

Country Name	Sustainable Land Management Promotion Project
Republic of Malawi	

I. Project Outline

Background	In Malawi, a majority of the working population is engaged in agriculture, and most of them are small farmers. The agricultural productivity was generally low because of the limited access to input agricultural materials, farming techniques, etc. While utilization of compost and prevention of soil erosion were required to improve agricultural productivity, the techniques did not sufficiently prevail. To resolve these issues, the government of Malawi formulated the plan of “Agricultural Sector Wide Approach (ASWAp)” in 2009, and placed the dissemination of the Sustainable Land Management techniques (SLM techniques) as one of the key issues in the development policy.		
Objectives of the Project	Through institutional and human capacity improvement for soil and/or compost testing and skills for field test, equipping LRCD* Subject Matter Specialists (SMSs) and extension agents with the SLM techniques, and application of the compost making and application techniques by pilot site farmers in Mzuzu ADD**, as well as provision of measures to diffuse the SLM techniques nationwide, the project aimed at enhancement of capacity of MoAIWD*** to diffuse appropriate SLM, thereby contributing to nationwide diffusion of the appropriate SLM techniques in Malawi. * LRCD: Land Resource Conservation Department ** ADD: Agricultural Development Division ***MoAIWD: Ministry of Agriculture, Irrigation and Water Development 1. Overall Goal: Appropriate Sustainable Land Management (SLM) techniques* are diffused to nationwide. 2. Project Purpose: Capacity of MoAIWD to diffuse appropriate SLM techniques is enhanced. * SLM techniques: scientifically tested existing compost making and application techniques and knowledge that are prompted by the project.		
Activities of the Project	1. Project Site: Four areas under District Agriculture Office (DAO) (Rumphi, Mzimba South and Mzimba North*, Nkhata Bay) in Mzuzu ADD (located in the northern region) *Mzimba South and Mzimba North are DAOs’ under Mzuzu ADD in Mzimba District 2. Main Activities: (1) Training of lab researchers and technicians, Production of manual for soil and compost analysis, Data analysis, Compilation of technical messages, etc. (2) Development of training modules, Training for extension agents, Preparation of SLM technique handbooks, etc. (3) Selection of on-farm demo areas and lead farmers (LF), Training for LFs on compost making and application, Preparation of extension materials, etc. (4) Seminars/workshops to diffuse the SLM techniques for LRCD SMSs, National workshops to present the SLM techniques, etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: (long term) 2 persons (short-term) 8 persons 2) Trainees Received: 3 persons (Japan) 3) Equipment: Vehicle, computers, survey equipment, etc. 4) Local Expenses: Expenses for project activities, training/workshop/meetings, etc. Malawian Side 1) Staff Allocated: 23 persons 2) Land and Facilities: Office space, training venues, field trial sites 3) Local Expenses: Utilities for the project office in Mzuzu ADD, tools for farm trial, etc.		
Project Period	November 2011 – November 2015	Project Cost	(ex-ante) 290 million yen, (actual) 329 million yen
Implementing Agency	Ministry of Agriculture, Irrigation and Water Development (MoAIWD)* Land Resources Conservation Department (LRCD) *Ministry of Agriculture and Food Security (MoAFS) at the time of ex-ante evaluation. It was reorganized into MoAIWD in 2014.		
Cooperation Agency in Japan	N/A		

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation >

• During the field survey, to see the diffusion of the SLM techniques on a nationwide scale, information about the adoption status in ADD other than Mzuzu, i.e. Machinga, was collected.

1 Relevance

<Consistency with the Development Policy of Malawi at the Time of Ex-Ante Evaluation and Project Completion>

At the time of ex-ante evaluation, in the Malawi Growth and Development Strategy (MGDS) (2006–2011), agriculture and food security was one of the six priority areas. In the area of agriculture and food security, increase in agricultural products of small farmers and provision of effective extension services on agribusiness technique were mentioned as well as enhancement of agricultural productivity by

diffusion of soil conservation technique. At the time of project completion, in ASWAp, the highest agricultural policy and highly prioritized investment programme in Malawi, SLM technique was one of the three pillars.

