants Inc.

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: October, 2021 – January, 2023

Duration of the Field Study: April 30 - May 26, 2022; September 25 - October 5, 2022

3. Results of the Evaluation (Overall Rating: B[7])

3.1 Relevance/Coherence (Rating: ③[8])

3.1.1 Relevance (Rating: ③)

3.1.1.1 Consistency with the Development Plan of Malawi

The *Malawi Growth and Development Strategy (MGDS)* (2006-2011), which was the development plan at the time of planning Phase 1 (2007), identified natural resource conservation as one of the priority areas and set a medium-term goal of achieving sustainable forest use and management and reducing the degradation of forest resources through initiating reforestation programs, strengthening afforestation activities and collaborating with the private sector. In the forestry sector, the *National Forest Policy* (1996-2015) set the goal of maintaining national forest resources conducive to the improvement of the quality of life of the people through forest conservation, and the *National Forest Plan* was formulated in 2001 as a guideline for the smooth implementation of the policy. The *National Forest Plan* had a particular emphasis on establishing community-based forest management, improving the livelihoods of small landowners, and strengthening forestry extension.

The development plan at the time of completion of Phase 1 and at the time of planning of Phase 2 (2012/2013) was the *Malawi Growth and Development Strategy II (MGDS II)* (2011-2016) at the national level, which emphasized poverty reduction and food security through sustainable land management. In addition, the medium-term goal was to develop various institutions and implement measures to mitigate the impacts of climate change and development pressures on forests and other natural resources and the natural environment. The *Agriculture Sector Wide Approach (ASWAP)* (2011-2015) and the *Community Development Policy* (2012-2017) were formulated in line with this

[5] Nishino was in charge of satellite data analysis, and Nishikawa was in charge of other work (including field surveys).
[6] Participated in the survey as an assisting member from QUNIE CORPORATION
[7] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory
[8] ④: Very High ③: High, ②: Moderately Low, ①: Low

national plan, and both projects, which aimed to promote watershed conservation activities by farmers, were consistent with these policies. In addition, the "National Forest Policy" and the "National Forest Plan" remained in effect during this period.

The *Malawi Growth and Development Strategy III (MGDS III)* (2017-2022), the national plan at the completion of Phase 2 (2018), emphasized sustainable forest management in the agriculture and climate change sectors. In the energy and environment sector, securing sustainable fuel wood was also mentioned, as well as the importance of afforestation. At the sectoral level, the *National Forest Policy* was updated (covering the period 2016-2021) to promote sustainable management of forest resources with the policy goal of restoring forest cover to 30% of the total land area by 2021 (the *National Forest Plan*, formulated in 2001, remained in effect). In addition, the *National Forest Landscape Restoration Strategy* was launched in June 2017 to achieve poverty eradication. The strategy also aimed to accelerate the implementation of the *National Forest Policy* and provided a plan of action on forest management, soil and water conservation, and river basin restoration.

As mentioned above, various policies, plans, etc. were developed, and the table below summarizes their positions with both projects at the time of planning and completion.

Table 1: Development Policies at the Time of Planning and Completion of Both Projects

		At the time of planning	At the time of completion
Phase 1	National level	MGDS (2006-2011)	MGDS II (2011-2016)
	Sector level	National Forest Policy (1996-2015) National Forest Plan (2001)	National Forest Policy (1996-2015) National Forest Plan (2001) ASWAP (2011-2015)
Phase 2	National level	MGDS II (2011-2016)	MDGS III (2017-2022)
	Sector level	National Forest Policy (1996-2015) National Forest Plan (2001) ASWAP (2011-2015) Community Development Policy (2012-2017)	National Forest Policy (2016-2021) National Forest Plan (2001) Community Development Policy (2012-2017)

Source: Prepared by the evaluator based on each policy document

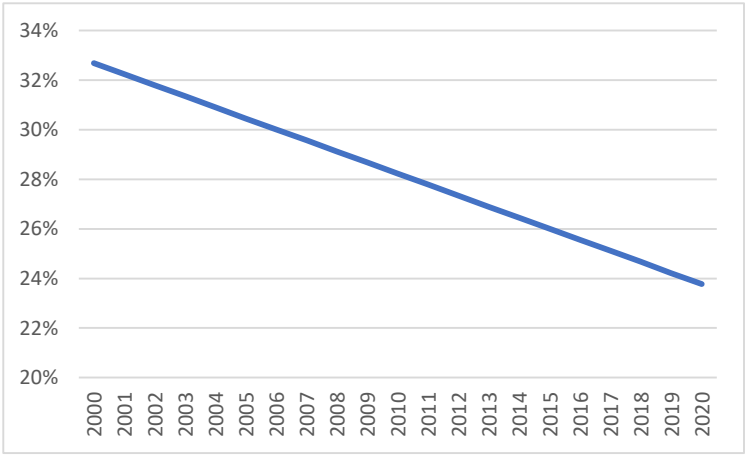
Based on the above, it was confirmed that forest management was emphasized in Malawi's national development policies at the time of planning and completion of both projects, and that various sector plans based on these policies were also consistent with the direction of this project.

3.1.1.2 Consistency with the Development Needs of Malawi

As described in the project's Background, the project area was facing the following challenges.

At the time of the planning of Phase 1, Malawi's forest area had been decreasing, from 38% of the country's land covered by forest in 1990 to 31% in 2005. In the southern region of Malawi, forest resources in the middle reaches of Shire River, the source of supply for firewood for cooking and heating, had been depleting as the population in Blantyre City was increasing. As a result, flooding was occurring due to the reduced water retention capacity of the land in the area, and agricultural productivity was declining due to the reduced soil fertility, which was worsening the poverty conditions of the rural population in particular. In addition, sediment discharged from depleted forest resources flowed into Shire River and pushed up the riverbed, causing massive sediment deposition at several dams in the river system and reducing the power generation capacity of the hydroelectric power plants that were Malawi's main source of power.

As shown in Figure 1, the forest area in Malawi continued to decline, and by 2018, when Phase 2 was completed, it had dropped to 25%.



Source: Compiled by the External Evaluator from the World Bank data

Figure 1: Trends in Malawi's Forest Area as a Percentage of Land Area

With regard to the status of forests and soils in the target areas of both projects, where residents were the main actors in management and use, no general data existed in each district, and quantitative forest cover, forest area, deforestation rate, and soil degradation status were unknown. However, regarding the forests and soils in the target areas at the completion of Phase 2, issues and needs shown in Table 2 were identified.

Table 2: Issues and Needs Related to Forests and Soils at the Completion of Phase 2

	Issues and Needs
Forest	- Forest area continues to decline in general, even in the areas covered by the project. - Monitoring of forest conditions is inadequate. - Coordination between forest and agricultural stakeholders is lacking. - There are still communities that cut down trees for charcoal production as a means of livelihood (especially in Blantyre District). - Financial and human resources are lacking for sustainable use. - Insufficient rainfall makes nursery conservation difficult, and afforestation is not progressing well.
Soil	- Soil runoff caused by heavy rainfall is not always thoroughly addressed. - Soil runoff and nutrient loss (land degradation) is progressing. - Sediment runoff into Shire River is not only a problem only in the southern region, but also has significant impacts on the availability of hydroelectric power plants that supply electricity to the rest of the country.

Source: Information provided by each district forest office, Project Completion Report of Phase 2

Although sufficient data on the target areas were not available, the forest resources in the southern region generally continued to decline, according to the officials of the implementing agency. In addition, as described below (Box 1), the analysis using satellite data in this ex-post evaluation also confirmed that forest area has been decreasing in both target and non-target TAs. Therefore, it can be said that the forest area is consistently decreasing throughout the country, including the southern region of Malawi, and that conservation needs are still high.

Based on the above, it is considered that the two projects that supported forest conservation activities in the Shire River basin were highly consistent with these development needs.

