

Annexe 15 : Liste indicative des mesures types d'atténuation des impacts

Les tableaux ci-dessous résument les mesures d'atténuation proposées pour les éléments susceptibles d'avoir des impacts négatifs. Les principaux acteurs de ces mesures d'atténuation peuvent être les directions du MAAH, des agences gouvernementales locales, des unités ad-hoc créées par les partenaires de développement pour mettre en œuvre des projets individuels et / ou des entrepreneurs devant participer aux travaux de construction.

Cependant, la responsabilité de la mise en œuvre est assumée de manière uniforme par le Comité de révision et l'unité de gestion du programme qui sera créée sous MAAH, pour la mise en œuvre du PNDBF.

Le budget pour la mise en œuvre du même PNDBF sera alloué à un poste budgétaire spécifique du MAAH et les dépenses requises pour les mesures d'atténuation suivantes seront payées avec le budget alloué à ce poste budgétaire ou l'aide financière des partenaires de développement.

Tableau: Mesures d'atténuation pour les projets de construction et d'exploitation de systèmes d'irrigation

Article	Mesures d'atténuation	Les dépenses
Pollution de l'air	<ul style="list-style-type: none"> ♦ Utilisation d'engins de chantier et machines avec système d'émission de gaz réduite. ♦ Contrôle régulier et l'entretien complet d'engins de chantier et de machines. ♦ Jet d'eau dans et autour des entrées des chantiers de construction. 	Pour être inclus dans les coûts de construction
Pollution de l'eau	<ul style="list-style-type: none"> ♦ Mise en place et l'utilisation du bassin de décantation pour traiter l'eau gaspillée lors de la construction. ♦ Sensibilisation des utilisateurs de bas-fond sur la bonne utilisation des produits chimiques dans les exploitations agricoles. 	Pour être inclus dans les coûts de construction
Les déchets	<ul style="list-style-type: none"> ♦ Réutilisation des déblais et briques enlevées lors de la construction. ♦ Élimination des déchets hors des engins de chantier et machines conformément aux règlements pertinents du Burkina Faso. ♦ Enfouissement des déchets produits lors de la construction, qui ne peut être réutilisée dans la terre de MAAH ou l'agent d'exécution. ♦ Commission d'élimination des déchets qui ne peuvent pas être réutilisés et enterré à des entreprises spécialisées pour un traitement approprié. ♦ Sensibilisation des utilisateurs de bas-fond sur la gestion des déchets produits par l'activité agricole. 	Pour être inclus dans les coûts de construction
Pollution des sols	<ul style="list-style-type: none"> ♦ Une bonne gestion et le contrôle périodique des véhicules de construction et de machineries. ♦ Sensibilisation des utilisateurs de bas-fond sur la bonne utilisation des produits chimiques dans les exploitations agricoles. 	Pour être inclus dans les coûts de construction
Bruit et vibrations	<ul style="list-style-type: none"> ♦ Utilisation des machines de chantier avec moins de bruit et vibration. ♦ Ne fonctionne pas pendant la nuit et l'utilisation de détour dans le quartier résidentiel. 	Pour être inclus dans les coûts de construction
Subsidence	<ul style="list-style-type: none"> ♦ Examination of possibility for land subsidence prior to the construction works. ♦ Use of alternative water sources. 	À la charge de MAAH et/ou partenaires de financement

Article	Mesures d'atténuation	Les dépenses
Mauvaise odeur	<ul style="list-style-type: none"> ♦ Utilisation d'engins de chantier et machines avec système d'émission de gaz réduite. ♦ Contrôle régulier et l'entretien complet d'engins de chantier et de machines. 	À la charge de MAAH et/ou partenaires de financement
Écosystème	<ul style="list-style-type: none"> ♦ Sélection du site de projet alternatif. ♦ Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	À la charge de MAAH et/ou partenaires de financement
Figure de l'eau	<ul style="list-style-type: none"> ♦ Sélection du site de projet alternatif. ♦ Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	À couvrir le budget MAAH
Terrain, géologie	<ul style="list-style-type: none"> ♦ Sélection d'alternative ballastières. ♦ Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	À la charge de MAAH et/ou partenaires de financement
Acquisition de terres et réinstallation	<ul style="list-style-type: none"> ♦ Sélection du site de projet alternatif afin d'éviter ou de minimiser le nombre de personnes touchées de projet (PAPs). ♦ Ajustement ou des changements dans la conception du projet et la méthodologie de construction afin d'éviter ou de minimiser le nombre de PAPs. ♦ Préparation d'un Plan d'Action de réinstallation conformément à la disposition de la législation du Burkina Faso et de la politique de réinstallation de partenaire de développement, le cas échéant. ♦ Compensation de PAPs conformément aux dispositions des législations du Burkina Faso et de la politique de réinstallation de partenaire de développement, le cas échéant. 	À la charge de MAAH et/ou partenaires de financement
Utilisation des terres et utilisation des ressources régionales	<ul style="list-style-type: none"> ♦ Minimisation de la période de construction ♦ Construction durant la saison sèche quand les utilisateurs de bas-fond n'ont pas de toute activité agricole sur les chantiers. ♦ Minimisation des dommages par construction travaille sur les ressources naturelles dont bénéficient les résidents. 	Pour être inclus dans les coûts de construction
Utilisation de l'eau	<ul style="list-style-type: none"> ♦ Volume total d'eau disponible et les besoins d'eau à des fins autres qu'agricoles devrait être confirmée avant la conception du projet. ♦ Ajustement de la conception du projet pour répondre aux différents besoins pour l'eau dans le volume disponible d'eau. 	À la charge de MAAH et/ou partenaires de financement
Infrastructure sociale et services sociaux existants	<ul style="list-style-type: none"> ♦ La mise en place de déviation à d'autres infrastructures et services sociaux au cours de la période de construction. 	Pour être inclus dans les coûts de construction
Organisations sociales telles que le capital social et les organisations décisionnelles régionales	<ul style="list-style-type: none"> ♦ Facilitation du chef de village, propriétaires fonciers et des utilisateurs des terres pour former le comité. ♦ Facilitation à la Commission d'établir et d'appliquer la constitution et les règlements du comité. ♦ Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. 	À la charge de MAAH et/ou partenaires de financement

Article	Mesures d'atténuation	Les dépenses
Répartition inégale des dommages et des avantages	<ul style="list-style-type: none"> Facilitation à la Commission de distribuer des bénéfices et dommages parmi les utilisateurs de bas-fond. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. Réglage de la conception du projet. 	À la charge de MAAH et/ou partenaires de financement
Conflit d'intérêt dans la région	<ul style="list-style-type: none"> Facilitation à la Commission pour les différends ou conflits causés par l'élaboration et/ou la mise en œuvre du projet. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. Réglage de la conception du projet. 	À la charge de MAAH et/ou partenaires de financement
Patrimoine culturel	<ul style="list-style-type: none"> Identification des zones culturellement importants au sein du site de projet avant la conception. Sélection du site de projet alternatif. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	À la charge de MAAH et/ou partenaires de financement
Paysage	<ul style="list-style-type: none"> Sélection du site de projet alternatif. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	Pour être inclus dans les coûts de construction
VIH / SIDA et autres maladies infectieuses	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les utilisateurs des installations sur la prévention et le traitement des maladies infectieuses. 	Pour être inclus dans les coûts de construction
Environnement de travail (y compris la sécurité du travail)	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les bas-fond utilisateurs sur les risques encourus dans les travaux de construction. 	Pour être inclus dans les coûts de construction
Accident	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les bas-fond utilisateurs sur les risques encourus dans les travaux de construction. Sensibilisation des villageois, y compris les bas-fond utilisateurs sur les risques que comporte l'exploitation du système d'irrigation. 	Pour être inclus dans les coûts de construction

Source : Equipe d'étude JICA:

Tableau: Mesures d'atténuation pour les projets de construction et d'exploitation de routes d'accès

Article	Mesures d'atténuation	Les dépenses
Pollution de l'air	<ul style="list-style-type: none"> Utilisation d'engins de chantier et machines avec système d'émission de gaz réduite. Contrôle régulier et l'entretien complet d'engins de chantier et de machines. Jet d'eau dans et autour des entrées des chantiers de construction. 	À inclure dans les coûts de construction
Pollution de l'eau	<ul style="list-style-type: none"> Mise en place et l'utilisation du bassin de décantation pour traiter l'eau gaspillée lors de la construction. 	À inclure dans les coûts de construction

Article	Mesures d'atténuation	Les dépenses
Les déchets	<ul style="list-style-type: none"> ♦ Réutilisation des déblais et briques enlevées lors de la construction. ♦ Élimination des déchets hors des engins de chantier et machines conformément aux règlements pertinents du Burkina Faso. ♦ Enfouissement des déchets produits lors de la construction, qui ne peut être réutilisée dans la terre de MAAH ou l'agent d'exécution. ♦ Commission d'élimination des déchets qui ne peuvent pas être réutilisés et enterrés à des entreprises spécialisées pour un traitement approprié. 	À inclure dans les coûts de construction
Pollution des sols	<ul style="list-style-type: none"> ♦ Une bonne gestion et le contrôle périodique des véhicules de construction et de machineries. 	À inclure dans les coûts de construction
Bruit et vibrations	<ul style="list-style-type: none"> ♦ Utilisation des machines de chantier avec moins de bruit et vibration. ♦ Aucun travaux de construction au cours de la nuit et l'utilisation de détour dans le quartier résidentiel. 	À inclure dans les coûts de construction
Subsidence	<ul style="list-style-type: none"> ♦ Examen de la possibilité pour des affaissements de terrain avant la construction fonctionne. ♦ Utilisation des sources d'eau alternative pour la construction. 	À la charge du MAAH et / ou des partenaires financiers
Mauvaise odeur	<ul style="list-style-type: none"> ♦ Utilisation d'engins de chantier et machines avec système d'émission de gaz réduite. ♦ Contrôle régulier et l'entretien complet d'engins de chantier et de machines. 	À inclure dans les coûts de construction
Écosystème	<ul style="list-style-type: none"> ♦ Sélection du site de projet alternatif. ♦ Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	À la charge du MAAH et / ou des partenaires financiers
Figure de l'eau	<ul style="list-style-type: none"> ♦ Sélection du site de projet alternatif. ♦ Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	À couvrir avec le budget du MAAH
Terrain, géologie	<ul style="list-style-type: none"> ♦ Sélection d'alternative ballastières. ♦ Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	À la charge du MAAH et / ou des partenaires financiers
Acquisition de terres et réinstallation	<ul style="list-style-type: none"> ♦ Sélection du site de projet alternatif afin d'éviter ou de minimiser le nombre de personnes touchées de projet (PAPs). ♦ Ajustement ou des changements dans la conception du projet et la méthodologie de construction afin d'éviter ou de minimiser le nombre de PAPs. ♦ Préparation d'un Plan d'Action de réinstallation conformément à la disposition de la législation du Burkina Faso et de la politique de réinstallation de partenaire de développement, le cas échéant. ♦ Compensation de PAPs conformément aux dispositions des législations du Burkina Faso et de la politique de réinstallation de partenaire de développement, le cas échéant. 	À la charge du MAAH et / ou des partenaires financiers
Utilisation des terres et utilisation des ressources régionales	<ul style="list-style-type: none"> ♦ Minimisation de la période de construction. Pendant la saison sèche quand les utilisateurs de bas-fond n'ont pas de toute activité agricole sur les chantiers de la construction. Minimisation des dommages par construction travaille sur les ressources naturelles dont bénéficient les résidents. 	À inclure dans les coûts de construction

