

RSP0 Smallholder Best Management Practices Manual

for Existing Oil Palm
Cultivation on Peat

Chapter 7

CASE STUDIES OF BEST
MANAGEMENT PRACTICES
IMPLEMENTED



The background of the page is a close-up photograph of oil palm fruit bunches. The fruits are in various stages of ripeness, showing colors from dark purple to bright orange. The image is slightly out of focus, with the foreground fruits being sharper than the background ones.

DISCLAIMER

The statements, technical information and recommendations contained in this Manual are based on best practice and experiences, and prepared by the members of the RSPO Peatland Working Group 2 (PLWG 2) and the RSPO Independent Smallholder (ISH)-PLWG subgroup. The guidance in this Manual does not necessarily reflect the views of the RSPO Secretariat or any of the individual contributors, sponsors and supporters of the process. The publication of this Manual does not constitute an endorsement by RSPO, the PLWG, or any participants or supporters of the development of new oil palm plantations in peatland areas. While every effort has been made to ensure the accuracy and completeness of the information in this Manual, no guarantee is given nor responsibility taken for any errors or omissions, in both typographical and content, and over time the contents may be superseded. Therefore, this Manual should be used as a guide and is not intended for the management of farms on peatlands. As the results of the implementation of these practices may vary according to local conditions, neither RSPO nor the PLWG or any contributors or supporters of the process can be held liable for the results of the application of the guidance in this Manual.

This handbook is applicable to smallholders in general (refer to RSPO ISH Standard).



ACKNOWLEDGEMENT

RSPO would like to thank the members of the RSPO ISH-PLWG subgroup and PLWG 2 for their continued support and contribution to the successful completion of the RSPO Smallholder Best Management Practices (BMPs) for Existing Oil Palm Cultivation on Peat.

Our special appreciation also goes to Koperasi Sawit Jaya and Koperasi Beringin Jaya from Indonesia, and Pertubuhan Tani Niaga Lestari (PERTANIAGA) from Malaysia who participated in pilot testing these BMPs. Their constructive feedback has been a great help in developing the content of this BMP Manual.

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HOW TO USE THIS BMP MANUAL

This BMP Manual was developed with seven Chapters that focus on topics relevant for existing oil palm cultivation on peat.

Along with this BMP, an extract from the RSPO ISH Standard Auditor Checklist is provided in Annex 1 as a guide for certification bodies and it may also be used by Group Managers (GM).

Non-compliances issued to an Independent Smallholder (ISH) group shall be for the non-compliance to the requirement of the RSPO ISH Standard and not against this BMP Manual.