3.1.2 Coherence (Rating: ③)

3.1.2.1 Consistency with Japan's ODA Policy

At the time of the planning of Phase 1, the project was positioned as a "Rural Livelihood Diversification Program" in the "Food Security" area in JICA's Country-specific Program, and was expected to contribute to food security by increasing cash income through sustainable management and utilization of natural resources and income generating activities linked to it, thereby securing livelihood options other than maize production, the main agricultural product in Malawi.

At the time of the planning of Phase 2, the "Country Assistance Policy for the Republic of Malawi (April 2012)" and the "JICA Country Analysis Paper for Malawi (April 2012)" stated that assistance to lift the country out of severe poverty was the

basic policy of assistance, and that infrastructure development to foster industries such as agriculture and mining would be a focused area of assistance. The project was positioned under the "Agricultural Development and Natural Resource Management Program," which emphasized natural resource management efforts for soil conservation and sustainable use of water for agriculture to ensure the long-term sustainability of agricultural production while considering the high population density and rapid population growth. Furthermore, the implementation of appropriate watershed management was identified as an important issue for Malawi, which relied largely on hydropower for electricity generation.

As described above, both Phase 1 and Phase 2 were in line with Japan's ODA policy.

3.1.2.2 Internal Coherence

<Phase 1>

Prior to the implementation of Phase 1, "The Master Plan Study on Watershed Rehabilitation in Middle Shire" was conducted from 1999 to 2000 and the "Pilot Study on Community Vitalization and Afforestation in Middle Shire" was conducted from 2002 to 2004 in the project area, and a model was proposed and demonstrated that combined afforestation, agroforestry, and income-generating activities to increase short-term incentives and continuously implement profitable afforestation activities over a long span (hereinafter referred to as the "demonstration model")[9]. In addition, the PRODEFI model[10] was incorporated into the demonstration model in order to efficiently and effectively expand the model to neighboring villages. In Phase 1, the outcomes of the various activities (forestry and income generation activities), the method of coordination among the resident action groups and counterpart organizations, the functions of the project implementation unit, and the method of selecting target villages, all of which were conducted in the previous demonstration study, were to be used to the maximum extent possible to promote the project efficiently.

In the ex-post evaluation, it was unclear to what extent the content and methods of the demonstration study were used in the selection of target villages for Phase 1, but

[9] In the demonstration study, a pilot project implementation unit, consisting of government officials in the target area, was established to prevent overharvesting of forest resources and to conduct sustainable forest management through livelihood enhancement activities based on agroforestry practices with the cooperation of each village. The results of this study showed that the livelihood improvement activities were effective.

[10] A model proposed in the "Project on the Integrated Community Forestry Development Project" in Senegal. It is a training-centered regional development approach, defined as "a methodology that draws out the vitality that residents possess and links that vitality to the revitalization of individual and organizational activities, and then to the development of the communities." Specifically, this is an approach to (1) start from local training needs, (2) use local (human and material) resources, (3) not screen the training participants, (4) target a large number of participants, and (5) conduct training on site. This approach was considered to be effective in this project as well, and it was believed that experiences and lessons learned on how to utilize local resources and on measures to improve the capacity of local residents and extension workers could be utilized.

the agroforestry practices were applied to the Phase 1 activities, and it can be said that there are sufficient linkages. The target area is also the same as the TAs of Phase 1, and it can be said that there was a sufficient linkage. In addition, the outcomes of the demonstration study were applied in neighboring villages, contributing to the smooth implementation of the activities in the project.

In addition, one Japan Overseas Cooperation Volunteer was dispatched to Blantyre District to follow up on the afforestation activities, and it was expected that the project would be implemented efficiently. According to the implementing agency, the Japan Overseas Cooperation Volunteer was routinely involved in Phase 1 activities together with the extension workers of the Department of Forestry, and made site visits and follow-ups. He also prepared activity reports and attended regular meetings, which is considered to have contributed to the steady implementation of Phase 1 activities.

<Phase 2>

For Phase 2, a Forest Conservation and Management Advisor was dispatched to the Department of Forestry at the time of planning (2012-2014). It was expected that this project would make use of the advisor's knowledge on Malawi's forest policy and forest conservation and management planning that he would acquire through his field activities. In fact, the advisor provided advice and coordination on planning and implementation of the activities related to watershed conservation from the standpoint of supporting the experts and the implementing agency involved in Phase 2, which is believed to have contributed to the promotion of the project activities.

The synergistic effect of the collaboration between the project and JICA's related projects, such as Japan Overseas Cooperation Volunteer, and the advisor, is considered to have been generated within the expected scope of the project.

3.1.2.3 External Coherence

<Phase 1>

At the time of the planning of Phase 1, the following assistance was mainly provided in the field of forest conservation in the southern region of Malawi.

- USAID “Community Partnerships for Sustainable Resource Management (COMPASS II)” (2004-2009): Supported afforestation, beekeeping, mushroom cultivation, and so on.
- European Union (EU) “Improved Forestry Management for Sustainable Livelihoods” (2006-2009): Supported forest resource management, forest resource advocacy, and livelihood improvement activities in Blantyre District.

- In addition, Total Land Care (NGO) supported soil conservation, afforestation, and crop diversification for improved nutrition. DAPP (NGO) supported afforestation, agroforestry, and rural teacher training. In Phase 1, it was envisioned to collaborate with these NGOs and utilize training instructors etc., as common resources.

When the status of coordination and collaboration with these other donors was confirmed during the ex-post evaluation, USAID and the EU were also implementing the projects in the field of forest management, but there were no specific linkages with this project. On the other hand, it was confirmed that the extension workers and other relevant personnel whose capacities had been improved in Phase 1 were being utilized as resource persons with Total Land Care, which was working in the areas of environmental conservation, water and sanitation, and irrigation to improve the livelihoods of rural communities in Blantyre District from 2005 to 2012, and the United Nations Development Programme (UNDP), which was implementing a project to support sustainable land management in Mwanza District.

<Phase 2>

At the time of the planning of Phase 2, the following assistance was mainly provided as the projects in related fields.

- World Bank “Shire River Basin Development Project” (2012-2018): A framework for collaborative management of the Shire River basin was established and watershed conservation activities were implemented to restore degraded soil and forest resources. Through Phase 2, specific methods of watershed conservation activities by farmers, which had been accumulated based on the field activities, would be established, and therefore, the COVAMS approach would be lobbied to the World Bank so that it would be reflected in the revised national-level watershed conservation guidelines that the World Bank was supporting, and the approach was expected to be eventually reflected at the policy level in Malawi. In addition, since the same activities as Phase 2 would be carried out, it was planned that information would be shared and discussed through the Shire River Basin Conservation Coordinating Council led by JICA. In addition, it was also stated that the immediate activities would be coordinated so that there would be no overlap in the areas covered by the activities.
- UNDP/Global Environment Facility (GEF) "Private Public Sector Partnership on Capacity Building for SLM (Sustainable Land Management) in the Shire River Basin" (2010-2014): The project was establishing a collaboration model, including the implementation of training by district officials and extension workers, and the provision of materials from the project to farmers whose capacity had been

strengthened through Phase 1 training.

The ex-post evaluation confirmed if these expected coordination and collaboration were actually made, and found that coordination was made with the World Bank to avoid overlapping of TAs to be targeted by the projects. Specifically, the target of Phase 2 was changed to TA Symon (47 villages) to avoid duplication because the World Bank's support program targeted TA Dambe (50 villages) which was also initially targeted in Phase 2. Other than that, there was no specific collaboration with the World Bank and no specific reflection of the COVAMS approach in the guidelines that the World Bank was supporting for revision. On the other hand, with the UNDP/GEF-supported project, it was observed that the extension workers whose capacities had been enhanced through this project utilized their knowledge in the other project as well. However, no specific outcomes of the coordination or collaboration were observed.

It was confirmed that both projects were consistent with Malawi's development plans and development needs at the time of planning and completion. With the assistance by other donors, coordination and collaboration with some donors were observed within the expected scope, but no outcomes were observed from them. On the other hand, both projects were found to be consistent with Japan's ODA policy at the time of planning, and the collaboration and synergies with JICA's related projects were observed within the expected scope.

