印度尼西亚农业领域的协同效应型合作项目

有关印度尼西亚农业领域的课题

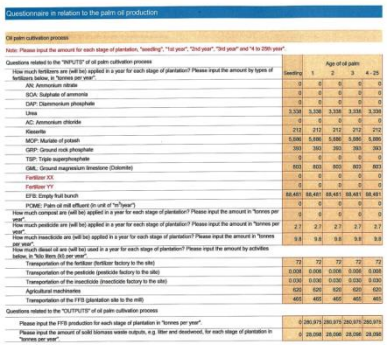
〇印度尼西亚是世界上屈指可数的棕榈油生产国，自1990年以后，产量不断扩大。

〇棕榈油在制成产品的过程中会排出含有高浓度有机物质的废液，与此同时，也会排出温室效应气体（甲烷气体），导致恶臭气味与周边地区水质恶化，所以，对此的环境污染防治措施成为了亟待解决的课题。

〇从温室效应气体减排、环境污染防治措施的观点出发，需要有效利用棕榈椰子等产品加工过程中产生的生物资源

事业的目的

〇实施旨在降低印度尼西亚棕榈油产业环境负荷的生命周期评估 (LCA)，探讨具体的生物资源有效利用的方法，通过推进协同效应型环境污染防治措施，为强化印度尼西亚的环境措施作贡献。



Questionnaire in relation to the palm oil production

Oil palm cultivation process

Note: Please input the amount for each stage of plantation, "seedling", "1st year", "2nd year", "3rd year" and "4 to 25th year".

Questions related to the "INPUTS" of oil palm cultivation process	Seedling	1	2	3	4 - 25
How much fertilizers are (will be) applied in a year for each stage of plantation? Please input the amount by types of fertilizers below, in "tonnes per year".					
AN: Ammonium nitrate	0	0	0	0	0
SOA: Sulphate of ammonia	0	0	0	0	0
DAP: Diammonium phosphate	0	0	0	0	0
Urea	3,336	3,336	3,336	3,336	3,336
AC: Ammonium chloride	0	0	0	0	0
Kieserite	212	212	212	212	212
MOP: Muriate of potash	5,696	5,696	5,696	5,696	5,696
GRP: Ground rock phosphate	393	393	393	393	393
TSP: Triple superphosphate	0	0	0	0	0
GML: Ground magnesium limestone (Dolomite)	803	803	803	803	803
Fertilizer XX	0	0	0	0	0
Fertilizer YY	0	0	0	0	0
EFB: Empty fruit bunch	88,481	88,481	88,481	88,481	88,481
POME: Palm oil mill effluent (in unit of "m^3/year")	0	0	0	0	0
How much compost are (will be) applied in a year for each stage of plantation? Please input the amount in "tonnes per year".	0	0	0	0	0
How much pesticide are (will be) applied in a year for each stage of plantation? Please input the amount in "tonnes per year".	2.7	2.7	2.7	2.7	2.7
How much insecticide are (will be) applied in a year for each stage of plantation? Please input the amount in "tonnes per year".	9.8	9.8	9.8	9.8	9.8
How much diesel oil are (will be) used in a year for each stage of plantation? Please input the amount by activities below, in "kilo liters (kl) per year".					
Transportation of the fertilizer (fertilizer factory to the site)	72	72	72	72	72
Transportation of the pesticide (pesticide factory to the site)	0.008	0.008	0.008	0.008	0.008
Transportation of the insecticide (insecticide factory to the site)	0.030	0.030	0.030	0.030	0.030
Agricultural machineries	620	620	620	620	620
Transportation of the FFB (plantation site to the mill)	465	465	465	465	465

Questions related to the "OUTPUTS" of oil palm cultivation process

Please input the FFB production for each stage of plantation in "tonnes per year".	0	280,975	280,975	280,975	280,975
Please input the amount of solid biomass waste outputs, e.g. fiber and deadwood, for each stage of plantation in "tonnes per year".	0	28,098	28,098	28,098	28,098

（左）环境负荷估算工具
（下）作业区的情形

活动内容 (LCA)

2011年度
・整理与分析现有信息，调查存量，估算环境负荷量

2012年度
・确定环境负荷较大的制造过程，提出协同效应型环境改善措施

2013年度
・开发环境负荷估算工具，编写LCA手册

整理与分析信息 → 确定环境负荷工序 → 开发环境负荷估算工具

活动内容（生物）

2011年度
・整理与分析现有信息，整理课题，制定有效利用方案

2012年度
・探讨生物资源有效利用技术，收集和分析利用促进方案的信息

2013年度
探讨协同效应型生物有效利用促进方案

整理与分析信息 → 探讨有效利用技术 → 探讨有效利用促进方案