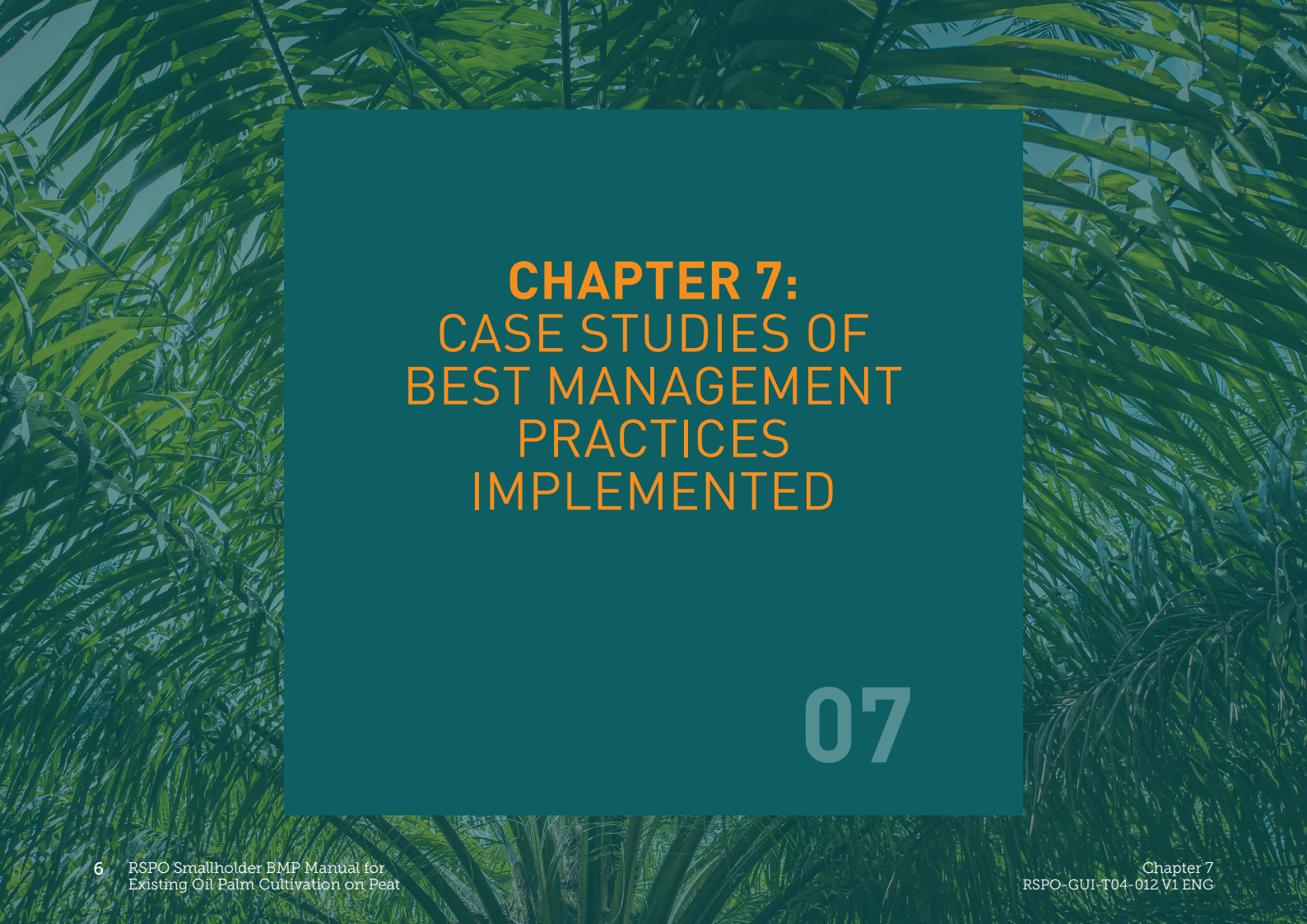
HOW A GM CAN BENEFIT FROM THIS BMP MANUAL

(Across all chapters)

The objective of this Manual is to provide a set of practical guidance on BMPs for GM and/or smallholders to manage existing oil palm cultivation on tropical peat in line with Criteria 4.4 and 4.5 of the 2019 RSPO ISH Standard.

APPLICABILITY OF THIS BMP DURING AUDIT

This BMP Manual was produced as a recommended guidance for ISH with existing oil palm cultivation on peat. This is not to be taken as a compulsory practice and used against certification since ground conditions may vary according to location. It is the role of the GM or smallholders to evaluate the condition of the farm before the implementation of these BMPs.

The background of the entire page is a dense, low-angle shot of oil palm fronds, creating a lush green texture. A large, semi-transparent teal rectangle is centered on the page, serving as a backdrop for the chapter title and number.

CHAPTER 7: CASE STUDIES OF BEST MANAGEMENT PRACTICES IMPLEMENTED

07

7.1 EXTENSION SERVICES

Training services

Various training can enhance the knowledge of smallholders and improve connections, in order to develop self-efficiency to achieve good productivity and improve farm management practices.