Therefore, its relevance and coherence are high.

3.2 Effectiveness and Impacts[11] (Rating: ③)

3.2.1 Effectiveness

3.2.1.1 Project Outputs

<Phase 1>

The achievement of the following three outcomes set for Phase 1 was as follows.

Output 1: The target villagers acquire knowledge and skills regarding productive activities including tree growing and soil erosion control. -> Generally achieved

Output 2: Capacity of the target villagers is enhanced to access necessary resources for productive activities including tree growing and soil erosion control. -> Generally achieved

Output 3: Capacity of the counterparts is enhanced in supporting productive activities including tree growing and soil erosion control. -> Achieved

[11] When providing the sub-rating, Effectiveness and Impacts are to be considered together.

Three to five indicators were set for each Output, and in the ex-post evaluation, it was decided that the achievement status of the Outputs at the time of project completion would be ascertained through the measurement of the achievement level of the indicators. However, it was difficult to confirm the level of achievement at the time of completion of Phase 1 (2012) in detail in the ex-post evaluation (2022) due to the absence of relevant personnel and lack of data of that time. The level of achievement was determined based on the assumption that the status of achievement at the time of the terminal evaluation, conducted a few months prior to the completion of Phase 1, remained mostly unchanged.

As for Output 2, the percentage of households that had access to information and resources (seedlings, etc.) necessary for production activities among the ones which participated in the training was set as an indicator, but the quantitative information on how many households actually had access to information and resources and were able to utilize them was difficult to obtain because no data were available. However, a qualitative survey conducted during the ex-post evaluation[12] confirmed that some resources were provided in all villages where the training was provided, suggesting that the indicator targets in terms of access to information and access to resources at the village level were generally achieved.

<Phase 2>

The following four Outputs were set for Phase 2, and all of them were confirmed to have been achieved at the completion of the project.

Output 1: Promotion for the target districts and the ministries concerned to ensure institutionalization and budget for COVAMS is carried out. -> Achieved

Output 2: Capacity for implementing the COVAMS approach by officers of the target districts is improved. -> Achieved

Output 3: Effectiveness of the COVAMS approach, both extension method and extension subject, is verified. -> Achieved

Output 4: The commitment of the COVAMS approach among leaders of all levels is enhanced. -> Achieved

Regarding Output 2, the degree of improvement in operational capacity was measured through self-assessment and mutual assessment to confirm the level of achievement, but

[12] A total of 35 villages were selected from the 11 TAs targeted in both projects, and 5 villages from the non-target TAs. Group interviews were conducted with about five representatives in each village (Senior lead farmers, lead farmers, and representatives of general farmers participated). The main survey items were: continuation status of CMFA, reforestation and conservation status, soil conservation status, improvement of agricultural productivity, livelihood improvement, improvement of women's social and economic status, impact on the natural environment, and land acquisition and resettlement.

quantitative evaluation results could not be confirmed. This was due to the fact that the COVAMS approach itself focused on the rapid dissemination of simple technologies and did not place emphasis on monitoring the implementation status. The criteria for certification as a lead farmer (LF) were also qualitative, with certification granted only if the farmer was deemed to have mastered the technology through attending on-site training sessions. Therefore, there was no quantitative criteria for measuring the improved capacities, but it is considered that the government officers' operational capacity was steadily improved through repeated instruction of simple techniques in a large number of villages.

Regarding Output 4, project stakeholder meetings were held monthly at the district level, and general meetings of stakeholders from the four districts were held once or twice a year, indicating that the commitment of the stakeholders was strengthened during the project period.

3.2.1.2 Achievement of Project Purpose

In both projects, it was assumed that the Project Purpose would also be met through the achievement of Outputs. The Project Purpose, indicators, and the actual outcomes for each phase are shown in Table 2.

Table 2: Achievement of Project Purpose

Project Purpose	Indicator	Actual
<Phase 1> Productive activities including tree growing and soil erosion control are implemented with consideration of forest conservation and rehabilitation in the target villages.	Indicator 1: Percentage of households adopting recommended tree growing techniques to the total number of households (50% in 50 villages, 30% in 119 villages and 20% in 75 villages)	Indicator 1: By the time of the Terminal Evaluation, the percentage of households that had adopted tree growing techniques reached 78.1% in 50 villages, 76.1% in 119 villages, and 67.9% in 75 villages.
	Indicator 2: Percentage of households adopting recommended soil erosion control techniques to the total number of households (50% in 50 villages, 30% in 119 villages and 20% in 75 villages)	Indicator 2: The percentage of households that had adopted soil erosion control techniques as of project completion (November 2012) was 52.5% in 50 villages, 39.5% in 119 villages, and 21.7% in 75 villages.
	Indicator 3: Percentage of households practicing other productive activities to the total number of households (30% in 9 villages covered by the Integrated Village Training Approach (IVTA)	Indicator 3: Converted from Integrated Village Training Approach (IVTA) to Specific Village Training Approach (SVTA) during project implementation; IVTA was implemented in 7 villages. As of the Mid-term Review (June 2010), 100% was achieved in the seven IVTA villages.
<Phase 2> CMFA through COVAMS approach is institutionalized in the target districts.	Indicator 1: The annual plan and the budget request for CMFA using the COVAMS approach are prepared and implemented by the district departments.	Indicator 1: The activities plan was prepared for the 2017/18 and 2018/19 fiscal years. The Action Plan[13] aiming to achieve the Overall Goal of COVAMS was prepared.
	Indicator 2: The guidelines for the COVAMS approach is acknowledged by ministries concerned.	Indicator 2: Guidelines and manuals for the COVAMS approach were prepared in 2018 and formally endorsed by the counterpart and cooperating agencies.

Source: Terminal Evaluation Report of Phase 1, Response to the ex-post evaluation questionnaire, Project Completion Report of Phase 2

<Phase 1>

The "Output" was generally achieved as a whole, as the residents in the target areas acquired knowledge and skills in various production activities, including tree growing and soil erosion control, and access to necessary resources, while the support capacity of government officials and extension workers was also improved. The Project Purpose can be said to have been achieved as the three indicators set for the Project Purpose were all achieved.

<Phase 2>

The Project Purpose is considered to have been achieved by the time of completion, as both of the two indicators set were achieved. Moreover, for Outputs 1-4, the management

[13] The Action Plan consisted of five items: i) follow-up in COVAMS II villages, ii) dissemination of Lean COVAMS, iii) expansion of CMFA, iv) CMFA at primary schools, and v) list of future donors and partners. At the completion of Phase 2, the plan was expected to be implemented in each province for three years after the completion.

capacity of those involved was improved, dissemination methods and techniques were established, lobbying for institutionalization were carried out, and the commitment of the people involved was strengthened.

Since it was clear that the achievement of Outputs in both Phase 1 and Phase 2 would lead to the achievement of the Project Purpose, and since the indicators of the Project Purpose in each phase were also the necessary elements for the achievement of the Purpose, the level of achievement of the Project Purpose was verified from both perspectives. Some of the indicators for the Project Purpose and Outputs were “output” indicators that could be achieved only by implementing the activities. Therefore, there was an aspect where it was not clear to what extent the capacity of the implementing agency and the target villages to independently implement the project had actually improved. However, it was confirmed as a whole that the Outputs were generally achieved and the Project Purposes were also achieved in both phases.

3.2.2 Impacts

3.2.2.1 Achievement of Overall Goal

The Overall Goal of Phase 1 is “Villagers in the target villages practice sustainable forest management (including soil conservation) through the improvement of livelihoods.” The Overall Goal for Phase 2 was “Catchment management through farmers' activities using COVAMS approach is widely implemented in the target districts.” Phase 1 was a project targeting two TAs in Blantyre District, and Phase 2 was an expansion of the efforts to a total of nine TAs in four districts, including Blantyre District. Since the contents of the Overall Goal of Phase 1 were considered to be contained in the contents of the Overall Goal of Phase 2, the Overall Goal of Phase 2 was used as the one for the two projects in this ex-post evaluation, and its measurement indicators were six in total set for Phase 1 and Phase 2.