<Consistency with the Development Needs of Malawi at the Time of Ex-Ante Evaluation and Project Completion>

At the time of ex-ante evaluation, it was required that farmers adopt proper techniques to improve soil fertility and agricultural productivity. No change in the needs was observed at the time of project completion.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

One of the two priority areas of Japan's assistance for Malawi was development of foundations for industrial growth including agriculture and mining¹.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

The Project Purpose was partially achieved by the project completion. The SLM technique handbooks were compiled but not officially approved, partly due to the delay of soil analysis to be incorporated in the handbooks and partly due to the procedural matter. As a procedure for approval, the project wanted the handbooks to be reviewed and approved by the Agriculture Technical Clearing Committee first and then forwarded to Department of Agricultural Extension Services (DAES) for use. After the establishment of Lunyangwa Agricultural Research Services (ARS) in 2012, soil and compost testing became available in the northern region through the project activities at Lunyangwa ARS, and requests for soil analysis significantly increased. Sometimes soil analysis results were given to farmers but not in a user-friendly format, while soil analysis results were not given in some cases, according to the terminal evaluation.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have continued to the time of ex-post evaluation. The SLM technique handbooks were reviewed and officially approved by DAES in 2016 and distributed to all the 28 districts of Malawi. The national workshops to diffuse the SLM techniques nationwide were held in 2016 in Machinga and Mzuzu, and a total of 223 persons participated from MoAIWD, the World Food Programme (WFP) and several NGOs. Services for soil and compost testing are continuously available. Out of 20 persons (2 extension agents and 18 farmers) interviewed during the ex-post evaluation survey, 60% have access to soil analysis results and 40% to compost testing. Considering the availability of the analysis results during the project, it is considered that the level of services has been maintained since the project completion. Provision of the results of research is basically "demand driven", however, research experts are not only waiting for requests for soil testing services but they approach farmers to provide services even if farmers have not demanded.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved. The SLM component has been incorporated in the Agricultural Sector Wide Approach Two (ASWAp II) started 2017 as well as in a project supported by the Development Fund of Norway. Although the statistical data was not available, it is considered that the most of the Agriculture Extension Development Officers (AEDOs) across the country have been trained and are able to instruct farmers on the SLM techniques, as seen in the fact that they conduct demonstrations of making compost manure at annual campaigns held in all the 28 districts². According to LRCD, more than 600,000 Malawian farmers are practicing the SLM techniques and the number is increasing as non-target farmers during the project period are also practicing the SLM techniques. In addition, the LFs interviewed indicated that there was a clear difference in the quantity of harvest among maize without compost manure, with compost manure only, and with micro-dosed compost manure.

<Other Impacts at the time of Ex-post Evaluation>

Positive impacts on gender are observed at the time of the ex-post evaluation. The result of the ex-post evaluation survey shows that there are more than 60% of women practicing and participating in the SLM techniques. The rate of women participating in compost manure making and application is higher than men, according to interview with AEDO, extension officers, and LFs during the survey. No negative impact has been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose)	(Indicator 1) The SLM technique handbook is reviewed by DAES and distributed to all the 28 districts'	Status of the Achievement: partially achieved (achieved after project completion) (continued) (Project Completion)
Capacity of MoAIWD to diffuse appropriate SLM	LRCD and Extension SMSs.	<ul style="list-style-type: none"> The SLM technique handbooks were compiled but not approved. (Ex-post Evaluation) <ul style="list-style-type: none"> The SLM technique handbooks were reviewed and approved in 2016 and distributed to extension officers as well as SMSs across all the 28 districts of Malawi.