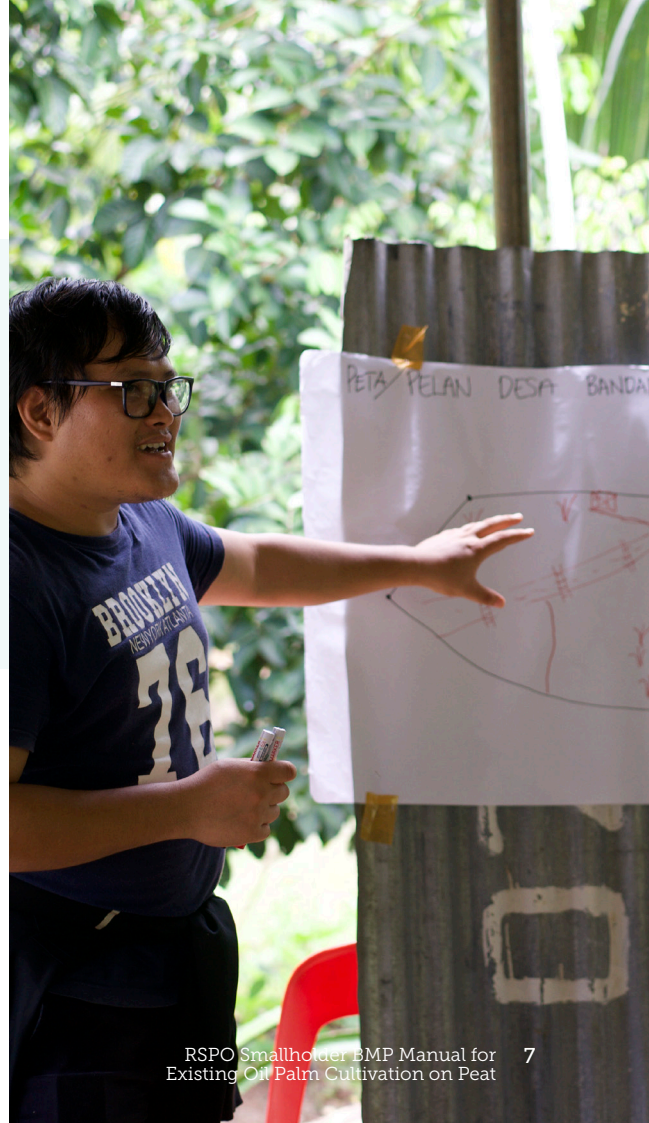
Training on oil palm cultivation on peat for smallholders:

1. Certification
2. Nutrient uptake
3. Water management
4. Integrated Pest and Disease Management (IPDM)
5. Fire prevention and control
6. Subsidence/Greenhouse gas (GHG) emissions

1. RSPO Smallholder Trainer Academy (STA)

An initiative by RSPO to provide a wider opportunity for smallholders globally to access training. STA has been developed with a focus on improving smallholders' livelihood and sustainable practices. The approach is Training of Trainers and STA will work with partners from relevant sectors to expand field training capacity. Any corporate or non-corporate organisations working directly or indirectly with oil palm smallholders can become an STA Partner.

For more information, visit: <http://www.sta.rspo.org>



2. TUNAS Centres (MPOB) – government agency that has been supporting smallholders in Malaysia.

In order to enhance productivity, smallholders need to adapt good agricultural practices and well-known knowledge on oil palm cultivation. The Centre for Oil Palm Guidance and Advisory (TUNAS Centres) under the Malaysian Palm Oil Board (MPOB) plays a key role in providing technical guidance, such as talks, short courses, hands-on classes, and on-site demonstrations.



7.2 STAKEHOLDER ENGAGEMENT



Figure 1: RSPO certified smallholder group in Central Kalimantan was assisted by PT Sawit Sumbermas Sarana Tbk (SSMS) to conduct hot spot fire monitoring

The ban on the use of fire for land clearing is a key criteria of the RSPO Independent Smallholder Standard adopted in November 2019. One of the RSPO certified groups in Central Kalimantan, Asosiasi Petani Kelapa Sawit Mandiri, is aware that fires in one place can spread to other places quickly, especially those close to flammable peatlands; therefore, in an effort to mitigate land fires during the dry season, the group was assisted by RSPO grower member, PT Sawit Sumbermas Sarana Tbk (SSMS) to establish the fire prevention unit and the training on hot spot fire detection through android application. Fire hotspots can be easily monitored through the digital compass and map embedded in the phone.

7.3 GOVERNMENT LEVEL SUPPORT/AID

7.3.1 FINANCIAL AID FROM MALAYSIA

To ensure smallholder yields remain competitive and productive, the Malaysian government introduced two loan schemes of RM550 million at a 2% interest rate per year in July 2019, namely the RM500 million Program Pembiayaan Mudah Tanam Semula (TSPKS) and the RM50 million Input Pertanian Pekebun Kecil Sawit (IPPKS). These schemes aim to ease the financial burden of independent smallholders in the process of implementing oil palm replanting and to help smallholders obtain agricultural inputs, such as certified seeds and quality breeds.