Article	Mesures d'atténuation	Les dépenses
Utilisation de l'eau	<ul style="list-style-type: none"> Volume total d'eau disponible et les besoins d'eau à des fins autres qu'agricoles devrait être confirmée avant la conception du projet. Ajustement de la conception du projet pour répondre aux différents besoins pour l'eau dans le volume disponible d'eau. 	À la charge du MAAH et / ou des partenaires financiers
Infrastructure sociale et services sociaux existants	<ul style="list-style-type: none"> La mise en place de déviation à d'autres infrastructures et services sociaux au cours de la période de construction. 	À inclure dans les coûts de construction
Organisations sociales telles que le capital social et les organisations décisionnelles régionales	<ul style="list-style-type: none"> Facilitation du chef de village, propriétaires fonciers et des utilisateurs des terres pour former un comité ad-hoc. Facilitation à la Commission d'établir et d'appliquer la constitution et les règlements du comité. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. 	À la charge du MAAH et / ou des partenaires financiers
Répartition inégale des dommages et des avantages	<ul style="list-style-type: none"> Facilitation à la Commission de distribuer les avantages et dommages parmi les intervenants. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. Réglage de la conception du projet. 	À la charge du MAAH et / ou des partenaires financiers
Conflit d'intérêt dans la région	<ul style="list-style-type: none"> Facilitation à la Commission pour les différends ou conflits causés par l'élaboration et/ou la mise en œuvre du projet. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. Réglage de la conception du projet. 	À la charge du MAAH et / ou des partenaires financiers
Patrimoine culturel	<ul style="list-style-type: none"> Identification des zones culturellement importants au sein du site de projet avant la conception. Sélection du site de projet alternatif. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	To be borne by MAAH and/or financing partners
Paysage	<ul style="list-style-type: none"> Sélection du site de projet alternatif. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	To be borne by MAAH and/or financing partners
VIH / SIDA et autres maladies infectieuses	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les utilisateurs des installations sur la prévention et le traitement des maladies infectieuses. 	To be included into the construction costs
Environnement de travail (y compris la sécurité du travail)	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les bas-fond utilisateurs sur les risques encourus dans les travaux de construction. 	To be included into the construction costs
Accident	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les bas-fond utilisateurs sur les risques encourus dans les travaux de construction. Sensibilisation des travailleurs de la construction et des villageois sur les règles de circulation et sécurité routière. 	To be included into the construction costs

Source : Equipe d'étude JICA:

Tableau: Mesures d'atténuation pour les projets de construction et d'exploitation d'équipements de stockage et de traitement

Article	Mesures d'atténuation	Les dépenses
Pollution de l'air	<ul style="list-style-type: none"> ♦ Utilisation des engins de chantier / machinerie ainsi que du matériel de traitement avec système d'émission de gaz a réduit. ♦ Contrôle régulier et l'entretien complet des engins de chantier / machinerie ainsi que du matériel de traitement. ♦ Jet d'eau dans et autour des entrées des chantiers de construction. 	Coûts requis pendant la phase de construction: à inclure dans les coûts de construction
Pollution de l'eau	<ul style="list-style-type: none"> ♦ Mise en place et l'utilisation du bassin de décantation pour traiter l'eau gaspillée. ♦ Sensibilisation des utilisateurs de bas-fond sur l'utilisation appropriée du matériel de traitement. 	Coûts requis pendant la phase d'opération: à la charge des utilisateurs pendant l'opération
Les déchets	<ul style="list-style-type: none"> ♦ Réutilisation des déblais et briques enlevées lors de la construction. ♦ Élimination des déchets de construction véhicules / machinerie ainsi que du matériel de traitement conformément à la réglementation pertinente du Burkina Faso. ♦ Enfouissement des déchets produits lors de la construction, qui ne peut être réutilisée dans la terre de MAAH ou agent d'exécution. ♦ Commission d'élimination des déchets qui ne peuvent pas être réutilisés et enterré à des entreprises spécialisées pour un traitement approprié. ♦ Sensibilisation des utilisateurs de bas-fond sur la gestion des déchets produits par l'activité agricole. 	Coûts requis pendant la phase de construction: à inclure dans les coûts de construction
Pollution des sols	<ul style="list-style-type: none"> ♦ Une bonne gestion et le contrôle périodique des véhicules de construction et de machineries. ♦ Sensibilisation des utilisateurs de bas-fond sur la bonne utilisation des produits chimiques dans les exploitations agricoles. 	Coûts requis pendant la phase d'opération: à la charge des utilisateurs pendant l'opération
Bruit et vibrations	<ul style="list-style-type: none"> ♦ Utilisation des machines de chantier avec moins de bruit et vibration. ♦ Ne fonctionne ne pas pendant la nuit et l'utilisation de détour dans le quartier résidentiel. 	Coûts requis pendant la phase de construction: à inclure dans les coûts de construction
Subsidence	<ul style="list-style-type: none"> ♦ Examination of possibility for land subsidence prior to the construction works. ♦ Use of alternative water sources. 	Coûts requis pendant la phase d'opération: à la charge des utilisateurs pendant l'opération
Mauvaise odeur	<ul style="list-style-type: none"> ♦ Utilisation des engins de chantier / machinerie ainsi que du matériel de traitement avec système d'émission de gaz a réduit. ♦ Contrôle régulier et l'entretien complet des engins de chantier / machinerie ainsi que du matériel de traitement. 	Coûts requis pendant la phase de construction: à inclure dans les coûts de construction

Article	Mesures d'atténuation	Les dépenses
Écosystème	<ul style="list-style-type: none"> Sélection du site de projet alternatif. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	Coûts requis pendant la phase d'opération: à la charge des utilisateurs pendant l'opération
Utilisation des terres et utilisation des ressources régionales	<ul style="list-style-type: none"> Sélection du site de projet alternatif. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	Coûts requis pendant la phase de construction: à inclure dans les coûts de construction
Utilisation de l'eau	<ul style="list-style-type: none"> Sélection d'alternative ballastières. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	Coûts requis pendant la phase d'opération: à la charge des utilisateurs pendant l'opération
Organisations sociales telles que le capital social et les organisations décisionnelles régionales	<ul style="list-style-type: none"> Facilitation du chef de village, propriétaires fonciers et des utilisateurs des terres pour former le comité. Facilitation à la Commission d'établir et d'appliquer la constitution et les règlements du comité. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. 	À la charge du MAAH et / ou des partenaires financiers
Répartition inégale des dommages et des avantages	<ul style="list-style-type: none"> Facilitation à la Commission de distribuer des bénéfices et dommages parmi les utilisateurs de bas-fond. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. Réglage de la conception du projet. 	Coûts requis pendant la phase de construction: à inclure dans les coûts de construction
Conflit d'intérêt dans la région	<ul style="list-style-type: none"> Facilitation à la Commission pour les différends ou conflits causés par l'élaboration et/ou la mise en œuvre du projet. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. Réglage de la conception du projet. 	Coûts requis pendant la phase d'opération: à la charge des utilisateurs pendant l'opération
Environnement de travail (y compris la sécurité du travail)	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les bas-fond utilisateurs sur les risques encourus dans les travaux de construction. 	Être couvert par le budget du MAAH
Accident	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les bas-fond utilisateurs sur les risques encourus dans les travaux de construction. Sensibilisation des villageois dont les utilisateurs sur les risques que comporte l'opération bas-fond. 	Être couvert par le budget du MAAH

Source : Equipe d'étude JICA:

Tableau: Mesures d'atténuation pour les projets de construction et d'exploitation d'installations d'approvisionnement en eau et d'assainissement

Article	Mesures d'atténuation	Les dépenses
Pollution de l'air	<ul style="list-style-type: none"> ♦ Utilisation des engins de chantier / réduit de machines avec système d'émission de gaz. ♦ Contrôle régulier et l'entretien complet des engins de chantier / machines. ♦ Jet d'eau dans et autour des entrées des chantiers de construction 	<ul style="list-style-type: none"> ♦ Pour être inclus dans les coûts de construction.
Pollution de l'eau	<ul style="list-style-type: none"> ♦ Mise en place et l'utilisation du bassin de décantation pour traiter l'eau gaspillée. ♦ Sensibilisation des utilisateurs de bas-fond sur l'utilisation appropriée de l'eau et aux installations sanitaires. 	<ul style="list-style-type: none"> ♦ Coûts nécessaires pendant la phase de construction : à inclure dans les coûts de construction. ♦ Coûts nécessaires pendant la phase de l'opération : être supportés par les utilisateurs lors de l'opération.
Les déchets	<ul style="list-style-type: none"> ♦ Réutilisation des déblais et briques enlevées lors de la construction. ♦ Élimination des déchets de construction véhicules / machines conformément aux règlements pertinents du Burkina Faso. ♦ Enfouissement des déchets produits lors de la construction, qui ne peut être réutilisée dans la terre de MAAH ou agent d'exécution. ♦ Commission d'élimination des déchets qui ne peuvent pas être réutilisés et enterré à des entreprises spécialisées pour un traitement approprié. ♦ Sensibilisation des utilisateurs de bas-fond sur la gestion des carrières. 	<ul style="list-style-type: none"> ♦ Coûts nécessaires pendant la phase de construction : à inclure dans les coûts de construction. ♦ Coûts nécessaires pendant la phase de l'opération : être supportés par les utilisateurs lors de l'opération.
Pollution des sols	<ul style="list-style-type: none"> ♦ Une bonne gestion et le contrôle périodique des véhicules de construction et de machineries. 	<ul style="list-style-type: none"> ♦ Coûts nécessaires pendant la phase de construction : à inclure dans les coûts de construction. ♦ Coûts nécessaires pendant la phase de l'opération : être supportés par les utilisateurs lors de l'opération.
Bruit et vibrations	<ul style="list-style-type: none"> ♦ Utilisation des machines de chantier avec moins de bruit et vibration. ♦ Ne fonctionne pas pendant la nuit et l'utilisation de détour dans le quartier résidentiel. 	<ul style="list-style-type: none"> ♦ Coûts nécessaires pendant la phase de construction : à inclure dans les coûts de construction. ♦ Coûts nécessaires pendant la phase de l'opération : être supportés par les utilisateurs lors de l'opération.
Subsidence	<ul style="list-style-type: none"> ♦ Examen de la possibilité pour des affaissements de terrain avant la construction fonctionne. ♦ Utilisation des sources d'eau alternative. 	<ul style="list-style-type: none"> ♦ À la charge de MAAH et/ou partenaires de financement.

Article	Mesures d'atténuation	Les dépenses
Mauvaise odeur	<ul style="list-style-type: none"> Utilisation des engins de chantier / réduit de machines avec système d'émission de gaz. Contrôle régulier et l'entretien complet des engins de chantier / machines ainsi que les installations d'eau et d'assainissement. 	<ul style="list-style-type: none"> Coûts nécessaires pendant la phase de construction : à inclure dans les coûts de construction. Coûts nécessaires pendant la phase de l'opération : être supportés par les utilisateurs lors de l'opération.
Écosystème	<ul style="list-style-type: none"> Sélection du site de projet alternatif. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	<ul style="list-style-type: none"> À couvrir le budget MAAH.
Utilisation des terres et utilisation des ressources régionales	<ul style="list-style-type: none"> Sélection du site de projet alternatif. Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	<ul style="list-style-type: none"> À couvrir le budget MAAH.
Utilisation de l'eau	<ul style="list-style-type: none"> Ajustement ou des changements dans la conception du projet et la méthodologie de construction. 	<ul style="list-style-type: none"> À la charge de partenaires MAAH et/ou de développement.
Organisations sociales telles que le capital social et les organisations décisionnelles régionales	<ul style="list-style-type: none"> Facilitation du chef de village, propriétaires fonciers et des utilisateurs des terres pour former le comité. Facilitation à la Commission d'établir et d'appliquer la constitution et les règlements du comité. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. 	<ul style="list-style-type: none"> À la charge de partenaires MAAH et/ou de développement.
Répartition inégale des dommages et des avantages	<ul style="list-style-type: none"> Facilitation à la Commission de distribuer des bénéfices et dommages parmi les utilisateurs de bas-fond. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. Réglage de la conception du projet. 	<ul style="list-style-type: none"> À la charge de partenaires MAAH et/ou de développement.
Conflit d'intérêt dans la région	<ul style="list-style-type: none"> Facilitation à la Commission pour les différends ou conflits causés par l'élaboration et/ou la mise en œuvre du projet. Renforcement des capacités des autorités locales en fournissant des informations sur les cas rapprochés comme référence. Réglage de la conception du projet. 	<ul style="list-style-type: none"> À la charge de partenaires MAAH et/ou de développement.
VIH / SIDA et autres maladies infectieuses	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les utilisateurs des installations sur la prévention et le traitement des maladies infectieuses. 	<ul style="list-style-type: none"> Pour être inclus dans les coûts de construction.
Environnement de travail (y compris la sécurité du travail)	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les bas-fond utilisateurs sur les risques encourus dans les travaux de construction. 	<ul style="list-style-type: none"> Pour être inclus dans les coûts de construction...
Accident	<ul style="list-style-type: none"> Sensibilisation des travailleurs de la construction et des villageois, y compris les bas-fond utilisateurs sur les risques encourus dans les travaux de construction. 	<ul style="list-style-type: none"> Pour être inclus dans les coûts de construction.