Table 3: Achievement of Overall Goal

Overall Goal	Indicator	Actual
Overall Goal "Catchment management through farmers' activities using COVAMS approach is widely implemented in the target districts."	Indicator 1: Percentage of households who recognize improvement in the outlook of trees and access to forest products in the 244 target villages (60%)	Indicator 1: The percentage of households was unknown due to lack of data, but according to the Blantyre District Office of the Department of Forestry, views of trees have improved significantly and access to forest products also improved to some extent. Specifically, only 6,000 seedlings were planted in the project area in 2007, but in 2015, 274,350 trees were planted, of which 136,082 were growing. In addition, a total of seven cases of beekeeping, fruit production, and log production, which did not exist in 2007, were identified.
	Indicator 2: Percentage of households of which the livelihood is improved in the 244 target villages (60%)	Indicator 2: According to the Blantyre District Office, livelihoods in the target villages improved significantly. Increased agricultural production due to soil conservation and increased income from forest product sales were the main areas of improvement. The area planted with maize increased by 14% from 2007 to 2015, and production increased by 14%. Interviews with a total of 20 people in four villages in the target two TAs revealed that in all villages, vegetable cultivation stabilized using the techniques introduced by the project, such as soil conservation and contour farming, which led to an increase in income. In addition, the number of trees in the villages increased through afforestation, which facilitated the more convenient use of firewood.
	Indicator 3: Percentage of households adopting recommended tree growing techniques to the total number of households in the 244 target villages (60%)	Indicator 3: Nurseries were established and reforestation activities were conducted in several of the villages visited, and some villages were active, but not many villages continued their activities after the project was completed (even within the villages, there was a mix of farmers who continued and those who stopped). Although the benefits of the trees planted during the project period were enjoyed in the form of easier access to firewood and as windbreaks, afforestation activities were not necessarily widespread due to the lack of sufficient funds to purchase seedlings, machinery and so on.
	Indicator 4: Percentage of households adopting recommended soil erosion control techniques to the total number of households in the 244 target villages (60%)	Indicator 4: According to the district offices, although no data on the percentage of households was available, the technology was also employed in Phase 2 and continued to show significant expansion in the two TAs covered under Phase 1.
	Indicator 5: CMFA using COVAMS approach implemented in at least two TAs other than the target districts	Indicator 5: According to the district offices, COVAMS/Lean COVAMS were practiced in villages in one TA in Blantyre, two villages in Neno, six villages in Mwanza, and two TAs in Balaka districts.
	Indicator 6: CMFA using COVAMS approach adopted by at least one project funded by other donors in the target districts	Indicator 6: Some of the techniques introduced in COVAMS were used in the UN World Food Program's Adaptation Fund Project (2021-2025) and the Malawi Youth Afforestation Program (2018-2020) of the Government of Malawi.

Note: Indicators 1-4 are for Phase 1 (target year: 2015); Indicators 5-6 are for Phase 2 (target year: 2021)
Source: Prepared based on the responses to the ex-post evaluation questionnaire and results of interviews with the implementing agency

Although it was difficult to quantitatively demonstrate the achievement of the indicators as the data necessary for the ex-post evaluation was not fully developed, it can be said as a whole that the following impacts and challenges were observed.

In 2015, the target year for Phase 1, Phase 2 was underway and the COVAMS approach was expanding in the target districts. There were examples of soil conservation and other techniques being applied as well as the utilization of extension workers with improved capacities in the projects supported by other donors.

In the villages that actually received assistance, many farmers continued to engage in production activities using the techniques they had learned through the training. As a result of the stabilization of the soil in the fields through seedling cultivation, afforestation, and contour farming, the increased production led to the stable securing of vegetables and increased sales. It was confirmed that the actual economic benefits felt in this way were the major driving factor for the continuation of activities, and it can be said that this was a major contribution of this project to the rural communities.

However, with the completion of this project, support for CMFA activities in the target TAs was not continued by the Department of Forestry, and there was almost no expansion of activities to non-target TAs in the neighboring areas. One of the major reasons for this is the budget shortage of the Department of Forestry, which made it difficult to provide intensive support in the form that was implemented in this project, and the promotion system became the one in which extension workers occasionally provided guidance on some technologies as part of their regular extension activities. In the non-target TAs, even though they knew that the farmers in the target TAs were enjoying significant economic benefits, they were not able to initiate CMFA because they lacked the funds to make the initial investment and the visits of extension workers who could provide technical guidance.

In this way, CMFA is practically limited to activities by farmers in the villages of the TAs supported by the project, and has not been widely implemented in the target districts. As a result, as shown in Box below, the satellite data analysis did not show any impacts on the forest increase or slowdown in deforestation in the target area. On the other hand, the indicators for the Overall Goal were achieved to a certain extent, suggesting that the project generated some impacts.

Box 1　Analysis of the project's effect on the forest area using satellite data

In this ex-post evaluation, the project's effects on the forest increase (or slowdown in deforestation) are examined using satellite data[14]. The analysis compares changes in the forest area[15] at the TA level between the 11 target TAs and the 31 non-target TAs[16] and examines the difference (effect) between the two groups. The areas covered by the analysis are shown in Figure 2.

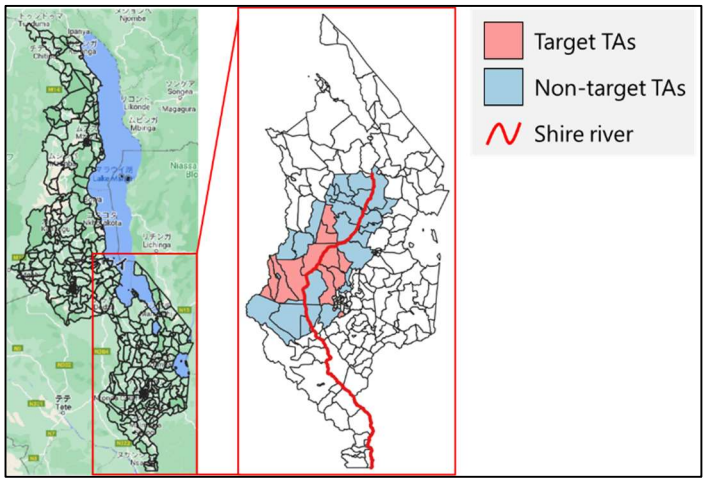
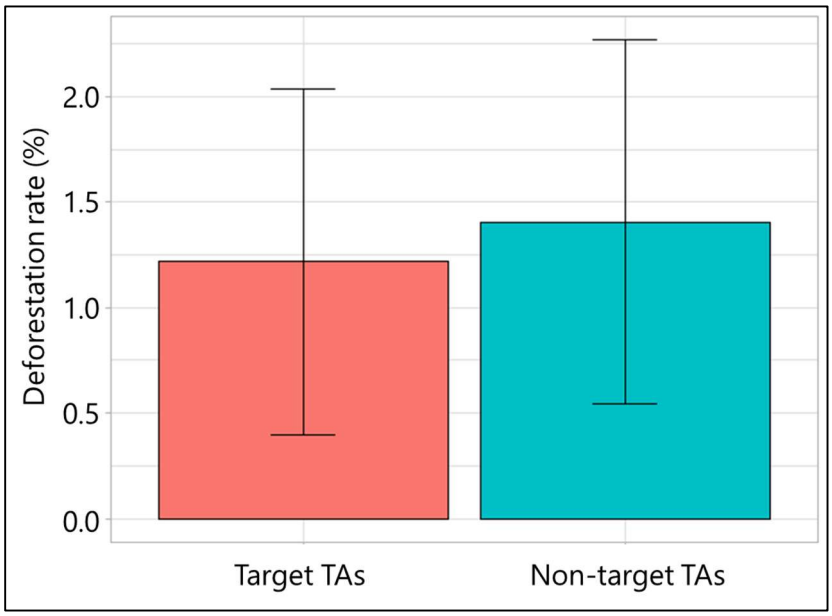


Figure 2 Project area

Figure 3 shows the results of the analysis of deforestation rates from 2000 to 2021 based on Hansen Global Forest Change data. It shows that deforestation rates for both the target and non-target TAs are 1.0-1.5%. There is no statistically significant difference between the two groups, indicating that both groups experienced the same level of deforestation. Figure 4 shows the percentage of the forest area from 2001 to 2020 based on the MODIS Land Cover Type data. Since 2007, when Phase 1 began, the forest area has remained almost the same in the target TAs, while it has decreased by about one percentage point in the non-target TAs. However, the difference between the two changes is not statistically significant. Based on these results, it cannot be concluded that the forest area increased (or deforestation was slowed down) more in the target TAs than in the non-target TAs. The result suggests that the afforestation conducted in this project was not on a scale that would allow the changes to be captured by satellite data.