Approved applicants must show proof of replanting, replanting area, and fertilising and controlling of weeds and pests in accordance with good agricultural practices. Applicants must also apply for the Malaysian Sustainable Palm Oil (MSPO) Certification under Sustainable Palm Oil Cluster (SPOC). The schemes may benefit 15,000 smallholders nationwide who have already joined SPOC and relieve their financial burden, as well as encourage more smallholders to join the cluster of sustainable palm oil certification.

Financial aid may promote to sustainable palm oil certification.

For more information please visit, <https://www.mpob.gov.my/>



7.3.2 EMBUNG IN THE FIELD

Besides having water control structures in existing drains, constructing retention ponds can be one of the methods to control and prevent fire occurrence. Excess water, mainly from rain during wet season or existing drain, is stored in this structure before the dry season comes and acts as a small water reservoir for farmers. Known as ‘embung’ in Indonesia, the pond can be used for fire prevention on peat, irrigation, aquaculture, or even as a tourist attraction. The Indonesian government has allocated IDR200 million to IDR500 million per embung for the establishment of the Embung Desa Programme.



A simple ‘embung’ structure with 4 m width x 6 m length x 3 m depth can be easily made by farmers in their farm. It can be constructed using manual labour and the duration of construction depends on peat condition. For the dimensions given above, it may take 15 days, if the digging process involves heavy extraction of massive root mass.



Figure 2: Example of ‘embung’ in Kubu Raya, Kalimantan Barat
(Source: mediaindonesia.com)

Additional structures may help farmers to overcome fire occurrence, prolong peatland usage, and increase fresh fruit bunch (FFB) yields.

Structures applicable for fire prevention:

1. Bore well
2. Pond/embung

Structures applicable for yield efficiency:

1. Enhanced drain system
2. Canal blocks/stop off
3. Weirs

Structures applicable for monitoring water level:

1. Water level marker
2. Piezometer

7.4 ENVIRONMENTAL IMPROVEMENT

This article was taken and rephrased from the project titled ‘Sustainable and climate friendly palm oil production and procurement’ by GIZ. The effort, involving Indonesia, Thailand and Germany from 2018 to 2022, is commissioned by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).

7.4.1 CONTEXT

Palm oil is now the most widely consumed vegetable oil worldwide. Accordingly, production areas in the tropics have increased and palm oil production is an important income source for farmers and other stakeholders in rural areas.

Over the past decades, rainforests and peatlands had to give way to palm oil plantations. Forest clearing and degradation caused by small-scale agriculture and plantation, which include oil palm, keep increasing. It changes when palm oil is produced with environmental and social sustainability, which is desirable in order to avoid further deforestation, increase the supply of sustainably produced palm oil, and improve farmers’ livelihoods.

Government administrations and public businesses also purchase palm oil-based products on a large scale. The majority of food products in Germany are already made with certified palm oil. However, the use of certified palm oil by public procurement bodies and in the animal feed industry needs to be further increased.



7.4.2 OBJECTIVES



To reduce greenhouse gas emissions from palm oil production.



To improve the environmental and social sustainability of smallholders in oil palm plantations.



To increase the number of farmers certified according to marketable sustainability standards.

7.4.3 APPROACH

The project focuses on the value chain – from land use and cultivation, harvesting and marketing through to the consumer. For this purpose, government authorities, companies and smallholder farmers in Thailand and Indonesia form a multi-stakeholder partnership.

The project team supports the development of land use plans involving smallholders, government representatives and private companies. Partnership agreements between actors along the value chain, such as oil mill operators, intermediaries and multinational companies, are intended to establish incentives for the transition to sustainable production.

In Germany, the project encourages public and private demand for products made from sustainably produced palm oil. Public procurement bodies and animal feed companies are advised to purchase certified products. In addition, awareness for sustainable palm oil is raised by round table talks with companies and consumer portals.

The project partners are the Thai Department of Agriculture and Department of Agricultural Extension, the Indonesian Ministry of National Development Planning (BAPPENAS), and the Provincial Government of East Kalimantan, as well as Environmental Action Germany (Deutsche Umwelthilfe e.V. – DUH) in Germany.