Source : Equipe d'étude JICA:

MINUTES DE LA REUNION

Compte rendu de l'atelier de validation du document du Programme national d'aménagement des bas-fonds (PNABF) couplé à la deuxième session du comité mixte de coordination

Validation du document du Programme National d'Aménagement des Bas-Fonds (PNABF)

Ouagadougou le 20 février 2019



M. KONKOLE Michaël Aristide Wendyam

Chef de projet, PEF-PNDBF

Direction Générale des Aménagements Hydrauliques et du Développement de l'Irrigation (DGAHDI)



Dr. HIKASA Motoyoshi

Chef d'équipe

PEF-PNDBF JICA Equipe d'étude

OUVERTURE DE LA SEANCE

Le représentant de la JICA a ouvert la cérémonie en souhaitant la bienvenue à tous les participants de l'atelier et en remerciant le ministère de l'agriculture et des aménagements hydrauliques du Burkina Faso ainsi que tous les acteurs pour leur collaboration et leur coopération pour la réalisation des projets. Il a ensuite fait une analyse générale de l'état de l'agriculture au Burkina Faso en soulignant que l'un des défis majeurs reste la gestion de l'eau. Il a ensuite souligné que seulement 10 % des bas-fonds identifiés sont aménagés. Il a terminé son allocution en affirmant qu'il garde espoir que la contribution des uns et des autres vont concourir à la réalisation des projets en cours.

Il a par ailleurs confirmé et soutenu l'engagement du gouvernement du Japon à accompagner et à soutenir le Burkina Faso à atteindre la sécurité alimentaire et nutritionnelle.

A la suite du représentant de la JICA, M. BARRO, représentant du secrétaire général par intérim, en qualité de président de séance a salué les responsables japonais et tous les participants de l'atelier et les acteurs qui ont contribué à l'élaboration du document. Il a ensuite souligné que le PNDES (Programme National de Développement Economique et Social) a pour objectif de booster l'économie et l'un des moyens d'y arriver est la modernisation de l'agriculture. C'est dans cette optique que le gouvernement du Burkina Faso et la JICA ont initié le PNABF pour atteindre la sécurité alimentaire et nutritionnelle en vue améliorer la vie des populations à travers la réalisation des bas-fonds. Il invite par ailleurs tous les participants à travailler avec rigueur dans l'élaboration du présent document.

A la suite de ces allocutions, il s'est agi de la présentation du chronogramme et du document dont le plan de présentation est articulé autour de six axes:

- ❖ Contexte et Justification
- ❖ Description du programme
- ❖ Organisation et gestion
- ❖ Dispositif de suivi-évaluation
- ❖ Mesures environnementales et sociales
- ❖ Risques et mesures d'atténuation

Après la présentation du document, le président de séance a souligné que le coût du projet est estimé à cinquante-deux milliards environ et que parmi les résultats attendus du programme on note l'aménagement de 8450 ha de bas-fonds et 100 km de pistes rurales. Et à la suite les composantes relatives au programme de développement telles que l'organisation et la gestion, le système de suivi et d'évaluation, l'évaluation stratégique sociale et environnementale, et le risque et les mesures d'atténuation ont été expliquées aux participants.

QUESTIONS

Après la présentation du document, les participants ont eu droit à la parole pour poser des questions et faire des observations et commentaires sur les six points ; les questions et commentaires majeures étaient les suivants :

1. *M. SANON*, directeur régional de la boucle du Mouhoun a fait ressortir qu'à la page 17 du document, les différents types de bas-fonds à réaliser ne sont pas spécifiés. En plus il n'est pas fait cas de la contribution des bénéficiaires.
2. Le directeur régional du centre nord a posé ces différentes questions :
 - Y a-t-il une répartition par régions des bas-fonds à aménager ?
 - Les puits maraichers sont-ils pertinents dans les bas-fonds ?
3. La Directrice régionale du centre a fait ressortir les éléments suivants :
 - Il y a des sigles qui manquent à la page 3, par exemple la JICA
 - Aux pages 12 et 13, la source des tableaux est à harmoniser car elles ne concordent pas.
 - A la page 15, parmi les contraintes, les problèmes fonciers ne sont pas mentionnés.
 - Page 20 : résultat C3 : il faut ajouter la transformation des produits agricoles.
 - Comme le type PAFR est mentionné majoritairement dans le document, comment réaliser ce type de diguette dans des localités où il y a insuffisance de moellons ?
4. *M. SANON Cyr Gustave* préconise de revoir les sigles et abréviations. Il a également souligné que les coûts de réalisation mentionnés dans les composantes et dans les tableaux ne concordent pas. Il préconise aussi qu'il faut évaluer la contribution des bénéficiaires et l'inclure dans le coût de réalisation.
5. *M. François LOURE* de la DGFOMER a insisté sur la purge des droits fonciers en vue d'éviter les problèmes fonciers. Il a souligné qu'il faut prendre cet aspect au sérieux car il est fondamental pour la réalisation des œuvres.
6. *M. BAMOUNI Emmanuel* aurait posé la question de savoir si, comme les intrants, les équipements étaient aussi subventionnés.
7. *M. TRAORE* a suggéré qu'un million pour les imprévus est une énorme somme.
8. Pour *M. Nana*, il faut proposer dans le document, des types d'aménagement selon les types de sol.
9. Le directeur régional de l'est a souligné les problèmes suivants :
 - La pertinence des puits maraichers.
 - La contribution des bénéficiaires
 - La deuxième phase du projet n'est pas suffisamment abordée dans le document.
10. Le président de séance a fait ressortir les questions suivantes :
 - Le programme est-il exclusivement réservé à la riziculture ou à tout autre produit agricole ?
 - Est-ce-que les boullis seront efficaces vue leur coût ?

ELEMENTS DE REPONSES

1. Concernant la contribution des bénéficiaires à la réalisation du projet, M. KAM de la DGESS fait ressortir qu'il y a des inquiétudes à ce sujet. Il fait ressortir qu'en effet, dans des projets antérieurs, leur manque de contribution a entaché la réalisation de projets bien que leur contribution ait été nécessaire et mentionnée dans le document. Quant aux questions relatives aux droits fonciers, il a fait ressortir qu'il sera difficile pour l'Etat de résoudre ce problème vu le coût élevé de l'indemnisation des propriétaires terriens.
2. En ce qui concerne la deuxième phase du projet, l'objectif et les orientations sont les mêmes que la première phase.
3. Répondant à la question des types de diguettes à implémenter, M. SAWADOGO de la DGAHDI a fait savoir que ce programme est basé sur une expérience de douze ans vue le choix des types d'aménagement mentionnés dans le document. Quant aux questions relatives à la contribution des bénéficiaires, il a souligné que 53 bas-fonds ont été aménagés par les producteurs eux-mêmes avec l'appui de techniciens. En plus de cela, la contribution des bénéficiaires se fait généralement par la collecte des moellons. Quant aux boullis, il a affirmé qu'ils sont importants car ils sécurisent les bas-fonds en période de sécheresse d'où leur importance. En ce qui concerne les puits maraichers, il souligne que leur réalisation dans certains bas-fonds sert à appuyer les producteurs pendant la saison sèche mais il faut les réaliser quand c'est possible avec l'appui des spécialistes.
4. Concernant la question de la disponibilité de moellons posée par madame la directrice régionale du centre, il a répondu que tous les bas-fonds de type PAFR ne nécessitent pas de moellons et il a ajouté que si la source des moellons est à plus de 4 ou 5 km du site, la collecte des moellons est abandonnée pour des raisons économiques. En ce qui concerne les questions foncières, une réflexion plus approfondie doit être faite pour éviter les problèmes fonciers.

SYNTHESE DES ECHANGES

1. Proposition d'amélioration sur la forme et le fond du document
2. Echange sur la sécurisation foncière
3. La contribution des bénéficiaires est à discuter
4. La question de la recherche développement doit être intégrée dans le document

Le président de séance a demandé aux participants de voter pour la validation le plan national d'aménagement incluant les 6 points tels que i) le contexte et les raisons, ii) description du programme, iii) organisation et gestion, iv) système de suivi et évaluation, v) évaluation stratégique sociale et environnementale, vi) risques et mesures d'atténuation. Les participants ont accepté valider le plan national d'aménagement par acclamation. Le président de séance a remercié tous les participants pour leur contribution avant de clore la séance à 12 :45.

LISTE DE PRESENCE DE L'ATELIER DE VALIDATION DU PROGRAMME
NATIONAL D'AMENAGEMENT DE BAS-FONDS AU BURKINA FASO

N°	Nom	Prénom	Service
01	LINGANI/TOURE	Sérinatou	DGAHDI/Membre du comité
02	COULIBALY	Aboubacar	DGAHDI/Membre du comité
03	BAMOUNI	Emmanuel	DPPO/DGESS MAAH
04	ZERBO	Dieudonné	DGAHDI
05	KABORE	Franck	SASE/DGAHDI
06	TRAORE	Dramane	DSEC/DGESS
07	SANON	Abdramane	DRAAH Plateau central
08	OUEDRAOGO	Julien	DRAAH
09	KAMBOU	Koumbou Hermann Jackson	DGESS/MAAH/DC PP
10	DIANE	Bakoïba	DRAAH Cascades
11	SAGNON	Massiafa	DRAAH Centre ouest
12	LOURE	K. François	DGFOMR MAAH
13	BAYE	Michel	DGESS/MAAH
14	WAONGO	Inoussa	DRAAHR/SHL
15	TRAORE	Sissandébe Albert	DRAAH/SO
16	DORO/DAO	Kadidia	DRAAH centre
17	SAMON	Cyr Gustave	DRAAH BMH
18	OUEDRAOGO	Ebréïma	DRAAH - CES
19	NANGO	Yacouba	DRAAH-CN
20	TOURE	Adama	DGESS/MAAH
21	OUEDRAOGO	Issa	DGESS/MAAH
22	NIKIEMA	R. Pierre	DGPER
23	BARRO	Brama	SG/MAAH
24	KONKOLE	Michael	DGAHDI
25	SAWADOGO	Yuko	JICA
26	HIKASA	Motoyoshi	Team leader of the Jica study team
27	SOME	Edwige	JICA
28	ZANGRE	Adolphe	DAH DGAHDI
29	SAWADOGO	Tasséré	DGAHDI
30	DABIRE	Frédéric	DDI DGAHDI
31	NIKIEMA	Patarbtalé Joseph	DRAAH Est
32	BORO	Adama	DRAAH-N
33	ZOUNGRANA	Martin	DGCOOP
34	NANA	Aimé	DRAAH/CSD
35	OUEDRAOGO	Siméon	BUNEE
36	SAWADOGO	Arzûma	DGEP/MINEFID
37	NIGNAN	B. Christian Brice	DGEP/MAAH
39	LOLO	Viniyi	DGPV
40	OUATTARA	Céline	DGAHDI
41	KAM	Ollé Arnaud	DGESS/MAAH
42	KAGAMBEGA	O. Paul	DGAHDI
43	KABRE	Hamadou	DGESS/MAAH
44	TRAORE	B. Nathalie	DGAHDI
45	SOBGO	T. Diane	DGAHDI
46	SINKONDO DIDIRO	Elizabeth	DGMA
47	YAOLIRE	Nadine Sugrinoma	DGIH

ANNEXE

ANNEXE VIII: SIMPLIFIED PROJECT
DESIGN MATRIX

VIII.1. SIMPLIFIED PROJECT DESIGN MATRIX

Project No.1

Project Title	Development project for bas-fonds PRP type												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	· Farmers												
Implementing Agency	· DGAHDI												
Potential Collaborators	· KfW, FAO, WB, ADB, IFAD, EU												
Objectives: To develop lowlands diguette by PRP type mainly in northern and central parts of the country.													
Rationale: PRP type digutte is a low construction cost and easy in construction but it has less durability from a flood. In northern and central part of Burkina Faso, it has little rainfall and the land slopes gently. Therefore, there are many potential areas for construction of PRP type digutte, because the river runs slowly than southern part when a flood occurs. This project aims to enhance bas-fonds development by construction of low cost digutte. Also, it will be enabled to increase rice production by farming practice improvement of rice cultivation for beneficially.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
	[Redacted Implementation Schedule]												
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> · Farm land in bas-fonds is increased by PRP type digutte · No. of rice farmer is increased · Farming practice for rice farmers is improved 							Area of farm land in bas-fonds No. of beneficiaries Production volume and yield of rice						
Major Activities with the Expected Outputs							Total Cost (EUR)			Expected Sources			
Construction of PRP type diguette Improvement of drainage Training for Operation and Maintenance Construction of shallow well for emergency use(fittingly) Construction of pond for emergency use(fittingly) Establishment of groups of beneficiaries and strengthening of group management Initial assistance for inputs of rice cultivation Assistance for farming practice of rice cultivation							Upon the size of the low land; e.g. USD 1,200/ha is estimated unit cost.			MAAH, Donors			
Project Risk: Renouncement of developed farm-land due to crop loss from flood and drought, the damage of digutte from flood, lack of operation and management of digutte, lack of management skill of groups of beneficiaries, insufficient cost-effectiveness (ex; laborer cost, material input), higher cost-effective activities (ex; casual laborer, running other business, alluvial mining, transaction of the land).													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.2