¹ MOFA "ODA Country Data Book 2012"

² It may be difficult to say to what extent the project contributed to the capacity development of AEDOs as the staff are trained on the SLM techniques by other projects such as Sustainable Agricultural Productivity Programme implemented by the MoAIWD.

techniques is enhanced.	(Indicator 2) Services for soil and/or compost testing in Northern region become available and results are accessed by extension agents and farmers.	Status of the Achievement: partially achieved (continued) (Project Completion) • Soil and compost testing became available in the northern region through the project activities at Lunyangwa ARS established in the region. Not all the soil analysis results, however, were shared with farmers. (Ex-post Evaluation) • An interview was conducted for 20 persons (2 extension agents and 18 farmers). Number of persons who have access to the results of soil analysis: 12 (60%) Number of persons who have access to the results of compost testing: 8 (40%)										
(Overall Goal) Appropriate Sustainable Land Management (SLM) techniques are diffused to nationwide.	(Indicator 1) The SLM techniques are applied in agricultural programs implemented by MoAIWD and stakeholders* in order to improve soil fertility. *Stakeholders: NGOs, other donors and private sectors.	(Ex-post Evaluation) achieved • The SLM component has been integrated in the programs of ASWAp II. • The SLM techniques and the handbooks have been adopted by the Sustainable Agricultural Lead Farmer Project (SALFP) supported by the Development Fund of Norway and implemented in areas including Mzimba North and Nkhata Bay.										
	(Indicator 2) More than 80% of AEDOs across the country are trained by SMSs and are able to instruct farmers on the SLM techniques by MoAIWD.	(Ex-post Evaluation) achieved • According to interviews conducted in Mzimba North, Nkhata Bay and Machinga, all the AEDOs in these districts have been trained on the SLM techniques and are able to instruct and support farmers. • In the annual campaigns implemented in all the 28 districts of Malawi, AEDOs conduct demonstrations of the SLM techniques of making compost manure to farmers.										
	(Indicator 3) 50,000 of farmers are adopting SLM technique across the country by 2018.	(Ex-post Evaluation) achieved • Out of 4,252,785 farmers all over Malawi ³ , more than 600,000 farmers are practicing the SLM techniques in the country in 2018 and the number is increasing.										
	(Indicator 4) Productivity of maize increases by 20% on the LFs of the project in Mzuzu ADD area.	(Ex-post evaluation) achieved <table><tr><th colspan="3">Quantity Harvested (Oxcarts*)</th></tr><tr><td>Maize without compost manure**</td><td>Maize applied with compost manure only (basal- and top-dressed)</td><td>Maize applied with micro-dosed compost manure (basal- and top-dressed)</td></tr><tr><td>0 - 0.5 Oxcarts</td><td>3.3 Oxcarts</td><td>6.2 Oxcarts</td></tr></table> *One Oxcart is equivalent to 600kg. The data is comparison for the land size of 0.5 acre. **As there is no data on productivity before project completion, project effect is assessed based on the comparison “with-without”. Source: Interview with Euthini Extension Planning Area (EPA), Mzimba North.			Quantity Harvested (Oxcarts*)			Maize without compost manure**	Maize applied with compost manure only (basal- and top-dressed)	Maize applied with micro-dosed compost manure (basal- and top-dressed)	0 - 0.5 Oxcarts	3.3 Oxcarts
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Source: Terminal Evaluation Report, Questionnaire and interview to LRCD and Mzuzu ADD

3 Efficiency

Although the project cost exceeded the plan, the project period was within the plan (ratio against the plan: 113% and 100%, respectively). The Outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The MGDS III (2017-2022) advocates sustainable conservation of natural resources including land and the soils. It articulates issues on environmental sustainability as well as integrated soil fertility management including parameters promoted by the project. ASWAp II (2017-2023) places emphasis on strengthening implementation capacities and coordination of various actors through their policies. In addition, the Malawi National Resilience Strategy (2018-2030) is aimed at breaking the cycle of food insecurity in Malawi through catchment protection and management.

<Institutional Aspect>

The government has well organized structure with specified roles to promote land management techniques. However, due to the limited financial resources, the number of officers is insufficient to efficiently carry out their duties and diffuse the SLM techniques, especially in terms of conducting SLM activities with the growing number of famers. The staff require support in terms of transportation (motor bikes), fuel, lunch allowance and other incentives when their operation areas are large.