7.4.4 RESULTS

- By conserving high carbon stock forests and improving agricultural practices, greenhouse gas emissions from oil palm cultivation are reduced by the equivalent of 25,000 tonnes of CO₂. New oil palm plantations in the pilot areas are developed only on existing plots or uncultivated areas.
- More than 3,100 smallholders in Indonesia and Thailand are trained in sustainable cultivation practices and are prepared for sustainable certification.
- Jurisdictions in producer countries make use of a strategy to implement sustainability criteria and an official land use plan.
- German public procurement bodies increase purchases of certified palm oil products by at least 10 per cent.

7.5 SOCIAL IMPROVEMENTS

This article was taken and rephrased from USAID on news from landscape on community engagement in Peatland Restoration: Free, Prior, and Informed Consent (FPIC)¹

7.5.1 CHALLENGES

Recurring forest and land fires in Indonesia result in devastating impacts to the health and economy of local communities. This creates a huge irrecoverable loss to biodiversity and enormous amounts of greenhouse gas emissions.

According to the World Bank, in 2015, this human-induced disaster cost Indonesia \$16 billion in damages. In Central Kalimantan Province, the threat is made worse by constructing large canals to drain the water from peat, leaving the soil highly prone to fire.

Recently, various government agencies, including the Ministry of Public Works, Peatland Restoration Agency (BRG), and local government, have been spurred into action to restrict water flow out of the peatlands in Pulang Pisau District, Central Kalimantan. The initiative aims to keep water levels high and peatlands moist during the dry season, provide adequate drainage to mitigate flooding in the rainy season, and enable limited access for local communities in support of sustainable livelihoods.

1 <https://www.lestari-indonesia.org/en/community-engagement-peatland-restoration-free-prior-informed-consent-fpic/>

7.5.2 FREE, PRIOR AND INFORMED CONSENT (FPIC)

In support of this initiative, USAID LESTARI recently completed a model stakeholder engagement activity involving the facilitation of FPIC in villages covering around 30,000 ha of degraded peatland. This peatland is part of an area that covers less than 5% of the province yet accounted for 30% of all fire impacts in 2015.

FPIC facilitation ensured that communities are well informed; have an opportunity to provide inputs; and give their willing consent to construct, maintain, and protect the dams. Notably, local communities were able to influence the design of the dams so that their small boats can pass through spillways in order to maintain their livelihoods.

LESTARI provided technical and financial support for the FPIC process mediated by the district-level multi-stakeholder forum. It adhered to both USAID and BRG social safeguard guidelines for FPIC.



Figure 3: Community engagement in peatland restoration: FPIC
(Source: USAID - Lestari, Indonesia)

Landmark Achievement

The FPIC process was widely embraced by local communities and government agencies, and culminated in formal recognition (Berita Acara) that provides legal legitimacy. BRG acknowledged that this is a first for Indonesia in peatland restoration through canal blocking based upon FPIC.

Moving forward, BRG has made it clear that any party that conducts canal blocking in the area must be subject to commitments for FPIC. In order to institutionalise the approach and promote its sustainability, LESTARI obtained agreement that FPIC would become Standard Operating Procedure for canal blocking design and implementation in Public Works guidelines. The head of BRG has also decided that the LESTARI-supported FPIC process will serve a model for more sustainable and inclusive land use planning in Sumatra.



Figure 4: FPIC stakeholder being informed on canal blocking plans
(Source: USAID - Lestari, Indonesia)