Project Title	Development project for bas-fonds PAFR type													
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland													
Implementing Agency	• DGAHDI													
Potential Collaborators	• KfW, FAO, WB, ADB, EU													
Objectives: To develop lowlands diguette by PAFR type mainly in central and southern parts of the country.														
Rationale: From the central to southern part of Burkina Faso, the river runs faster when a flood occurs, also there are many steep slope rather than applicable criterion of PRP type digutte construction. The PAFR type is suitable for construction in such place, it has costly but high durability from the flood. This project aims to enhance bas-fonds development in steep slope area by construction of PAFR type digutte. Also, it will be enabled to increase rice production by farming practice improvement of rice cultivation for beneficiaries.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
	[Implementation period bar]													
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> • Farm land in bas-fonds is increased by PAFR type digutte • No. of rice farmer is increased • Techniques for rice farmers is improved 							Area of farm land in bas-fonds No. of beneficiaries Production volume and yield of rice							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
Construction of PAFR type diguette Installation of drainage facility Training for operation and maintenance Construction of shallow well for emergency (fittingly) Construction of pond for emergency use(fittingly) Establishment of groups of beneficiaries and strengthening of group management Initial assistance for inputs of rice cultivation Assistance for farming practice of rice cultivation							Upon the size of the low land; e.g. USD 4,800/ha i s estimated unit cost.				MAAH, Donors			
Project Risk: Renouncement of developed farm-land due to crop loss from flood and drought, the damage of digutte from flood, lack of operation and management of digutte, lack of management skill of beneficially, insufficient cost-effectiveness (ex; laborer cost, material input), higher cost-effective activities (ex; casual laborer, running other business, alluvial mining, transaction of the land).														
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No.3

Project Title	Rehabilitation project for bas-fonds PRP type														
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Target Groups	· Farmers groups around a lowland														
Implementing Agency	· DGAHDI														
Potential Collaborators	· KfW, FAO, WB, ADB, IFAD, EU														
Objectives: To secure the continuity of rice cultivation in developed bas-fonds farm land by rehabilitation of PRP type digutte															
Rationale: The PRP type digutte is damaged by a flood frequently and operation and maintenance cost become costly in bas-fonds development farm-land area by PRP type. Therefore, the beneficiaries renounce their land in some cases. In addition, if discharge is insufficient or inflow interval is long than expectation, there is concern that beneficially would be renounced their bas-fond farm land. This project aims to secure continuity of rice cultivation in bas-fonds farm-land by upgrade from PRP type to PAFR type, rehabilitation of drainage facility and enhancement the resistance against flood. Also, shallow well and pond construction will be implemented for emergency use.															
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
Expected Outputs							Development Indicators								
<ul style="list-style-type: none"> · Farm land in bas-fonds is increased by rehabilitation of digutte from PRP type to PAFR type · Actual rice cultivation area is increased · Production volume of rice is increased · No. of rice farmer who resume the rice cultivation is increased 							Area of rehabilitation Area of actual rice cultivation Production volume of rice No. of beneficially who resume the rice cultivation								
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources				
Rehabilitation to PAFR type digutte Rehabilitation of drainage facility Construction of shallow well for emergency use(fittingly) Construction of pond for emergency use(fittingly) Training for operation and maintenance (as necessary) Additional assistance for strengthening of beneficiary group management Initial assistance for inputs of rice cultivation Assistance for farming practice of rice cultivation							Upon the size of the low land; e.g. USD 500/ha is estimated unit cost.				MAAH, Donors				
Project Risk: Renouncement of developed farm-land due to crop loss from flood and drought, the damage of digutte from flood, lack of operation and management of digutte, lack of management skill of beneficially, insufficient cost-effectiveness (ex; laborer cost, material input), higher cost-effective activities (ex; casual laborer, running other business, alluvial mining, transaction of the land).															
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.															

Project No.4

Project Title		Rehabilitation project for bas-fonds PAFR												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland													
Implementing Agency	• DGAHDI													
Potential Collaborators	• KfW, FAO, WB, ADB, IFAD, EU													
Objectives: To secure the continuity of rice cultivation in developed bas-fonds farm land by rehabilitation of PAFR type digutte														
Rationale: In bas-fonds farm land developed by PAFR type digutte, if digutte is damaged by big flood frequently, operation and maintenance cost become costly, low discharge or long inflow interval than expectation, there is concern that beneficially would be renounced their bas-fond farm-land. Therefore, this project aims to secure continuity of agricultural land use in bas-fonds development area by improvement or upgrade of damaged PAFR type digutte (such as increase size of the stone, alteration to mortal stone pithing, reinforcement by concrete structure), enhancement the residence against a flood by additional construction or rehabilitation of drainage facilities. Also, shallow well and pond construction will be implemented for emergency use.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> • Farm land in bas-fonds is increased by rehabilitation of digutte from PRP type to PAFR type • Actual rice cultivation area is increased • Production volume of rice is increased • No. of rice farmer who resume the rice cultivation is increased 							Area of rehabilitation Area of actual rice cultivation Production volume of rice No. of beneficially who resume the rice cultivation							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
Enhancement to PAFR type digutte Additional construction or enhancement of drainage facility Construction of shallow well for emergency (fittingly) Construction of pond for emergency (fittingly) Training for Operation and Maintenance (as necessary) Additional assistance for strengthening of beneficiary group management Initial assistance for input of rice cultivation Assistance for farming practice of rice cultivation							Upon the size of the low land; e.g. USD 2,000/ha is common unit cost.				MAAH, Donors			
Project Risk: Renouncement of developed farm-land due to crop loss from flood and drought, the damage of digutte from flood, lack of operation and management of digutte, lack of management skill of beneficially, insufficient cost-effectiveness (ex; laborer cost, material input), higher cost-effective activities (ex; casual laborer, running other business, alluvial mining, transaction of the land).														
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No.5

Project Title	Micro basin construction project for upland crops												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Target Groups	• Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, ADB, EU												
Objectives: To increase production volume of upland crops by construction of micro basin in insufficient surface water area (not suitable for rice cultivation).													
Rationale: When the bas-fonds area faces insufficient rainfall and/ or insufficient water flow, there are two cases that to reduce the development area and introduce rice cultivation or to introduce upland farming. If natural condition is suitable for upland farming, it would be secured water retention in farm-land for production increase by construction of micro basin. In addition, if groundwater level is high, shallow well will be constructed for emergency use. Because, if surface is available, it is assumed high groundwater level.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
	[Redacted Implementation Schedule]												
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> • Area of upland field in bus-fonds by micro basin is increased • Production volume of upland filed crops are increased 							<ul style="list-style-type: none"> • Area of developed farm land • Production volume of upland field crops 						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> • Construction of micro basin • Training for construction of micro basin and operation and maintenance • Construction of shallow well for emergency use (fittingly) • Construction of the pond for groundwater recharge(fittingly) • Assistance for strengthening of beneficiary group management • Initial assistance for inputs of upland farming • Assistance for farming practice of upland farming 							Upon the size of the low land; e.g. USD 1,200/ha i s common unit cost.				MAAH, Donors		
Project Risk: Renouncement of developed farm-land due to crop loss from a flood, lack of management skill of groups of beneficiaries, higher cost-effective activities (ex; casual laborer, running other business, alluvial mining, transaction of the land).													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.6

Project Title	Boulis construction project												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, ADB, EU												
Objectives: To increase production volume of rice by stably cultivating the rice through bouli construction													
Rationale: Improvement of digutte is only storage the surface water in a short term hence rice cultivation is unstable to be affected by rainfall. In some cases that a long interval of rainfall linked to climate change, it had occurred drought problems. This project aims to assure stability of rice cultivation in bas-fonds area for production increase by not only improvement of diguttes but also construction of boulis. Bouli is a small scale water storage facility to supply the water for emergency use.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> • Installation of Boulis • Construction of irrigation ditch (suitable place only) 							<ul style="list-style-type: none"> No. of bouli and beneficially area No. of the construction site of irrigation ditch 						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> • Construction of Bouli • Construction of irrigation ditch (Suitable place only) • Establishment of groups of beneficiaries and assistance for group management strengthening • Development of bus-fonds (diggute improvement) • Construction of drainage facilities • Training for operation and maintenance of bouli (as necessary) • Initial assistance for input of rice cultivation • Assistance for farming practice of rice cultivation 							Upon the size of a bouli; e.g. USD 750,000/place is estimated unit cost.				MAAH, Donors		
Project Risk: Break down of bouli due to flood Decrease water level due to sediment inflow Infestation of mosquito and occurrence of Malaria due to bouli construction													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.7

Project Title	Rehabilitation of boulis												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, ADB, EU												
Objectives: To secure continuity of rice cultivation in bus-fonds area for production increase by rehabilitation of boulis													
Rationale: water storage volume of Boulis will be decreased by sediment inflow or damaged by flood and others. Those boulis are necessary to make dredging, rehabilitation, establishment/ extension/ reinforcement of spillway. This project aims to secure stability of rice cultivation in bas-fonds area for prevention of production decrease by rehabilitation of boulis.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
	[Project Implementation Period]												
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> Rehabilitation of boulis Rehabilitation of irrigation ditch (as necessary) 							No. of rehabilitation sites of bouli, No. of facility for rehabilitation, Beneficially area after rehabilitation, No. of rehabilitation sites of irrigation ditch						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> Rehabilitation of boulis (body, dredging, spillway) (as necessary) Additional training for operation and maintenance of boulis Additional assistance for inputs of rice cultivation Additional assistance for farming practice of rice cultivation 							Upon the size of a bouli; e.g. USD 250,000/place is estimated unit cost.				MAAH, Donors		
Project Risk: Break down of bouli due to flood Decrease water level due to sediment inflow Infestation of mosquito and occurrence of Malaria due to bouli construction													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.8

Project Title	Small pond construction project (for emergency water supply facilities during insufficient water flow and rainfall)												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Target Groups	• Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, ADB, EU												
Objectives: To prevent firing of crops from long dryness (for emergency use against small runoff water & insufficient rainfall)													
Rationale: In case of bas-fonds development only for formulation of digutte, paddy cultivation is affected by a volume of water inflow (rainfall). If an interval of rainfall is long, paddy will be affected by insufficient of soil moisture content. Particularly, yield will be decreasing significantly if water volume is not sufficient during flowering period. It is necessary to secure irrigation water for emergency use to reduce the damage of paddy from unstable water inflow. Small pond construction will be expected to store the water for emergency use. If the pond equivalent to bouli class is unable to construct, several small ponds will be constructed in target area.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
• Small pond • Irrigation ditch (as necessary)							No. of small pond construction, beneficially area No. of irrigation ditch construction sites						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
• Construction of small pond (embankment, drilling, spillway) (as necessary) • Training for operation and maintenance of small pond • Assistance for inputs of rice cultivation • Assistance for farming practice of rice cultivation							Upon the size of a small pond; e.g. USD 150,000/place is estimated unit cost.				MAAH, Donors		
Project Risk: Break down of bouli due to flood Decrease water level due to sediment inflow Infestation of mosquito and occurrence of Malaria due to bouli construction													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.9

Project Title	Construction of shallow well (for emergency water supply facilities during insufficient water flow and rainfall)												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Target Groups	• Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, ADB, EU												
Objectives: To irrigate the groundwater for emergency water supply													
Rationale: In case of bas-fonds development only for formulation of digutte, paddy cultivation is affected by a volume of water inflow (rainfall). If an interval of rainfall is long, paddy will be affected by insufficient of soil moisture content. Particularly, yield will be decreasing significantly if water volume is not sufficient during flowering period. It is necessary to secure irrigation water for emergency use to reduce the damage of paddy from unstable water inflow. Construction of shallow well (using ground water) is one of the solution to secure the irrigation water for emergency use, because ground water level is high in the bas-fonds area during the rainy season.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> • Shallow well • Irrigation ditch (as necessary) 							No. of shallow well construction, beneficially area No. of construction site of irrigation ditch						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> • Construction of shallow well (boring hole, protection of hole) (As necessary) <ul style="list-style-type: none"> • Training for operation and maintenance of shallow well • Assistance for inputs of rice cultivation • Assistance for faming practice of rice cultivation 							Upon the size of a small pond; e.g. USD 150,000/place is estimated unit cost.				MAAH, Donors		
Project Risk: Damage from a flood, sediment inflow, Progression of low groundwater level due to excessive pumping in the latter half of the rainy season													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.10