[14] In addition to the effect on forest area, the project's effects on field area, water area, and improved soil area are also examined. These results are shown in Box 2 at the end of this report.
[15] The data from two sources are used in the analysis: Hansen Global Forest Change v1.9 (the difference between 2000 and 2021, approximately 30m resolution) and MODIS Land Cover Type Yearly Global 500m (From 2001 to 2020, approximately 500m resolution).
[16] To make appropriate comparisons, it is necessary to select non-target TAs similar to the target TAs in terms of the natural environment, etc. Therefore, (1) non-target TAs (19 TAs) in the same prefecture (district) as the target TA and (2) non-target TAs (12 TAs) adjacent to the target TA even if they are different prefectures were selected as "non-target TAs" (31 TAs in total).



Note: The vertical lines on the bars show the confidence interval at the 95% level.

Figure 3 Comparison of deforestation rate (change from 2000 to 2021)

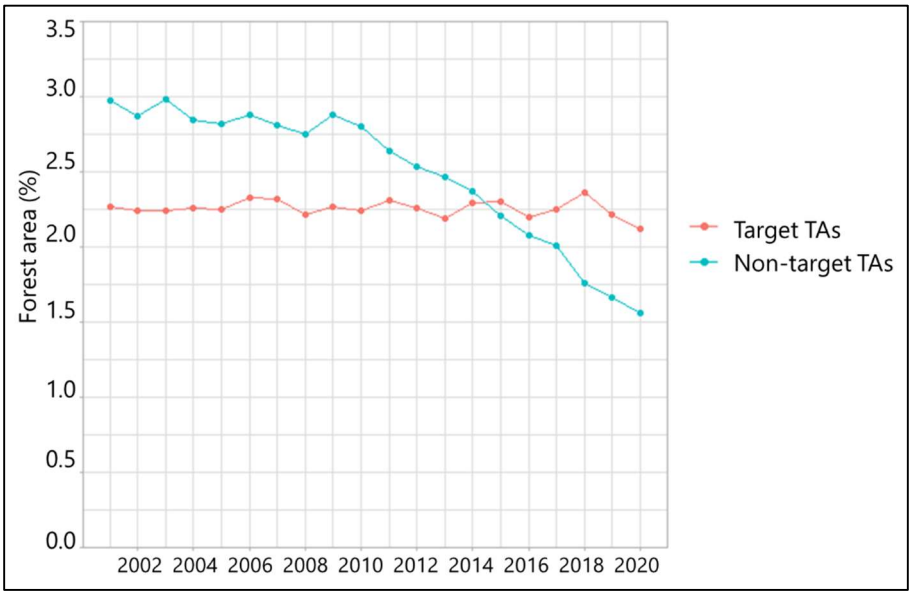


Figure 4 Trends in forest area (2001-2020)

As a result of the above, it is judged as a whole that the Overall Goal was achieved to a certain extent compared to the plan.

New seedlings planted after the completion of the project
(Source: External Evaluator)

A house rebuilt with improved income
(Source: External Evaluator)

3.2.2.2 Achievement Status of Overall Goal at the Time of Ex-post Evaluation

In the ex-post evaluation, the status of the Project Purpose that was confirmed at the time of project completion in "3.2.1 Effectiveness" was checked and analyzed at the time of ex-post evaluation. The results were mainly as follows.

<Phase 1: Project Purpose - Productive activities including tree growing and soil erosion control are implemented with consideration of forest conservation and rehabilitation in the target villages.>

The various production activities mainly fall into the categories of tree growing, soil erosion control, and gully repair. In each of these areas, the qualitative survey confirmed that the following activities were being implemented continuously in most of the target villages and continued to bring economic benefits to the farmers.

- Tree growing: tree growing activities, beekeeping, securing fuel wood and building materials in the village, and growing and maintaining windbreaks.
- Soil erosion control: reduction of erosion cases, maintenance of soil nutrients, and increased crop production
- Gully repair: restoration of land that had been eroded, reduction of siltation in rivers, increased crop production

<Phase 2: Project Purpose - CMFA through COVAMS approach is institutionalized in the target districts.>

CMFA was planned in the annual plan by the completion of the project, and (1) target villages of the project would be followed up (4 districts), (2) Lean COVAMS would be disseminated (1 district), (3) CMFA would be expanded (3 districts), and (4) CMFA would be implemented in elementary school (2 districts). The status of their implementation was confirmed as follows after the completion of the project.

(1) Target villages were followed up in 3 districts other than Balaka District.
(2) Lean COVAMS was implemented in Mwanza District.
(3) CMFA was expanded in Mwanza and Neno Districts (not implemented in Balaka District)
(4) CMFA was implemented in elementary schools (tree planting and learning about agroforestry) in Mwanza and Neno Districts.

Activities related to CMFA were not implemented at all in Balaka District due to the lack of budget. It was confirmed that the manuals and guidelines prepared in this project were being utilized by extension workers and LFs in each district. However, these manuals and guidelines were not updated due to the lack of budget.

As a whole, it was confirmed that farmers in the target villages of the project realized the benefits of the project. Although there are differences in the degree of implementation from village to village, it can be said that CMFA activities have generally been continued. In Phase 2, CMFA activities were included in the annual plan, with the intention of continuing to strengthen and disseminate the COVAMS approach in the target districts after its completion, and these activities were initially implemented in all but Balaka districts, as mentioned above. However, after 2019, the COVAMS approach has no longer been explicitly continued as an activity in each district. The main reason is the lack of budget, and at the time of ex-post evaluation, the reality is that the extension workers share their knowledge and provide guidance on the COVAMS approach during their visits to villages. While the target TAs of the project showed the continuity in their activities, it was difficult for non-target TAs to start new activities by providing new seedlings and farming tools, and CMFA through the COVAMS approach has not yet been fully institutionalized and implemented continuously.

3.2.2.3 Other Positive and Negative Impacts

1) Impacts on the Natural Environment

Phase 1 was considered to have no adverse impacts on the environment and no categorization based on the Guidelines for the Confirmation of Environmental and Social

Consideration was given. Phase 2 was considered to have minimal or no undesirable impacts on the environment and society as it would implement catchment conservation activities conducive to the conservation of the natural environment, and was categorized as Category C in the "Guidelines for Environmental and Social Considerations" (formulated in April 2010).

According to the information provided by the implementing agency and the results of the qualitative survey, the activities of the two projects promoted positive impacts on the natural environment, such as the restoration of forest areas and prevention of soil runoff, and no negative impacts occurred as a result of the implementation of the projects.

Therefore, it is concluded that both projects had positive impacts on the natural environment.

2) Resettlement and Land Acquisition

Resettlement and land acquisition associated with the implementation of both projects were not expected at the time of planning, and in fact, no case was confirmed in which resettlement or land acquisition occurred as a result of the implementation of the projects.