ANNEX 1: RSPO ISH STANDARD AUDITOR CHECKLIST

Criteria	Indicators	Checklist
4.4 Where smallholder plots exist on peat, subsidence and degradation of peat soils is minimised by use of best management practices. Do any smallholders within the group have existing plots on peat? If no, SKIP	4.4 E Group manager confirms presence of peat on existing plots within the group and smallholders on peat commit to using best management practices and minimizing subsidence and degradation of peat soils (Reference 1.1 E, Annex 2).	<ol style="list-style-type: none"> 1. Has the group manager identified the existence of peat within the group members existing plots? 2. How many of the group members have peat on their existing plots? 3. Have the smallholders signed a declaration to commit to using best management practices and minimizing subsidence and degradation of peat soils? 4. Is the group manager aware of best management practices for peat?
	4.4 MS A Smallholders complete training on best management practices (BMPs) for peat. The group has an action plan to minimise risk of fire, to apply BMPs for plantings on peat and manage a water system in the certification unit.	<ol style="list-style-type: none"> 1. Have smallholders participated in training on best management practices (BMPs) for peat? 2. What are the evidence of training conducted? 3. Who provided the training? 4. When was the training provided? 5. Has the group developed an action plan to minimise risk of fire, to apply BMPs for plantings on peat and manage a water system in the certification unit? 6. What are the fire fighting system available? 7. Can the smallholder demonstrate understanding on the best management practices (BMPs) for peat including the action plan to minimise risk of fire and, manage water system?

Criteria	Indicators	Checklist
<p>4.4 Where smallholder plots exist on peat, subsidence and degradation of peat soils is minimised by use of best management practices.</p> <p>Do any smallholders within the group have existing plots on peat? If no, SKIP</p> <p>(Continued)</p>	<p>4.4 MS B Smallholders implement the group's action plan based on best management practices, including fire and water management and monitoring of subsidence rate for existing plantings on peat.</p>	<ol style="list-style-type: none"> 1. Have the smallholders implemented the action plan to minimise risk of fire, to apply BMPs for plantings on peat and manage a water system in the certification unit? 2. What are the evidence of implementation of the action plan ? 3. What are the fire prevention and control systems available ? 4. How are the smallholders monitoring subsidence rate for existing plantings on peat ? 5. How are the smallholders monitoring the water levels for existing plantings on peat ?
<p>4.5 Plots on peat are replanted only on areas with low risk of flooding, saline intrusion as demonstrated by a risk assessment.</p> <p>Do any smallholders within the group have plans for replanting plots that are located on peat? If no, SKIP</p>	<p>4.5 E Smallholders commit to provide information on all plans for replanting and commit that replanting will only be in areas with low risk of flooding and saline intrusion (Reference 1.1.E, Annex 2).</p>	<hr/> <ol style="list-style-type: none"> 1. Have the smallholders signed a declaration to commit: <ul style="list-style-type: none"> • to provide information on all plans for replanting and • that replanting will only be in areas with low risk of flooding and saline intrusion. 2. Has the group manager collected and compiled information on replanting by group members?

Criteria	Indicators	Checklist
<p>4.5 Plots on peat are replanted only on areas with low risk of flooding, saline intrusion as demonstrated by a risk assessment.</p> <p>Do any smallholders within the group have plans for replanting plots that are located on peat? If no, SKIP</p> <p>(Continued)</p>	<p>4.5 MS A Smallholders with plots on peat complete training on identification of future risks of flooding associated with subsidence and alternate land development strategies.</p> <hr/> <p>4.5 MS B Prior to replanting on peat smallholders complete a risk assessment related to flooding associated with subsidence and, where there is high risk, present a plan that includes alternate land development strategies, preferencing alternative livelihood planning.</p>	<ol style="list-style-type: none"> 1. Have smallholders with plots on peat participated in training on identification of future risks of flooding and alternate land development strategies? 2. What are the evidence of training conducted? 3. Who provided the training? 4. When was the training provided? 5. Are the smallholders aware of the risk associated with subsidence? What are the identified risk associated with subsidence? 6. Have alternate land development strategies been identified? <hr/> <ol style="list-style-type: none"> 1. Is there replanting on peat by the smallholders in the group? 2. Has a risk assesement related to flooding associated with subsidence been carried out prior to replanting ? 3. What was the risks identified in the risk assesement ? 4. For high risk area, is there a plan that includes alternate land development strategies, preferencing alternative livelihood planning ? 5. Is the group manager aware of replanting activities (on peat) by group members ?