Project Title	Installation of gravity irrigation facilities												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, ADB, EU												
Objectives: To enhance irrigation farming by the installation of gravity irrigation facilities													
Rationale: As the next phase of the bas-fonds development only for digutte construction, this project promotes stability irrigation farming by installation of gravity irrigation system. Along a perennial river or bas-fonds in a large river basin have development potentials. If the potential site is located along the perennial river, the water will be supplied from the river. In case of located at large river, the water will be supplied from small-medium scale dam.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> Gravity irrigation system (intake facility, irrigation ditch, drainage ditch, aqueduct facilities such as diversion works) Irrigation ditch (as necessary) 							No. of gravity irrigation system construction, beneficially area						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> Construction of gravity irrigation system (intake facility, irrigation ditch, drainage ditch, aqueduct facilities such as diversion works) Training for operation and maintenance of irrigation facilities (As necessary) <ul style="list-style-type: none"> Assistance for inputs of rice cultivation Assistance for farming practice of rice cultivation 							Upon the scale and number of irrigation facilities; e.g. USD 1,200,000/unit i s estimated unit cost.				MAAH, Donors		
Project Risk: Structural damage of intake facilities from a flood, sediment inflow Costs of operation and maintenance of irrigation facilities													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.11

Project Title	Installation of pump and drip irrigation facilities													
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland													
Implementing Agency	• DGHADI													
Potential Collaborators	• KfW, FAO, WB, ADB, EU													
Objectives: To produce high-value agricultural products by installation of pump irrigation facilities, where it has sufficient water resources and marketplace														
Rationale: The pump irrigation facilities will be installed at the places; where there is a marketplace dealing with high-value agricultural products and farmers can sell those products. This project aims to produce high-value agricultural products by installation of pump irrigation facilities in those places where have sufficient water resources. It shall be noted that water saving irrigation system shall also be introduced to those places in order to save fuel cost and reducing water supply amount.														
The recommended crops under the project are vegetables in dry season such as tomato, onion, cabbage etc. In order to enhance the project effect, technical cooperation project such as ‘technical support on vegetable production in dry season for the farmer;’ (see No.15 project of this format) shall be considered to collaborate with this project for obtaining synergy effect each other.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2020	2030		
	[Implementation period bar]													
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> • Water resource for pump irrigation (pond, well etc..) • Pumping equipment or water supply facilities • Water saving irrigation system 							No. of water saving irrigation system construction, beneficially area							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> • Water sources development for pump irrigation (construction of pond, well) • Construction of pump equipment or water supply facilities • Construction of water saving facilities • Training for operation and maintenance of water saving facilities • Assistance for inputs of water saving farming • Assistance of water saving farming practice 							Upon the scale and number of irrigation facilities; e.g. USD 6,000/ha is estimated unit cost.				MAAH, Donors			
Project Risk:														
Possibility that burden of expenses for renovation facilities(can't be supplied)														
Salt accumulation														
Depletion of groundwater source in the latter half of the dry season														
Environment Assessment:														
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No.12

Project Title	Construction of shallow wells for market oriented kitchen gardening in dry season													
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland													
Implementing Agency	• DGHADI													
Potential Collaborators	• KfW, FAO, WB, EU													
Objectives: To produce high-value agricultural products in the potential area of irrigation farming from ground water source in the dry season														
Rationale: Groundwater of bas-fonds area is a valuable water source in the dry season and it enable to engage kitchen gardening for the rural peoples living near the bas-fonds. Kitchen gardening does not require much water volume so that bas-fonds is suitable place to obtain certain volume of water for the purposes. The shallow well construction is popular technique without requiring high technology, so that the project implementation will be effective in terms of cost efficiency, technical level, and its sustainability. And then, this project aims to produce high-value agricultural products and selling at a high price in the market by securing the water source in the dry season; then, recommended crops are such as tomato, onion, cabbage etc. In order to enhance the project effect, technical cooperation project such as 'technical support on vegetable production in dry season for the farmer;' (see No.15 project of this format) shall be considered to collaborate with this project for obtaining synergy effect each other.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
	[Project Implementation Period]													
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> • Shallow well • Pumping equipment (as necessary) 							No. of shallow well construction, beneficially area							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> • Construction of shallow well (boring hole, protection of hole) (As necessary) <ul style="list-style-type: none"> • Training for operation and maintenance of shallow well • Assistance for inputs of agricultural products in the dry season • Assistance for farming practice of agricultural products in the dry season 							Upon the scale and number of irrigation facilities; e.g. USD 1,000/ha is estimated unit cost.				MAAH, Donors			
Project Risk: Salt accumulation Depletion of groundwater source in the latter half of the dry season														
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No.13

Project Title	Installation of semi-California irrigation facilities for dry season market gardening												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, EU												
Objectives: To produce high-value agricultural products through semi-California irrigation facilities in the potential area of irrigation development and high marketability													
Rationale: In a semi-California irrigation system, pump water is distributed through a buried PVC pipe to the filed as furrow irrigation. For the installation of irrigation facilities, the pump water is necessary and installation site should have sufficient water source for irrigation development. Also, it has the market that enables selling high-value agricultural products. When those conditions are satisfied, it will be enabled to produce the high-value agricultural products by the installation of Semi-California Irrigation facilities. In addition, this system mostly uses for irrigation agriculture in the dry season.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs						Development Indicators							
<ul style="list-style-type: none"> Water source for pump irrigation (ponds, well etc..) semi-California irrigation facilities 						No. of semi-California irrigation facilities construction, beneficially area							
Major Activities with the Expected Outputs						Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> Water source development for semi-California irrigation facilities (construction of ponds and well) Construction of semi-California irrigation facilities Training for operation and maintenance of semi-California irrigation facilities Assistance of inputs Assistance for faming practice 						Upon the scale and number of irrigation facilities; e.g. USD 6,000/ha is estimated unit cost.				MAAH, Donors			
Project Risk: Possibility that burden of expenses for renovation of water saving facilities(can't be supplied) Salt accumulation Depletion of groundwater source in the latter half of the dry season													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.14

Project Title	Installation of the water saving irrigation system												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Extension staff (workers), Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, ADB, EU												
Objectives: To produce high-value agricultural products by installation of water saving irrigation system considering fuel cost reducing in installed area of pump irrigation system, and it shall have a marketable place for selling such high-value agricultural products													
Rationale: This project aims to produce high-value agricultural product by installation of water saving irrigation system considering fuel cost reducing at the places where the pump irrigation facilities have been installed, and it shall have a marketable place for selling a high-value agricultural products. The water saving irrigation system, drip irrigation system, will be used for the purposes above mentioned during dry season. In order to enhance the project effect, technical cooperation project such as ‘technical support on vegetable production in dry season for the farmer;’ (see No.15 project of this format) shall be considered to collaborate with this project for obtaining synergy effect each other.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
• Facilities of water saving irrigation							No. of water saving irrigation system construction, beneficially area						
Major Activities with the Expected Outputs							Total Cost (EUR)					Expected Sources	
<ul style="list-style-type: none"> • Construction of water saving irrigation facilities • Training for operation and maintenance of water saving irrigation facilities • Assistance for inputs of water saving irrigation agriculture • Assistance for farming practice of water saving irrigation agriculture 							Upon the scale and number of irrigation facilities; e.g. USD 20,000/ha is estimated unit cost.					MAAH, Donors	
Project Risk: Possibility that burden of expenses for renovation of water saving irrigation facilities (can't be supplied) Salt accumulation Depletion of groundwater source in the latter half of the dry season													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.15

Project Title	Technical support on vegetable production in dry season for the farmer												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Extension staff (workers), Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, JICA												
Objectives: To improve farming techniques in the dry season for farmer													
Rationale: A dry season is severe period for cultivation of agricultural products due to shortage of water caused by limitation of water source in Burkina Faso. This project aims to assist improvement of techniques on vegetable production during dry season usually coupled with installation and/or construction of irrigation supply system nearby farmland.. The project will be implemented to optimize and reduce water use in in dry season and produce effectively high quality agricultural products such as tomato, onion, cabbage, pepper, and sweet potato. Such vegetables have several and different varieties; sounding of market needs will be one of components of the project in order to obtain good price. It is also necessary to improve and optimize application of fertilizer and pesticide for vegetable cultivation. Those materials are market commodities and farmers have to spend their budget to purchase them. In order to minimize such cost and keep food safety, minimization of fertilizer application and pesticide inputs shall be considered among famers and extension staff.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> Capacity building of extension staff for irrigation vegetable cultivation Capacity building of farmers for irrigation vegetable cultivation 							Participants of training (Extension staff, farmers) Production area, volume, yield of participants of training						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> Preparation and distribution of teaching materials (manual, brochure etc..) for irrigation agriculture Introduction of suitable varieties of vegetables for obtaining good price in market. Training of irrigated agriculture for extension staff (Watering volume, frequency, timing etc..) Training of irrigated agriculture for farmers 							Total cost depends on scale of the project; the estimated cost is about 5 million/project.				MAAH, Donors		
Project Risk: The project is composed of introduction of suitable market oriented varieties of vegetables and extension of such vegetable varieties. In the first introduction stage, however, it is difficult to anticipate exact period of time required until it becomes a commercial product in market. Achievement of extension works on the introduction of market oriented varieties depends heavily on the existing extension system, which is under the control of the government; budget allocation by the government is a key for continuation of the project. In addition to the aforementioned, retirement of extension staff and/or discontinuation of staff allocation will become a trigger for stagnation and/or suspension of the project implementation.													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.16

Project Title	Technical support on water saving irrigated agriculture												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Extension staff (workers), Farmers groups around a lowland												
Implementing Agency	• DGHADI												
Potential Collaborators	• KfW, FAO, WB, ADB, JICA												
Objectives: To produce high-value agricultural products continuously by improvement of farming practice of water saving irrigation agriculture													
Rationale: Installation of water saving facilities alone does not exactly contribute improvement of water saving technique of farmers and extension staff. This project aims to assist improvement of such techniques in parallel to the installation of water saving facilities. The project will be implemented to optimize and reduce water use in in dry season and produce effectively high quality agricultural products such as tomato, onion, cabbage, pepper, and sweet potato. Such vegetables have several and different varieties; sounding of market needs will be one of components of the project in order to obtain good price. It is also necessary to improve and optimize application of fertilizer and pesticide for vegetable cultivation. Those materials are market commodities and farmers have to spend their budget to purchase them. In order to minimize such cost and keep food safety, minimization of fertilizer application and pesticide inputs shall be considered among famers and extension staff. In this project, establishment of extension system, preparation of extension materials for conducting water saving irrigation agriculture will be implemented.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> Capacity building of vegetable cultivation in the irrigation area for extension staff Capacity building of vegetable cultivation in the irrigation area for farmers 							Participants of training (Extension staff, farmers) Production area, volume, yield of participants of training						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> Preparation and distribution of teaching materials (manual, brochure etc..) for water saving irrigation agriculture Training of water saving irrigation agriculture for extension staff (Watering volume, frequency, timing etc..) Training of water saving irrigation agriculture for farmers 							Total cost depends on scale of the project; the estimated cost is about 5 million/project.				MAAH, Donors		
Project Risk: The project is composed of introduction of suitable market oriented varieties of vegetables and extension of such vegetable varieties. In the first introduction stage, however, it is difficult to anticipate exact period of time required until it becomes a commercial product in market. Achievement of extension works on the introduction of market oriented varieties depends heavily on the existing extension system, which is under the control of the government; budget allocation by the government is a key for continuation of the project. In addition to the aforementioned, retirement of extension staff and/or discontinuation of staff allocation will become a trigger for stagnation and/or suspension of the project implementation.													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.17