3) Gender Equality, Marginalized People, Social Systems and Norms, Human Well-being and Human Rights

In Phase 1, the introduction of production activities targeted at women was envisaged at the time of planning, and it was planned to promote women's participation and involvement. In Phase 2, it was also assumed that gender balance and progress on gender indicators would be kept in mind when planning and monitoring LF selection and training activities.

In fact, in both projects, LFs were selected from all residents of the target villages as originally planned, and no gender distinction was made. Although specific data were not available, the qualitative survey confirmed that more women participated in training and other activities in all villages and that they fully participated in the decision-making process in the villages, and several cases were also heard that women became able to start keeping livestock. Therefore, it can be said that women played a major role in both projects and that both projects had a sufficient impact on the gender aspect.

Regarding equitable participation in the project in the target villages, both projects were open to all households, and it was up to each farmer to decide whether or not to participate. Therefore, no one was prevented from equitable participation. In addition, the livelihood gains were not biased toward any particular group, so it can be said that both projects were implemented appropriately and had positive impacts.

Although it was difficult to measure the impact of the projects on social systems, norms, and people's well-being in the villages as a whole, livelihoods were improved at the individual and village levels through the implementation of the projects, and even in villages where the economic benefits of the project were not so great, some farmers said that before the project, there were times when they did not have enough to eat, but after the project, they no longer had problems securing food due to increased agricultural production at least. It is considered that the project improved the sense of security of each farming household.

4) Unintended Positive/Negative Impacts

When both projects were planned, it was pointed out that the sediment discharged from the project areas flowed into Shire River and pushed up the riverbed, triggering massive sediment deposition at several dams and reducing the generating capacity of hydroelectric power plants, Malawi's main power source. The actual amount of electricity generated on Shire River and its percentage of Malawi's total electricity generation were as follows.

Table 4: Power Generation in the Shire River System and Share of Power Generation in the Country

Fiscal Year	2007/08	2012/13	2017/18	2018/19	2019/20	2020/21
Amount of electricity generated (GWh)	1,517	1,821	1,656	1,728	1,664	2,033
Percentage of electricity generated (%)	98.0	99.0	97.6	97.1	95.8	97.4

Source: Information provided by the Electricity Generation Company Limited (EGENCO)

It was not possible to determine from the power generation data the extent to which the reduction in power generation capacity due to the pushing up of the river bed had occurred. However, for the Electricity Generation Company Limited (hereinafter referred to as "EGENCO"), one of the major challenges they were facing was the sediment deposition in Shire River due to deforestation and other factors. In Malawi, where thermal power generation is used only in emergency situations, power generation from the Shire River system has always been very important, accounting for more than 95% of the country's total power generation. Therefore, EGENCO has been conducting its own annual reforestation program to improve the watershed environment and to educate the community: 18,286 trees were planted in the Shire River basin in FY 2018/19 and 8,197 trees in FY 2019/20, as well as donating necessary equipment to the corresponding villages. These efforts are complementing the effects of the two JICA-supported projects.

The overall impacts of the two projects can be summarized as follows.

The benefits of CMFA were generally strongly felt in the target villages, and the activities were generally continued at the time of ex-post evaluation. On the other hand, CMFA has not been expanded to non-target villages, and it was confirmed that CMFA has not yet been widely disseminated in the target districts. The project had positive impacts on the natural environment, and there were no problems with resettlement or land acquisition. In addition, it was confirmed that the two projects had positive impacts on other social aspects, and as a whole, there were no negative impacts in terms of environmental and social considerations.

The Project Purpose and the Outputs of the project were generally achieved, and the effectiveness of the project was judged to be high. On the other hand, the generated effects were limited to the target areas, and the dissemination to non-target areas was limited, so it could not be said that the Overall Goals was fully achieved. However, except for the expansion to non-target areas after the completion of the project, other targets were generally achieved, and the effectiveness and impacts of the project as a whole are judged to be high.

3.3 Efficiency (Rating: ③)

3.3.1 Inputs

The planned and actual inputs of both projects are shown in Table 5.

Table 5: Planned and Actual Inputs of Both Projects

	Inputs	Plan	Actual (at project completion)
Phase 1	(1) Dispatch of experts	4 Long-term 1 Short-term	3 Long-term 2 Short-term
	(2) Trainees received	Unknown	29 persons (12 in a third country, 17 in Japan)
	(3) Provision of equipment	Vehicle, Motorbike, Training equipment	Vehicle, Motorbike, Training equipment
	(4) Local activity cost	Unknown (Expenses for seminars, etc.)	41 million yen (Expenses for seminars, etc.)
	Japanese side Total project cost	381 million yen in total	401 million yen in total
	Malawian side Total project cost	50 million yen in total	Unknown
	Inputs	Plan	Actual (at project completion)
Phase 2	(1) Dispatch of experts	4 Long-term 1 Short-term	3 Long-term 15 Short-term
	(2) Trainees received	Unknown	30 persons
	(3) Provision of equipment	Vehicle, Motorbike, Training equipment	Vehicle, Motorbike, Training equipment
	(4) Overseas project enhancement cost	124 million yen	Unknown
	Japanese side Total project cost	504 million yen in total	538million yen in total
	Malawian side Total project cost	50 million yen in total	Unknown

Source: Ex-ante Evaluation Paper (both projects), Inception Report (Phase 1), Terminal Evaluation Report (Phase 1), Project Completion Report (Phase 2), Materials provided by JICA

3.3.1.1 Elements of Inputs

Although it was difficult to compare the planned and actual inputs for Phase 1 due to uncertainties in the content at the time of planning, the long-term and short-term experts were dispatched to provide routine training and instructions, while providing equipment necessary for training and inviting them to participate in the training programs in third countries and Japan. In light of the achievement status of the Outputs and Project Purpose, the activities and the input elements for those activities were largely in line with the expectations.

As for Phase 2, the number of short-term experts increased significantly, but this was due to the fact that the implementation structure, which was mainly conducted by long-term experts in the first half of Phase 2, was changed to the implementation by a consultant team of short-term experts in the second half.

3.3.1.2 Project Cost

The actual amount of Phase 1 and Phase 2 was 105% and 107% of the plan respectively, exceeding the planned amount, and the total amount of both projects was 106% of the plan. Although the detailed reasons for exceeding the planned amount were unknown, securing transportation for the experts and extension workers to conduct the training was a very important factor since both projects covered many villages in a vast area. According to the experts in the second half of Phase 2, a lot of expenses were needed to secure repair and maintenance costs for a large number of vehicles and motorcycles, as well as fuel costs, from the beginning of Phase 1.

3.3.1.3 Project Period

Phase 1 was implemented for 5 years from November 2007 to November 2012, and Phase 2 was implemented for 5 years from April 2013 to March 2018. Both of these project periods were in line with the plan (100% of the plan for both).

Based on the above, the overall efficiency of the two projects is high, as the project periods of both projects were within the plan while the project costs of both slightly exceeded the plan.

3.4 Sustainability (Rating: ②)

3.4.1 Policy and System

The *Malawi 2063 First 10-Year Implementation Plan (MIP-1)* (2021-2030) refers to the promotion of agroforestry and forest conservation. The *National Forest Policy* (2016-2021) also identifies community-based forest management as one of the policy priority areas under the goal of restoring the forest coverage rate. In this way, since the completion of Phase 2, the importance of forest management has been consistently mentioned in both the national and sector plans. The sector plan also emphasizes community-based forest management and identifies the Department of Forestry as the organization responsible for its implementation. However, despite the importance of community-based forest management, there is no reference to specific measures on how to position CMFA, and the sustainability of the policy and system is not necessarily high.

3.4.2 Institutional/Organizational Aspect

In each of the target districts, the project implementation structure consists of a District Management Team (DMT), under which is a Technical Support Team (TST), and under which is a Conservation Coordination Officer (CCO). For example, in Blantyre District, there were five members in DMT, five in TST, and eight CCOs in the entire district, with the CCOs providing guidance to senior lead farmers (SLFs) and LFs in each village, and

SLFs and LFs conducting the transfer of techniques to their members in the villages.