ANNEX 2: RECOMMENDED SOP FOR FIRE PREVENTION AND CONTROL PLAN

(Adapted version courtesy of Standard Operasional Prosedur Pemadaman Kebakaran Lahan, KUD Makarti No.23/SOP-KUD-MKRSM/IV/2019)

When encountered the risk of fire, there are several steps that can be taken towards fire prevention and control:

1. Should there be fire hotspot detected, the flames should be stopped immediately with basic equipment.
2. The group members shall report to the Internal Control System of the group or Fire Emergency Unit should the basic equipment is not enough to quench the flames.
3. The Fire Emergency Unit will immediately report to the Fire Agency or related agency.
4. All group members are responsible to quench the flames and conduct the evaluation.

ANNEX 3: RECOMMENDED TABLE/SOP FOR WATER LEVEL MONITORING

(Adapted version courtesy of ISH Group 1 Asosiasi Petani Sawit Swadaya Amanah No.022/ DOK/ SOP/ APSSA/2020 dated 12 February 2020)

1. Maintain the water level by establishing drainage channels and installing modest dams to monitor the water level.
2. Modest dam is established at specific points; specifically, main outlet and the cost will be borne by the smallholder group.
3. The high point of water level on the modest dam will be monitored every one month.
4. In order to monitor the water level, the drainage channel will be set as a water level measurement tool, which is made by PVC pipe. The length of the PVC pipe shall be 2 m (1.5 m above the collecting channel surface and the rest (50 cm) should be rooted in the soil.
5. The measurement on the modest dam will be set as 0 from the soil surface.
6. The measurements in the PVC pipe (0 cm, 10 cm, 30 cm, ...150 cm) should be marked in red with a white base color and the optimum measurements (60 cm and 80 cm) should be marked in black.
7. The material of the modest dam should be waterproofed and used as a cantilever (such as bamboo) and placed in a sand sack.
8. The High Conservation Value (HCV) team identifies the location points to establish the modest dam.
9. The modest dam will be constructed once the request has been approved by the group manager.
10. Once the modest dam has been constructed, the HCV team will evaluate the effectiveness of the dam and monitor the water level every month.
11. Install the subsidence stake from the iron pipe to monitor the decrease of water level.
12. The HCV team identifies the location points from the installed subsidence stack.
13. The result shall be reported to the group manager to get approval for establishing the modest dam.
14. The subsidence stack will be constructed once the request has been approved by the group manager.
15. Once the subsidence stack has been constructed, the HCV team will evaluate the effectiveness of the dam and monitor the water level every month.

REFERENCE

Community Engagement in Peatland Restoration: Free, Prior, and Informed Consent (FPIC), News from the Landscape, USAID. Retrieved from <https://www.lestari indonesia.org/en/community-engagement-peatland-restoration-free-prior-informed-consent-fpic/>

Clause 6.1, ISO Quality Management System 9001:2015

International Society of Soil Science – IUSS. 1930. Report to The Subcommittee for Peat Soils of The International Society of Soil Science. Washington D.C., USA, U.S. Bureau of Chemistry and Soils

Mandych, A. F. (2009). Classification of floods. *Water Interactions with Energy, Environment, Food and Agriculture-Volume II*, 218.

Paramanathan, S. 2016. Organic Soils of Malaysia: Their characteristics, mapping, classification and management for oil palm cultivation. MPOC, 156 pp.

Parish, F., Lew, S.Y., Faizuddin, M. and Giesen, W. (Eds.). 2019. RSPO Manual on Best Management Practices (BMPs) for Management and Rehabilitation of Peatlands. 2nd Edition, RSPO, Kuala Lumpur.

Sideman, B. (2016). Growing Vegetables: Tomatoes. UNH Cooperative Extensions.

Singh, P. K., & Hiremath, B. N. (2010). Sustainable livelihood security index in a developing country: a tool for development planning. *Ecological Indicators*, 10, 442e451.

Ritzema, H.P., Mutalib Mat Hassan, A. and Moens, R.P. 1998. A New Approach to Water management of Tropical Peatlands: A Case Study from Malaysia. *Irrigation and Drainage Systems* 12 (1998) 2, p.123-139

Wüst, R. A., & Bustin, R. M. 2004. Late Pleistocene and Holocene development of the interior peat-accumulating basin of tropical Tasek Bera, Peninsular Malaysia. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 211(3-4), 241- 270.

RSPO is an international non-profit organisation formed in 2004 with the objective to promote the growth and use of sustainable oil palm products through credible global standards and engagement of stakeholders.

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