Project Title	Introduction of residual moisture agriculture near the waterside of marsh / reservoir													
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers groups around a lowland													
Implementing Agency	• DGHADI													
Potential Collaborators	• KfW, FAO, WB, EU													
Objectives: To use residual water for farming around a marsh or reservoir														
Rationale: The soil around a marsh or reservoir contains much moisture inside, and it can be used for farming without any new facilities to be installed. Location of the marsh and reservoir shall carefully selected where should have water at least 3 months after commencement of dry season. In rainy season, water will be easily available for this cultivation method. In order to supply water long period during dry season, water course shall be dug from a puddle of water remaining inside of marsh and reservoir. Since farming scale is not so large, such water course creation will be done manual works usually with hoe. Possible crops for this farming practice are Agricultural products that have dry-ness resistant will be selected for farming using by residual water. In the latter half of the dry season, water is distributed by digging the waterway from reservoirs or, sprinkles the water using by pumping equipment.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> • Irrigation ditch (if necessary) • Vegetable production 							Area of farm-land which uses residual water of reservoir Yield and production of agricultural products.							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> • Construction of irrigation ditch • Assistance for inputs of crops in a dryness-resistant • Assistance for farming practice of crops in a dryness-resistant 							Upon the scale and number of irrigation facilities; e.g. USD 2,000/ha is estimated unit cost.				MAAH, Donors			
Project Risk: Water shortage in the latter half of the dry season before harvesting agricultural products. The project is composed of introduction of suitable market oriented varieties of vegetables and extension of such vegetable varieties. In the first introduction stage, however, it is difficult to anticipate exact period of time required until it becomes a commercial product in market. Achievement of extension works on the introduction of market oriented varieties depends heavily on the existing extension system, which is under the control of the government; budget allocation by the government is a key for continuation of the project. In addition to the aforementioned, retirement of extension staff and/or discontinuation of staff allocation will become a trigger for stagnation and/or suspension of the project implementation.														
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No.18

Project Title		Reinforcement of rice cultivation practices in bas-fonds												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Farmers' groups, Extension staff													
Implementing Agency	• MAAH													
Potential Collaborators	• KfW, FAO, WB, EU, JICA													
Objectives: increase of rice production in the country														
Rationale:														
Natural condition for rice cultivation is not always secured in the country and such condition changes depending on agro-climate zones. There must be suitable rice varieties for each and every agro-climate zone and also for feature of bas-fonds.														
The project will introduce suitable varieties of rice to the targeted farmers which shall be cultivated in bas-fonds. In some places, irrigated rice will be suitable while rain-fed rice will be suitable in some other places. As for irrigated rice, disease-resistant variety will be a candidate for this introduction. As for rain-fed rice, FKR62N and FKR45N are considered as candidate for introduction which have high quality and drought tolerant with short cultivation period..														
The project will also introduce appropriate farming practices especially for optimization of fertilizer and chemical use. This activity will help to increase rice yield and its production as well as minimization of expenditure for rice dropping.														
Other major activity to be performed is to introduce preparation of cropping calendar or cropping schedule in order to not only maximize rice yield and production but also avoid drought risk and/or water shortage risk during the cultivation period.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> Adoption of introduced variety by farmers Extension of introduced use of agricultural input Extension of introduced rice farming practices 							<ul style="list-style-type: none"> Number of farmers cultivate the introduced rice variety Number of farmers to use introduced agricultural input, expenditure for agricultural input, Number of farmers to make cropping plan, increase of rice yield and production 							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> Introduction of rice variety Introduction of application of farm input and its extension works Introduction of making cropping calendar and its extension works Preparation of extension materials 							Total cost depends on scale of the project; the estimated cost is about 5 million/project.				MAAH, Donors, INERA			
Project Risk:														
The project includes introduction of new rice varieties. Some of them are in development stage and some others are field trial stage in actual farmland. This is because it is difficult to anticipate exact period of time required and the performance of the varieties in the farming area in bas-fonds. In addition, extension of new varieties depends heavily on the existing extension system, which is under the control of the government; budget allocation by the government is a key for continuation of the project. Thus, there will be a certain risk in managing schedules of the entire project and levels of commitment to be made by the extension personnel.														
Environment Assessment:														
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No.19

Project Title	Development of RYMV resistant rice new varieties												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
					✓		✓					✓	
Target Groups	· Farmers' groups, Extension staff												
Implementing Agency	· INERA, MAAH												
Potential Collaborators	· KfW, FAO, WB, EU, other international research institute												
Objectives: development of RYMV resistant rice varieties and their extension													
Rationale:													
Rice yellow mottle virus (RYMV) was first observed in Kenya in 1966. It is now a major disease of rice in the irrigated and lowland in almost all rice-producing countries in Africa, causing yield losses of 25–100%. Rice farmers in the region have been worried ever since severe RYMV epidemics broke out in 1990s in West Africa. In response to strong demand from farmers, Dr. Traore Edgar and his colleagues in CREAM/Kamboinse have been working on the project “Development of farmers’ preferred rice varieties resistant to RYMV and participatory varietal selection in Burkina Faso” and their efforts successfully created new RYMV resistant rice varieties named KBR lines. This project aims to support development and improvement of RYMV resistant rice varieties in the research institute in Burkina Faso and extension the varieties to farmers through participatory approach													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs						Development Indicators							
<ul style="list-style-type: none"> · New RYMV resistant rice varieties · Adoption the developed varieties by farmers 						<ul style="list-style-type: none"> · Number of newly developed variety and/or improved variety · Number of farmers who use the newly developed variety 							
Major Activities with the Expected Outputs						Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> · Research works for developing new variety · Extension works of RYMV resistant rice varieties 						Total cost depends on scale and period of the project; the estimated cost is about 3 million.				MAAH, Donors, INERA			
Project Risk:													
The main works of the project is to develop Rice yellow mottle virus (RYMV) resistant rice varieties in Burkina Faso and/or improvement of the existing RYMV resistant rice varieties. Since such research works takes time especially for crop variety improvement, it is difficult to anticipate exact period of time required for the research works and also field trial. After development of new variety, extension activities shall be carried out through participatory approach. This participatory approach highly depends on farmers and selection of the area will be a key for this extension, even though most of farmers prefer the newly developed variety. Some of farmer may oppose to introduce new variety or cannot afford to pay the cost for seed and other agricultural input necessary for participation of the activities. In addition to the issues aforementioned, a researcher may have to work as a extension staff at the initial stage because of monitoring of field practices; so that limitation of human resources may become a risk for the extension works.													
Environment Assessment:													
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.20

Project Title		Introduction of compost making												
Priority in Province		ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups		· Farmers' groups, Extension staff												
Implementing Agency		· MAAH, provincial office												
Potential Collaborators		· KfW, FAO, WB, EU												
Objectives: increase of agricultural production through compost use														
Rationale:														
Crop residues after harvesting of millet, sorghum and other crops have mostly been left at farmland without being utilized for any purposes. Some of them are taken by livestock as their forage and some returns to nature. Manure of livestock also left at places as it is without being paid any attention because divagation is usually common method for keeping such livestock.														
On the other hand, fertility of farmland is one of the most important elements for enhancement of increase of agricultural product. Many farmers desire increase of harvest but they cannot afford to purchase sufficient fertilizer because of economic and technical constrains.														
Compost making can help farmers in terms of increase soil fertilities of their farmland through improvement of soil structure and nutrition.														
This project aims to introduce compost making and its application method to farmers and extension staff and assist extension activities extension staff by utilizing crop residues and livestock manure which can be easily obtained in rural area.														
Project Implementation		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> Compost making manual Increase of soil fertility Increase of crop production Farmers adopting compost use. 							<ul style="list-style-type: none"> Manuals developed by the project Result of soil analysis Yield and production of crops Number of farmers adopting compost use 							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> Development of compost making manual Application of compost to farmland Technical transfer of compost making and application for each crop Extension activities for compost making and application 							Total cost depends on scale and period of the project; the estimated cost is about 3 million.				MAAH, Donors, INERA			
Project Risk:														
Since divagation is dominant method for livestock raising in the country, livestock manure scatters in broad places without concentration of location. Thus, collection of such livestock manure will have difficulty if certain volume of it shall be collected.														
Collected materials for compost making shall be matured by microorganism under suitable natural conditions such as temperature, humidity, and oxygen. If those natural conditions are well obtained, effect of compost will not so high. In order to accelerate maturing process of compost, chipping and shredding of raw materials will be essential.														
Appointment of extension staff for the project may face difficulty because of shortage of budget allocation by the government.														
Environment Assessment:														
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No.21

Project Title	Promotion of utilization of phosphate rock for rice cultivation												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Rice Farmer, Extension staff												
Implementing Agency	• MAAH, INERA												
Potential Collaborators	• JICA, JIRCAS, KfW, FAO, WB, EU, other international research institute												
Objectives: Increase of rice production with use of phosphate rock													
Rationale: It is reported that there are at least 100 million tons of phosphate ore in Burkina Faso and phosphorus is the most expensive component among the major fertilizer components. Many farmlands in Burkina Faso are facing bottleneck for increase of agricultural productivity due to lack of fertility especially shortage and high price of phosphorus. The project will develop low-priced domestic fertilizer utilizing low-grade phosphate ore that is not utilized in Burkina Faso in the past, which can be substitute materials to imported chemical fertilizer. Activities of experimental stage were completed and it is now under field trial stage at this moment. The project will introduce application method of low-grade phosphate, develop and establish suitable application method at the field level, develop technical manuals, and carry out extension works.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs						Development Indicators							
<ul style="list-style-type: none"> • Establishment of technique at field level • Development of technical manual • Increase of crop productivities • Extension of technique 						<ul style="list-style-type: none"> • Technical reports • Technical manuals • Yield of the agricultural product • Number of farmers adopting the technique 							
Major Activities with the Expected Outputs						Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> • Research and development works for establishment of technique at field level • Field trials of the established technique • Application of fertilizer at the field level • Extension activities for low-grade phosphate 						Total cost depends on scale and period of the project; the estimated cost is about 3 million.				MAAH, Donors, INERA			
Project Risk: Since research and development activities are going on for the field level, actual application for farmland may delay because such activities will take time for obtaining certain results to be extended. Since law material is low-grade phosphate, effect of the input may not appear quickly but it is considered that certain effect can be seen under long term condition. Due to such characteristics of the material, farmers cannot continue activities to apply such material for their crops.. Appointment of extension staff for the project may face difficulty because of delay if effect to be seen and shortage of budget allocation by the government.													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.22

Project Title	Improvement of preserved seed quality by introducing PICS double bag												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	· Farmers, extension workers												
Implementing Agency	· MAAH, regional and provincial office												
Potential Collaborators	· KfW, FAO, WB, EU												
Objectives: improvement of storage condition of grain and seed after harvest													
Rationale:													
<p>Insect pests pose a significant threat to the shelf-life of grains. Cowpea bruchids is major pest of leguminous crops and their presence makes great risk especially in the storage period.</p> <p>In Burkina Faso, cowpea is utilized nutritious food for humans and also good source for animal fodder. Besides, in rural area cowpea is cultivated by women to generate income. Despite such advantage of cowpea, existence of cowpea bruchids becomes cause of quality loss of harvested materials sometimes reduce income for farmers.</p> <p>The project aims to improve farmers' market access and livelihoods through enhancement of storage condition improvement by applying Purdue Improved Cowpea Storage (PICS). Project includes giving technical assistance to women's farmer organizations to improve storage condition with dissemination of PICS bags to cowpea producers of women.</p>													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> Utilization of PICS bags Quality of cowpea Increase of income Establishment of women's organization 							<ul style="list-style-type: none"> Numbers of bags utilized by the farmers Weight of low quality cowpea Household income Number of established women's organizations 						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> Introduction of PICS bags Extension of mode of PICS bag use Increase storage period of cowpea Assistant works for establishment of women's organization 							Total cost depends on scale and period of the project; the estimated cost is about 3 million.				MAAH, Donors, INERA		
Project Risk:													
<p>Since distribution route of PICS bag is limited and not developed well, bags are sometimes difficult to obtain in time before harvesting cowpea. Rural road condition in remoted areas also will affect such difficulties for distribution of bags.</p> <p>Misunderstanding of PICS bag use is also expected which will be caused by insufficient explanation, shortage of extension materials, and large coverage area of extension staff.</p>													
Environment Assessment:													
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.23