This dissemination system was formally existing at the time of ex-post evaluation, as it was during project implementation. However, since CMFA using the COVAMS approach was not conducted after the project was completed, regular meetings were not held at the district level, and the system was not practically functioning. In addition, many CCOs did not have the means of transportation such as motorcycles, and the budget for purchasing petrol was limited, and visiting each village was generally not an easy task. On the other hand, in each of the villages targeted by the project, SLFs and LFs had the knowledge to provide guidance to other farmers in the village through the implementation of the project, and they actually provided consultation and guidance as needed. In each village, the SLFs and LFs appeared to be fulfilling certain functions.

Therefore, although the organization and structure exist, they cannot be considered to be functioning effectively and there are certain sustainability issues because they have not been able to implement activities related to further dissemination of the outcomes of both projects.

3.4.3 Technical Aspect

DMT members have the ability to develop annual plans and oversee activities; TST has the ability to prepare reporting documents to DMT and provide technical guidance and monitoring to CCOs, while CCOs primarily provide technical guidance to SLFs and LFs.

During the implementation of the project, the trained CCOs provided guidance on CMFA to SLFs and LFs, and they have certain skills based on their experience in introducing them in the target villages. However, after 2019, budgetary measures have not been taken and dissemination activities have not been conducted as they were during project implementation. There are also concerns about the succession of technical skills, as the CCOs involved in the project are gradually beginning to retire. The CCOs also visit non-target villages, but often for other purposes, such as the maintenance of irrigation facilities, making it difficult to allocate sufficient time to provide guidance on CMFA.

As described above, DMT, TST and CCO have certain capabilities, and CCOs have the knowledge to guide SLFs and LFs in their respective villages, but they have not been able to further disseminate CMFAs using the COVAMS approach, and the technical capabilities they have are not being utilized continually.

3.4.4 Financial Aspect

The general budget allocations to each of the targeted district forestry offices for FY 2019/20 and beyond were as follows.

Table 6: General Budget of Each District Forestry Office

(Unit: thousand kwacha)

District	FY 2019/20	FY 2020/21	FY 2021/22
Blantyre	7,000	5,000	10,000
Mwanza	5,000	6,000	15,000
Balaka	4,000	3,000	3,000
Neno	3,100	6,000	9,000

Note: 1 kwacha = approximately 0.13 yen (July 2022)
Source: Data provided by the Southern Region Office of the Department of Forestry

Each district does not have a budget allocated specifically for the promotion of CMFA, and although there is an increasing trend, the need to conduct various activities with a very limited budget has arisen. This is a major constraint preventing the continuation of activities conducted under the project. As mentioned above, EGENCO supports some activities such as tree planting, but there is no financial support from donors or NGOs.

Therefore, it can be said that the financial constraints are the major challenge for the continuation of the project effects.

3.4.5 Environmental and Social Aspect

As a result of discussions with the implementing agency, qualitative survey, and site survey, no negative impacts in terms of environmental and social considerations were identified at the time of ex-post evaluation. It can be judged that there are no particular concerns.

3.4.6 Preventative Measures to Risks

Other than the sustainability issues described above, no specific risks were identified that became evident during the implementation or after the completion of the project.

In sustaining the outcomes of the two projects, there were some issues in terms of policy and system as well as significant financial challenges that prevented further strengthening of CMFA in the target villages and continued expansion to non-target villages. Therefore, it could not be said that the promotion system and the techniques possessed by those involved that existed after the completion of the project were fully utilized. In order to widely disseminate CMFA, in addition to the increases in the overall budget for each district office, a higher priority and specialized budget allocation for CMFA activities will be required, which will be highly difficult to achieve in the short term. No particular challenges were identified in terms of environmental and social considerations and response to risks.

Therefore, the sustainability of the project effects is moderately low.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The “Project for Community Vitalization and Afforestation in Middle Shire” and the “Project for Promoting Catchment Management Activities in Middle Shire” as a whole aimed to improve the livelihoods through sustainable forest resource management by village farmers in the southern region of Malawi, where the forest area had significantly decreased. Both projects were consistent with Malawi's development plans and needs at the time of planning and completion, and with Japan's ODA policy at the time of planning. In addition, while there was limited coordination with the support by other organizations, there were synergies observed with JICA's related projects and within the expected scope. Therefore, the relevance and coherence of this project is high. The Project Purposes and the Outputs of both projects were generally achieved, and while the effects were widely seen in the areas targeted by the projects, their expansion to other areas was limited, and the Overall Goals were not fully achieved. However, the effectiveness and impacts of the two projects as a whole are high, as the direct support provided by the project was highly effective. The overall efficiency of the project was judged to be high, since the project period was within the planned period while the project cost exceeded the planned amount for both projects. Regarding the sustainability of the effects generated through the two projects, there were some issues in terms of policies and systems, as well as major financial issues, and it was confirmed that the technology was not fully utilized. Therefore, the sustainability of the project is moderately low.

In light of the above, this project is evaluated to be satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

Many of the target villages supported by the project continued their CMFA activities at the time of ex-post evaluation. This is largely due to the fact that the agricultural production through afforestation and soil conservation activities stabilized, and the villages came to realize the economic benefits of not only securing vegetables for their own consumption, but also having the produce that could be sold in the market. In the COVAMS approach, all households were equally targeted for support in the village areas, and the CCOs provided guidance to SLFs and LFs, who then disseminated to farmers in each village, while utilizing on-site resources as much as possible. This is a form of implementation that can be applied to other regions. The expansion to other regions through such an approach will help revitalize the economy of rural Malawi and solve poverty issues. Therefore, it is important to further enhance the policy position of rural development through commercial farming and give priority to budget allocation or secure external funding from donors and

other sources.

4.2.2 Recommendations to JICA

Although CMFA based on the COVAMS approach had not been expanded to other areas at the time of ex-post evaluation, it functioned effectively in the target areas directly supported by this project and brought about improvements in the economic and social conditions in rural areas. Therefore, when implementing projects in the field of rural development in Malawi, it would be beneficial to incorporate the approach and components of this project as much as possible, and to encourage the government to reflect in its policies the COVAMS approach that clarifies the specific positioning of watershed management by communities, which was not realized in this project.

4.3 Lessons Learned

Importance of establishing policy positions and securing budgets to continue the project activities

Japan's support for rural development in the southern region of Malawi began with a forest conservation survey in the late 1990s and continued for nearly 20 years until the completion of Phase 2, which promoted watershed management and village development in the Middle Shire. Through the implementation of both projects, the livelihoods of the target villages were improved, and the projects can be evaluated as the ones which had a significant impact. On the other hand, after the completion of Phase 2, the government of Malawi did not actively continue the activities and did not expand them to the surrounding areas. The main reason for this was the lack of budget at the district forest offices responsible for implementing the activities, and the sustainability of the project effects was not ensured under the circumstances of insufficient funds for the activities. This is not an issue that can be easily resolved in countries where the overall government budget is not large or where there are many other development issues. When providing support in the agriculture and forestry sector, it is necessary to ensure a sufficient project period, consider how to secure funds after the project completion, and establish a financial framework to ensure the continuation of the activities (This would include the enhancement of policy priorities to sustainably increase the budget amount, and the enhancement of the capacity of those involved to generate outcomes and further proposals that will always receive support from other donors and NGOs). It would be desirable to consider the prospect of securing budgets when planning projects, and to include support for building such a framework in project activities during implementation.

5. Non-Score Criteria

5.1. Performance

5.1.1 Objective Perspective

JICA began supporting watershed management and village development through forest conservation in Malawi in the late 1990s, and while maintaining a good relationship with the Department of Forestry, the implementation of both COVAMS phases was realized.