<Technical Aspect>

The staff have skills required for them and are able to conduct demonstrations of the SLM techniques. However, they need continuous training or refresher training especially for the new staff, LF and fallower farmers (FFs) to maintain the needed skill levels. DAES has a plan to conduct fortnight training to AEDOs at every EPA. Nevertheless, the above-mentioned training is not conducted as planned due to lack of financial resources. DAES plans to utilize projects implemented by MoAIWD, like ASWAp, and NGOs' related projects to incorporate and diffuse the SLM techniques and support farmers. The SLM technique handbooks and the technical materials are easy to use, and are consequently utilized by the 28 districts as well as other organizations such as WFP, World Vision, and the Adventist Development and Relief Agency (ADRA).

Budget allocation

(Unit: Malawi Kwacha (MwK))

Fiscal year	2015/16	2016/17	2017/18	2018/19
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³ The total number of Malawian farmers is based on the data by the DAES (2019).

<Financial Aspect>

The financial resources are not sufficient across the districts surveyed during the evaluation. It was reported that the activities were supported by resources from stakeholders who were also promoting SLM activities within their program mainstream. The organizations and programs that were frequently mentioned across the districts were: ASWAp, World Vision, Total Land Care, Development Fund of Norway, and SALFP. The lack of sufficient funding slows the expansion of the SLM techniques.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project partially achieved the Project Purpose of enhancement of the capacity of MoAIWD to diffuse appropriate SLM techniques as the soil analysis results were given but not always and the SLM technique handbooks were compiled but not approved at the time of the project completion and approved in the following year. At the time of the ex-post evaluation, the approved SLM technique handbooks have been distributed nationwide and services for soil and compost testing are continuously available to extension workers and farmers. Therefore, the project effects have been continued. The Overall Goal of nationwide diffusion of appropriate SLM techniques has been achieved as AEDOs are trained and able to instruct farmers on the SLM techniques, and the number of farmers practicing the SLM techniques is increasing as well as the productivity of maize. Sustainability is high in the policy aspect but some problems have been observed in the institutional, technical and financial aspects, because personnel and budget allocation is not sufficient, which delays the expansion of the SLM techniques. In regard of the efficiency, the project cost exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

MoAIWD	96,088,400	121,881,366	166,135,550	210,389,733
- National budget				
Nkhata Bay district	1,922,744	1,440,090	1,135,241	1,231,204
Machinga ADD*	4,981,948	5,136,545	5,436,915	6,100,330

The budgets allocated are not specifically for diffusion of the SLM techniques but for all operations and administration.

The budgets for other three districts of the project sites were not available.

*The allocation for Machinga ADD includes the budget for Balaka, Zomba and Machinga districts for operations and administration.

Source: MoAIWD headquarters, Nkhata Bay and Machinga districts

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- The MoAIWD needs to provide training and further promote the diffusion of the SLM techniques. Since there is inadequate funding at all levels with the ministry, the government is recommended to utilize funding sources of other projects within the same ministry to incorporate the activities of SLM. This will ensure to maintain the skill level of the staff and to diffuse the SLM techniques nationwide. Furthermore, the MoAIWD needs to strongly collaborate with projects by NGOs or other development partners in utilizing the manuals developed by the project.

Lessons learned for JICA:

- There are positive effects of high crop production by using compost. This was a result from improved soil structure and increased water-holding capacity. Most farmers interviewed showed willingness to continue the practice as they indicated that they applied less amount of chemical fertilizers. As most farmers realize high crop production, there has been a high adoption rate of the technique. In addition, farmers are now able to send their soil samples for analysis, which facilitated the farmers to know the soil deficiency and apply recommended nutrients. In introducing new soil technique, it is effective that the farmers know the actual results of the technique. Based on the above good practice, it can be concluded that the program with the SLM techniques is effective and can be applied to smallholder farmers.



Focus group discussion of farmers after applying the SLM techniques.



A farmer, who practices the SLM techniques, showing maize harvested after applying compost manure