Project Title	Construction of warehouse												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	· Irrigation group, women rice cultivation group												
Implementing Agency	· MAAH, regional and provincial office												
Potential Collaborators	· KfW, FAO, WB, EU												
Objectives: income generation through construction of rice warehouse.													
Rationale:													
Farming size of individual rice farmers is not large in the country; rice volume of each farmer for market purpose results small amount. If volume of rice becomes large, bargaining power of farmer will increase and income from market will be improved.													
Warehouse can reserve rice in one place and the stores rice can be dried on the dry yard for keeping appropriate quality of long time storage. Such rice can be sold at the time when rice price becomes high.													
The project aims to install warehouse coupled with rice dry yard nearby; For operation and management of such facilities, rice farmers' organization shall be established in order to control and manage rice quality, storage condition, and income generation.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> Construction of warehouse for rice Construction of dry yard Establishment of farmer's organization Income generation 							<ul style="list-style-type: none"> Number of warehouse constructed Number of dry yard constructed Number of farmer's organization established Profit from rice selling (account report) 						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> Arrangement of warehouse construction (contract with contractor) Arrangement of dry yard construction (contract with contractor) Assistance for establishment of farmer's organization Technical assistance for rice drying, storing, and market bargaining 							Total cost depends on scale and period of the project; the estimated cost is about 5 million.				MAAH, Donors, INERA		
Project Risk:													
Since group work is essential for the project management and operation, establishment of a group is a key for the project. Rule and regulation will be prepared during preparation time of the group; however, sometimes some members of the group do not follow such rule and regulation due to some personal reasons. Such offense against rule and regulations will cause malfunction of group activities to be taken. The regular meeting will be required for the established group and recorded of activities will be reported members. Un-recording of activities and/or loss of account report often become cause of trouble for group management.													
Environment Assessment:													
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.24

Project Title	Introduction of rice milling machines												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	· Irrigation group, women association												
Implementing Agency	· MAAH												
Potential Collaborators	· KfW, FAO, WB, EU												
Objectives: income generation for rice farmers through value add													
Rationale:													
Rice farmers couldn't enjoy benefit in food value chain of rice during long time even though increase of rice demand due to rise of rice consumption in recent years. Rice milling is the first process to add value to harvested grain rice. On the other hand, rice production of individual farmers is not so much because their operating rice field is not so large. If rice of those small scale operation farmers can be collected, it will create bargaining power in market and help income generation. This is because why it is necessary to introduce advantage of scale for rice production and rice processing. The project aims to encourage women group and/or irrigated rice production group in order to increase bargaining power for selling rice as well as increase of rice value through introduction of rice milling machine.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs						Development Indicators							
<ul style="list-style-type: none"> Installation of rice milling machine Establishment of women group or irrigated rice production group Rule and regulations of the established group Income generation 						<ul style="list-style-type: none"> Number of installed rice milling machine Number of established group Adaptation ratio of rule and regulations by the group Increased income to be checked by the recorded account report 							
Major Activities with the Expected Outputs						Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> Technical assistance for operation of rice milling machine Assistance for establishment of the group Assistance for development of rule and regulations Assistance for information collection on market 						Total cost depends on scale and period of the project; the estimated cost is about 5 million.				MAAH, Donors, INERA			
Project Risk:													
Since group work is essential for the project management and operation, establishment of a group is a key for the project. Rule and regulations will be prepared during preparation time of the group; however, sometimes some members of the group do not follow such rule and regulation due to some personal reasons. Such offense against rule and regulations will cause malfunction of group activities to be taken. The regular meeting will be required for the established group and recorded of activities will be reported members. Un-recording of activities and/or loss of account report often become cause of trouble for group management.													
Environment Assessment:													
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.25

Project Title	Support on establishment and reinforcement of women agricultural associations												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	· Women villagers, women vegetable growers												
Implementing Agency	· MAAH, DGFOMR												
Potential Collaborators	· KfW, FAO, WB, ADB, IFAD, EU												
Objectives: income generation for women vegetable farmers through establishment of an agricultural association													
Rationale:													
Vegetable production can be done even though in small plot of farmland and it has potential for income generation in market sale. The market sale activities of vegetables are not so difficult for farmers to entry in but skill of bargaining is required for good trading. Majority of vegetable production and sale of it is considered to be done by women; support to those women will contribute income generation in rural area. The project will support to establish women agricultural association, to select vegetables for market oriented, to produce vegetables, to prepare for vegetable sale, to sell vegetables with bargaining, and to share and distribute income.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs						Development Indicators							
<ul style="list-style-type: none"> Women agricultural association Rules and regulation of the association Increase of income 						<ul style="list-style-type: none"> Number of established association Adoption ratio of rules and regulations by the established association Increased income confirmed by the recorded account report 							
Major Activities with the Expected Outputs						Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> Assistance for establishment of women agricultural association Support for establishment of rules and regulations for association Technical assistance for crop cultivation and information collection on market 						Total cost depends on scale and period of the project; the estimated cost is about 5 million.				MAAH, Donors, INERA			
Project Risk:													
Since group work is essential for the project management and operation, establishment of a group is a key for the project. Rule and regulations will be prepared during preparation phase of the group; however, sometimes some members of the group do not follow such rule and regulation due to some personal reasons. Such offense against rule and regulations will cause malfunction of group activities to be taken. The regular meeting will be required for the established group and recorded of activities will be reported members. Un-recording of activities and/or loss of account report often become cause of trouble for group management. There are some other common issues for a group agricultural works in case of newly developed farmland such as allotment of farmland in terms of size of farmland, location of farmland, and use and management of water among farmland.													
Environment Assessment:													
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.26

Project Title	Improvement of financial accessibility in rural area (Introduction of micro-finance)												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	· Small and medium scale Farmers groups,												
Implementing Agency	· MAAH, Governmental Bank												
Potential Collaborators	· KfW, FAO, WB, ADB, IFAD, EU												
Objectives: improvement of financial access for farmers in order to help farming practices.													
Rationale:													
<p>Poor fertility of farmland results low quality of crops as well as low productivity of crops. Appropriate agricultural input is timely required for better yield and high quality of agricultural product; however, there is quite limited opportunity that farmers can access financial services especially in remoted rural areas. Such farmers have to continue farming without necessary farm input.</p> <p>This project aims to improve financial accessibility for farmers to enable procurement of seeds, fertilizer, and other required agricultural inputs. Mobile phone subscriptions per 100 peoples are 94 according to world bank, so that micro finance through mobile phone will be the most effective method as financial infrastructure in rural areas as well as urban areas.</p>													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
	[Redacted Implementation Data]												
Expected Outputs						Development Indicators							
<ul style="list-style-type: none"> Establishment of financial system for agricultural production System development for collateral securing for financial services Budget allocation and/or finance to the financial system 						<ul style="list-style-type: none"> Established and registered financial system Collateral creation system for agricultural financial services Arranged budget and/or financed amount to the project 							
Major Activities with the Expected Outputs						Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> Support for establishment of financial system Assistance for collateral securing system Assistance of financial study and forecast on the system operation 						Total cost depends on scale and period of the project; the estimated cost is about 50 million.				MAAH, Donors, INERA			
Project Risk:													
<p>Since process of agricultural production is always exposed to severe natural condition, farmers may not be able to reimburse financed money to a financial source; and then, securing of collateral is quite difficult as well as evaluation of collateral.</p> <p>Due to severe natural condition, production of crops and livestock may not always be successful and farmers cannot reimburse the financed money in line with reimbursement plan. Financial source may face shortage of money.</p>													
Environment Assessment:													
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													


Project No.27

Project Title	Introduction of new sesame varieties for productivity improvement												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
				✓	✓			✓	✓	✓	✓	✓	✓
Target Groups	• Farmers near bas-fonds, extension workers												
Implementing Agency	• MAAH, regional and provincial office												
Potential Collaborators	• JICA, KfW, FAO, WB, EU												
Objectives: improvement of sesame productivities for income generation													
Rationale: Productivity of sesame is not so good in the country because of insufficient farming technologies of farmers and misuse of seed variety without selecting appropriate variety for each region. Application of pesticide after harvest also sometimes becomes issue of food value chain of sesame; residual pesticide sometimes overs the food safe standard and regulation and price of sesame decrease. This project aims to distribute new sesame variety for sesame growing areas in order to enhance farming practice and technology transfer of farming method of farmers.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> • New variety of sesame seed suitable for each area • Increase of yield and productivities of sesame • Income generation • Technical manual for sesame production 							<ul style="list-style-type: none"> • List of sesame variety adopted in each region • Weight of harvested sesame • Household income • technical manual developed 						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> • development of new variety of sesame seed and field trial of new sesame variety in each region. • Technical assistance for growing sesame • Technical assistance for activities of post harvest • Development of technical manual 							Total cost depends on scale and period of the project; the estimated cost is about 5 million.				MAAH, Donors, INERA		
Project Risk: Since irrigation is a key for sesame cultivation, appropriate irrigation is required without delay nor earlier. Residual pesticide affect decrease of sesame price but farmer doesn't follow the regulation nor farmers do not have cultivation technique for this purpose.													
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.28

Project Title	Strengthen the capacity of soybean producer association												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
				✓	✓			✓	✓	✓	✓	✓	✓
Target Groups	· Soybean production cooperatives, extension workers												
Implementing Agency	· MAAH, regional and provincial office												
Potential Collaborators	· JICA, KfW, FAO, WB, EU												
Objectives: income generation of farmers with soybean production													
Rationale:													
Soybean attract a lot of attention in terms of new protein source in the country, which has rich nutrition and can be kept long time good quality. Such rich nutrition can contribute improvement of nutrition for mothers of infant and young generations. This project aims to support food value chain of soybean and generate income for farmers and farmer's groups.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> Improved cultivation method of soybean Establishment of soybean processing group Development of soybean processed food for income generation Introduction of the developed soybean processed food to primarily school pupils Technical manual for soybean processing 							<ul style="list-style-type: none"> Technical manual for soybean cultivation Number of established soybean processing group Developed food from soybean Number of pupils who take soybean processed food. Number of technical manual 						
Major Activities with the Expected Outputs							Total Cost (EUR)			Expected Sources			
<ul style="list-style-type: none"> Field trial of soybean farming for better production Assistance for soybean processing group establishment Assistance for collaboration of food processing companies to develop new soybean food. Assistance for dissemination of developed soybean food to schools Development of technical manual. 							Total cost depends on scale and period of the project; the estimated cost is about 5 million.			MAAH, Donors, INERA			
Project Risk:													
Since irrigation is a key for sesame cultivation, appropriate irrigation is required without delay nor earlier. Residual pesticide affect decrease of sesame price but farmer doesn't follow the regulation nor farmers do not have cultivation technique for this purpose.													
Environment Assessment:													
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													

Project No.29

Project Title		Promotion of Nutrient-Fortified Crops (Orange Fleshed Sweet Potato)												
Priority in Province		ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups		Beneficiary farmer groups of bas-fond development with access to water for the consecutive 2 to 3 months, ZATs & UATs in charge												
Implementing Agency		<ul style="list-style-type: none"> Directions Générales des Productions Végétales (DGPV) et Directions Régionales de l'Agriculture et des Aménagement Hydraulique (DRAAH) du MAAH Direction de la nutrition du Ministère de la Santé Conseil National de Concertation en Nutrition (CNCN) 												
Potential Collaborators		International Donors (WB, JICA, EU, etc.) for the Rural Sector, CIP, INERA, Experienced INGOs/NGOs (Helen Keller International, iDE												
Objectives: The production and consumption of orange-fleshed sweet potato (OFSP) are increased in order to alleviate the deficiency of vitamin A.														
Rationale: Vitamin A deficiency (VAD) remains a significant public health problem in Burkina Faso. As a measure to address the situation, the Government of Burkina Faso and international NGOs have been taking possible measures, and as one of such measures the production and consumption of OFSP, as crop rich in vitamin A have been promoted, especially in southern part of the country. As consequence of such efforts, the demand for planting-materials and tubers of OFSP has been increasing, and various researches to promote OFSP to Burkina Faso have successfully conducted. This project aims at replicating existing good practices in the promotion of the production and consumption of OFSP to entire country, based on the existing experience and lessons learnt.														
Project Implementation		2013	2014	2015	2016	2017	2018	2019	2020	2022	2024	2026	2030	2050
												(For Five years)		
Expected Outputs						Development Indicators								
<ul style="list-style-type: none"> The volume of OFSP produced is increased. The volume of OFSP consumed is increased. The nutritional effect of OFSP is widely known. 						<ul style="list-style-type: none"> The number of extension officers (ZATs and UATs) and farmers who are trained in the production of planting-materials and tubers. The number of supply chains of planting-materials and of value chains of tubers which are established or improved. The number of population who knows nutritional effect and recipes of OFSP 								
Major Activities with the Expected Outputs						Total Cost (EUR)			Expected Sources					
<ul style="list-style-type: none"> To collect and analyze good practices of the production of plant-materials and tubers To prepare and distribute manuals for the production of planting-materials and tubers. To conduct the cooking classes to the population. To coordination with private sector organizations and public sector institutions in the establishment and improvement of the supply chains of planting-materials and the value chains of tubers (including the examination of utilization of OFSP in school feeding) 						Total cost depends on scale and period of the project; the estimated cost is about 5 million.			<ul style="list-style-type: none"> Burkinabe Government, IFNA, other Donors 					
Project Risk: It is important to increase market demand for OFSP first, to motivate farmers to cultivate OFSP, as it is not traditional crops for Burkinabe people. In addition, the possibility of crop trade-off shall be explained to farmers clearly, prior to the selection of crops, when the availability of land and water is limited.														
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														



Planting-materials of OFSP cut into 25 cm long (at a NAFASO farm, May 2018).