The project experts also established a project implementation system with a view to future development, and through collaboration with relevant stakeholders, it can be said that CMFA could be introduced in many villages through the COVAMS approach, and that JICA was also able to appropriately monitor the implementation of the project. In particular, the concrete outcomes observed in the target villages through Phase 1 led to the active involvement of the implementing agency officials in dissemination activities in Phase 2, which facilitated the smooth implementation of the project activities over a wide range of villages. This can be seen as an example of a virtuous circle in which the project stakeholders found the significance of the project and became more actively involved as the outcomes emerged through years of cooperation.

5.2. Additionality

None

Box 2 Other Analyses using satellite data

In addition to analyzing the effects on the forest area shown in Box 1, this ex-post evaluation also used satellite data to analyze the project's effects on the field area, water area, and improved soil area[17]. The same methodology as in Box 1 is used for these analyses.

The results of the analysis for each outcome are as follows. No significant effect of the project is confirmed for any of the outcomes.

Field area: Figure 5 shows the change in cultivated land area (%) from 2001 to 2020, as estimated based on the MODIS Land Cover Type. Although the cultivated land area tends to be larger in the non-target TAs than in the target TAs for the entire period, the trends for both TAs are almost similar. Since 2007, when Phase 1 began, the area has not increased in the target TAs but has been decreasing, as in the non-target TAs. Therefore, it cannot be concluded that there has been a positive impact on the cultivated land.

[17] The following data are used:

- Field area: MODIS Land Cover Type Yearly Global 500 m (From 2001 to 2020, approximately 500m resolution)
- Water area: JRC Yearly Water Classification History, v1.3 (From 2001 to 2021, approximately 30m resolution)
- Improved soil land: TRENDS.EARTH（the difference between 2007 and 2020, approximately 250m resolution） If the quantity of soil organic carbon increases, the area is defined as "improved soil area."

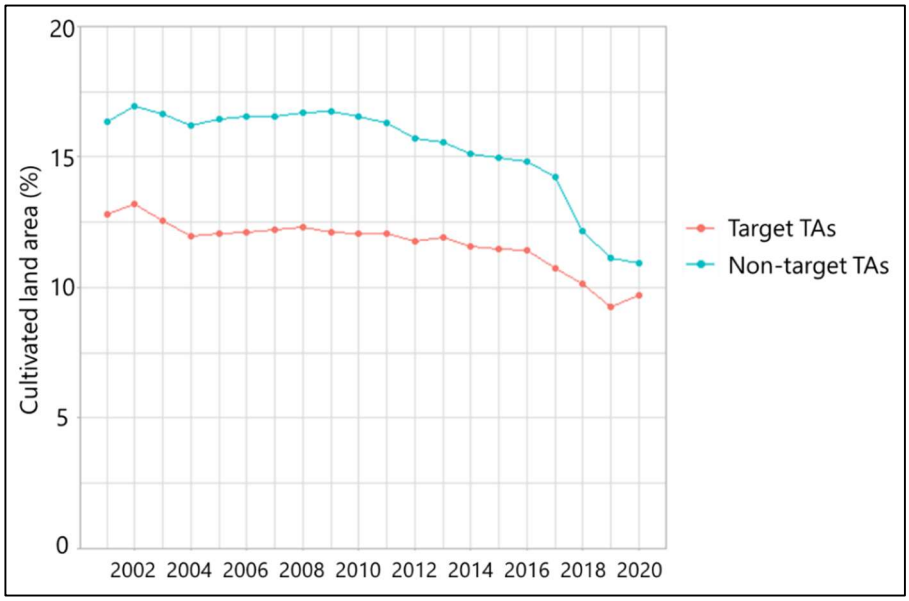


Figure 5: Trends in Cultivated Land Area (2001-2020)

Water Area: Figure 6 shows the change in water area (%) from 2000 to 2020, estimated based on the JRC Yearly Water Classification. For both the target TAs and non-target TAs, the water area is constant over the long term, and no change is observed before and after the project. Therefore, it cannot be concluded that there was a positive impact on the water area of water bodies. On the other hand, regarding soil runoff, it cannot be said that there was a negative impact on a scale that could affect the size of the water area.

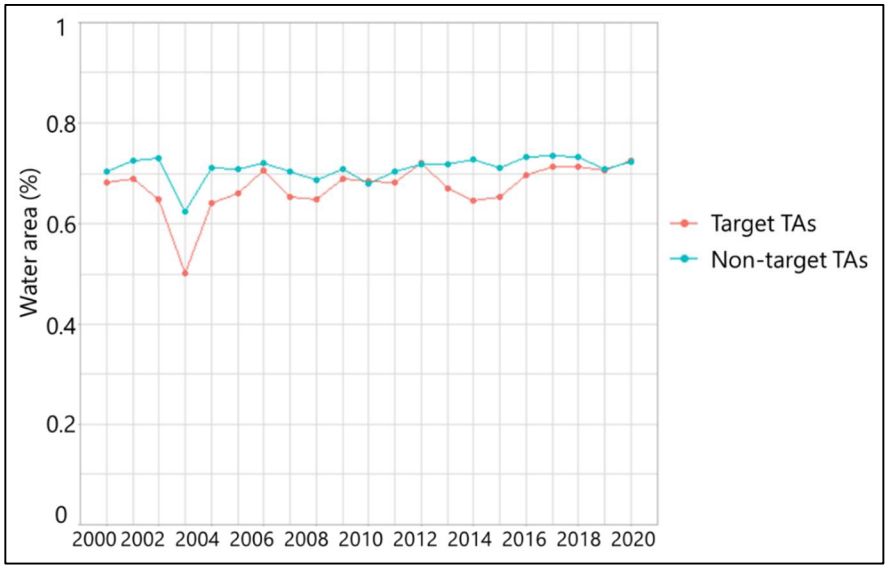
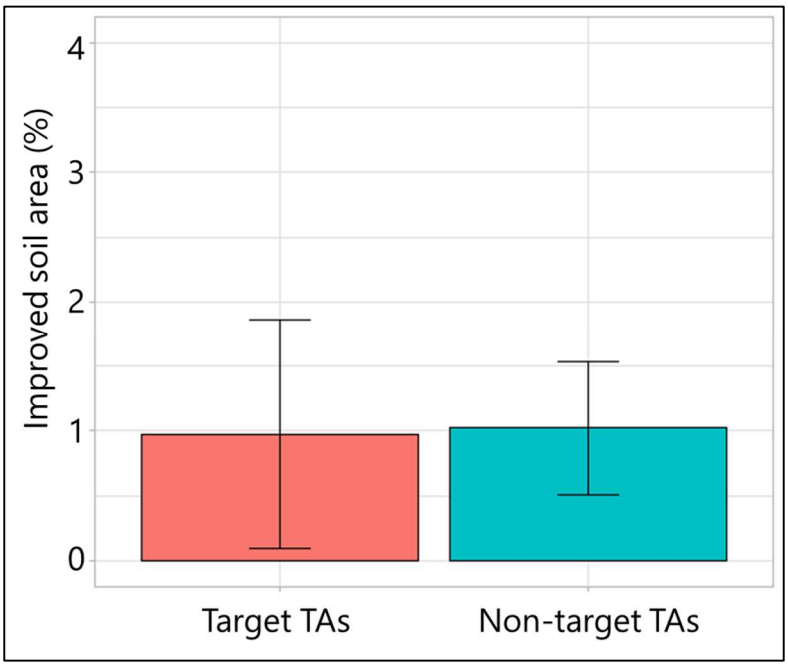


Figure 6: Trends in water area (2000-2020)

Soil Improvement: Figure 7 shows the changes in improved soil area (%) from 2007 to 2020, as estimated based on TRENDS.EARTH. Here, "improved soil" is defined as land with

increased soil organic carbon, an indicator of soil health. Figure 6 shows that the percentage of soil that improved between 2007, when Phase 1 began, and 2020 was about 1% for both the target and non-target TAs, and no difference was observed. Therefore, it cannot be concluded that there was a positive impact on soil improvement.



Note: The vertical lines on the bars show the confidence interval at the 95% level.

Figure 7: Comparison of improved soil area (change from 2007 to 2020)

(End)