There is demand of planting-materials through the year. Farmers with the irrigation systems keep cultivating OFSP during the dry seasons (at a NAFASO farm, May 2018).



Out of 45 Provinces, Kéné Dougou, Houet, Sissili, Nahouri, Gourma, Kouritenga and Banwa are famous for the production of sweet potatoes. (Source: Centro International de la papa, Helen Keller International, INERA. 2014)



Packaging of a locally produced OFSP-based infant flour (Source: Helen Keller International – Burkina Faso. 2014)

Project No. A

Project Title	Strengthen of inventory preparation on bas-fonds and irrigated farmland in the country													
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Staff of MAAH, DGAHDI, Regional and provincial Staff													
Implementing Agency	• DGAHDI													
Potential Collaborators	• JICA, KfW, FAO, WB, EU													
Objectives: national surveillance on bas-fonds and irrigated farmland for improvement of effective land use and agricultural production														
Rationale: GIS data base on bas-fonds is prepared in 2018 but there are some agricultural areas and contents not listed in the data base such as irrigated farmland, necessity of rehabilitation of developed farmland, crops cultivated, and other related information. Such inventory in the data base will contribute to effectively prepare budget allocation plan, government staff mobilization plan, and other plans to be conducted. This project aims to support to prepare inventory of bas-fonds and irrigated farmland to be recorded in the GIS data base coupled with information gathering of related data and information to enhance agricultural production development and development of rural areas.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> • Inventory of bas-fonds and their related information • Inventory of irrigated farmlands and their related information • GIS data base on bas-fonds and irrigated farmland with related information. • Trained governmental staff in the field of information and data update and information sharing with concerned organizations. • A system of information gathering, data collection, information sharing on the bas-fonds and irrigated farmland. 							<ul style="list-style-type: none"> • Bas-fonds inventory • Irrigated farmland inventory • Updated GIS data base • Number of trained staff • Established system for information gathering, data collection and information sharing 							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> • Field survey and confirmation for data collection and information gathering on bas-fonds. • Field survey and confirmation for data collection and information gathering on irrigated farmland. • Assistance for GIS data base formulation • Training of the concerned staff on the GIS data base operation and maintenance • Assistance for system development process and development of an implementation structure of the project 							Total cost depends on scale and period of the project; the estimated cost is about 3 million.				MAAH, Donors			
Project Risk: Budget allocation and human resource mobilization by the government during project implementation and after the project for sustainable development.														
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No. B

Project Title	Enhancement of farming practicing skill and agricultural extension capacities for extension staff													
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	• Staff of MAAH, Regional and provincial Staff													
Implementing Agency	• MAAH, Regional and provincial office													
Potential Collaborators	• JICA, KfW, FAO, WB, EU													
Objectives: Capacity development for government agricultural extension staff														
Rationale:														
New crop variety development and improvement of farming practices have been conducted by the government while capacity development of governmental agricultural extension staff is on the way in the country due budget and human resource constrain. In the laboratory level and experimental farm level, some useful and effective results were reported but their extension progress in the country is going slowly.														
This project aims to support capacity development of government agricultural extension staff in terms of farming practices, extension skills, and monitoring and evaluation abilities in order to increase agricultural production of the country.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> Farming practice improvement of the governmental agricultural extension staff Extension skill improvement of the governmental agricultural extension staff Monitoring and evaluation abilities of the governmental agricultural extension staff Increase of agricultural production in the project area Development of extension materials Technical manuals for farming practices. 							<ul style="list-style-type: none"> Number of staff obtained certificate of farming practices Number of staff obtained certificate of extension skills Number of staff obtained certificate of monitoring and evaluation abilities Yield and quantities of agricultural production. Developed technical manuals 							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> Assistance for training of farming practice improvement activities Assistance for training of extension skill improvement activities Assistance for monitoring and evaluation training. Assistance for extension works in the field level Assistance of development of technical manual. 							Total cost depends on scale and period of the project; the estimated cost is about 3 million.				MAAH, Donors, INERA			
Project Risk:														
Budget allocation and human resource mobilization by the government during project implementation and after the project for sustainable development.														
Environment Assessment:														
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No. C

Project Title	Improvement of infrastructure for market access in rural area												
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Target Groups	· People in rural area, market players												
Implementing Agency	· MI, MAAH,												
Potential Collaborators	· KfW, FAO, WB, EU												
Objectives: income generation of farmers through road construction and improvement in rural area connecting to market													
Rationale:													
Since village and farmland scatters in wide extent of rural area, market access for farmers and farm product is not easy activity in terms of required cost and time. becomes road construction and improvement is considered only the way to connect between village and market and improve access from the farmland to the market. There are still undeveloped or not well developed areas of road condition and such difficulties left behind until now.													
This project aims to support construction and improvement of rural roads branched from trunk roads in order to improve physical market access from farmlands/villages to market in order to generate more farmers' income.													
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Expected Outputs							Development Indicators						
<ul style="list-style-type: none"> • Development plan of construction and improvement on rural road network • Feasibility study report on the construction and improvement of rural road • Road constructed and improved • Increase of income of farmers • Improved living conditions near the constructed and improved road 							<ul style="list-style-type: none"> • Development plan of construction and improvement • Feasibility study report on road construction and improvement • Length of constructed road and improved road • Average income of the farmers benefited by the project • Positive opinions of farmers on their living conditions after implementation of the project 						
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources		
<ul style="list-style-type: none"> • Technical assistance for making development plan on road construction and improvement • Technical assistance for making feasibility study on road construction and improvement • Technical and financial assistance for road construction and improvement • Baseline survey and end line survey of the project • Observation and interview on fixed farmers before and after implementation of the project 							Total cost depends on scale and period of the project; the estimated cost is about 200 million.				MAAH, Donors		
Project Risk:													
Since road construction requires huge budget and long period for implementation of the project, budget allocation and skilled staff mobilization are essential for smooth project implementation. If the government cannot afford to provide such resources, project implementation will delay or stuck. Road route may have to pass near the restricted areas, protected areas, farmland, and village area; under such circumstances, there would be some adverse comments and opinions against the project and project implementation may delay.													
Environment Assessment:													
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.													


Project No. D

Project Title	Rural water supply project													
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Target Groups	• People in rural area, rural administration offices of the gouvernement													
Implementing Agency	• MEA, MAAH													
Potential Collaborators	• JICA, KfW, WB, EU													
Objectives: improvement of water supply condition in rural areas														
Rationale: Due to sever climate in the country, water supply condition is still undeveloped in some rural areas and people in such places has to take drinking water from water resources located far places from their living locations. Development of water well is one of solution against the said constraint and mitigate rural people who is suffering fetching drinking water under difficult conditions. This project aims to support construction of water well in rural areas and assist to establish operation and management body of constructed water well in terms of institutional arrangement, cost collection, and procurement of consumable goods and spare parts. .														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
		[Redacted]												
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> • Development plan of construction of water well in rural areas • Feasibility study report on the construction of water well in rural areas • Constructed water well by the project • Established operation and management organization • Improved living conditions in terms of time consumption and available water volume 							<ul style="list-style-type: none"> • Development plan of construction of water well • Feasibility study report on water well construction • Number of constructed water well • Number of established operating organization of water well • Positive opinions of farmers on their living conditions after implementation of the project 							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> • Technical assistance for making development plan on water well construction • Technical assistance for making feasibility study on water well construction • Technical and financial assistance for water well construction • Baseline survey and end line survey of the project • Observation and interview on fixed farmers before and after implementation of the project 							Total cost depends on scale and period of the project; the estimated cost is about 50 million.				MAAH, Donors			
Project Risk: Since location of water well construction depends on geological condition, construction place cannot meet requirement of rural people; sometimes it shall be located a bit far from villages and villagers may against it. Operation and maintenance of water well and related facilities are quite important for sustainable project management but cost collection and maintenance works sometimes face difficulties due to insufficient cost collection and low skill of maintenance activities.														
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														

Project No. E

Project Title	Improvement of hygienic environment in rural areas														
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Target Groups	• People in rural area, rural administration offices of the gouvernement														
Implementing Agency	• MEA, MAAH,														
Potential Collaborators	• JICA, KfW, WB, EU														
Objectives: Decrease mortality and morbidity in rural area through extension of latrine															
Rationale:															
In some rural places hygienic environment is still under development process and people in there are under unavoidable circumstances of facing risk of deceases caused by excrement materials of human being. Installation of latrine will be one of solutions to decrease such deceases in rural areas and infant mortality also will relate hygienic environment in such areas. This project aims to support improvement of hygienic conditions in rural areas through installation of latrine coupled with extension works for keeping appropriate hygienic circumstances especially for pregnant mothers and infants.															
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
Expected Outputs							Development Indicators								
<ul style="list-style-type: none"> • Extension plan of latrine in rural areas • Extension materials for improvement of hygienic condition • Introduction and installation of latrine • Hygienic education to villagers and extension staff • Technical manual for installation of latrine 							<ul style="list-style-type: none"> • Report on extension plan of latrine • Developed extension materials for improvement of hygienic condition • Number of installed latrine • Number of workshop and villages conducted. • Developed technical manuals for installation of latrine 								
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources				
<ul style="list-style-type: none"> • Technical assistance for development of extension plan of latrine • Technical assistance for development of extension materials for improvement of hygienic condition • Financial and technical assistance for installation of latrine. • Technical assistance for development of technical manuals for installation of latrine 							Total cost depends on scale and period of the project; the estimated cost is about 10 million.				MAAH, Donors				
Project Risk:															
Since villagers in targeted areas are not familiar with latrine and use of it, dissemination of latrine use and its effect shall be conducted before and after installation of facilities. Otherwise, there would be misuse of latrine and it will cause less project implementation effect. Budget allocation and staff mobilization by the government are quite important factors to keep appropriate hygienic conditions in villages after project implementation. Lack of government support on budget and staff will cause difficulties of sustainable project implementation and management.															
Environment Assessment:															
An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.															

Project No. F

Project Title	Improvement of information and communication conditions													
Priority in Province	ND	SA	CN	BM	CO	PC	CT	CS	CE	ES	CA	HB	SO	
Target Groups	• People in rural area, gouvernement offices													
Implementing Agency	• MI, MAAH													
Potential Collaborators	• WB													
Objectives: improvement internet communication condition for agricultural development purposes														
Rationale: According to information of World Bank, mobile phone subscriptions per 100 peoples in Burkina Faso are 94, so that it can be considered that most of rural peoples including farmers can use mobile phone and connect internet; however, internet connection condition in the country still have a long way for well development. Improvement of internet condition will help many things such as; development of micro finance in rural areas, obtaining of farming techniques from experts, obtaining price information of agricultural production for selection of better selling price, information of weather forecast to prevent severe affect of climate. This project aims to support improvement of internet communication condition for further and prompt agricultural development.														
Project Implementation	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
														
Expected Outputs							Development Indicators							
<ul style="list-style-type: none"> • Improvement plan of internet condition • Establishment of an organization for operation and management of improved mobile networks • Rules and regulations of the operation and management of the network and the organization • Installation of required equipment and facilities for internet condition improvement • Technical manual for operation and management of network 							<ul style="list-style-type: none"> • Developed improvement plan of internet condition • Established organization for operation and management • Developed rules and regulations • Connecting area of improved internet condition. • Developed technical manuals 							
Major Activities with the Expected Outputs							Total Cost (EUR)				Expected Sources			
<ul style="list-style-type: none"> • Technical assistance to develop improvement plan of internet condition • Technical assistance for development of rules and regulations for O&M organization • Financial and technical assistance for installation of required equipment and facilities • Technical assistance for development of technical manuals for O&M of network 							Total cost depends on scale and period of the project; the estimated cost is about 250 million.				Donors			
Project Risk: Since project requires the latest technology and techniques for operation and management of the project, there will be risks for shortage of human resources who are eligible for conduct required works under the project. Initial investment cost will be huge, securing of financial source will be a risk for project implementation.														
Environment Assessment: An Environmental and Social Impact Assessment for this project shall be conducted, once the implementation of the project is approved with financial sources.														